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# FINAL REPORT

## Qualitative Assessment of Farm-to-Market Road Rehabilitation

**August 2016**

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# **QUALITATIVE ASSESSMENT OF FARM- TO-MARKET ROAD REHABILITATION:**

**EFFECTS OF IMPROVED ROAD CONDITIONS ON ROAD  
CATCHMENT COMMUNITIES IN BONG, LOFA, AND NIMBA  
COUNTIES**

AUGUST 2016

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## **DISCLAIMER**

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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# ACRONYMS

ANC	Antenatal Care
BFS	Bureau of Food Security
CBA	Cost-Benefit Analysis
DEC	Development Experience Clearinghouse
DHS	Demographic and Health Survey
DOC	USAID Development Outreach and Communication
ES3R	Engineering Services for Rural Roads Rehabilitation
FED	Food Enterprise Development Program
FGD	Focus Group Discussion
FRAMP	Feeder Roads and Alternative Maintenance Program
FRR	Feeder Rural Roads
FTF	Feed the Future
FY	Fiscal Year
GoL	Government of Liberia
IGA	Income generating activities
kg	Kilogram
KII	Key Informant Interview
LD	Liberian Dollar
LNP	Liberia National Police
LSA	Liberia Strategic Analysis
MGCSP	Ministry of Gender, Children, and Social Protection
MPW	Ministry of Public Works
MT	Metric ton
PRA	Participatory Rural Appraisal
SI	Social Impact
SOW	Statement of Work
USAID	United States Agency for International Development
VSLA	Village Savings and Loan Association

# EXECUTIVE SUMMARY

In January 2014, USAID/Liberia contracted three Liberian engineering firms to rehabilitate and maintain 84 kilometers of farm-to-market roads in Bong, Lofa, and Nimba counties. This qualitative assessment examines how the improved roads (rehabilitation was completed September 2015) have affected access to service delivery, including delivery of basic transportation, health, and education services. The assessment also examines community perceptions about the impact of post rehabilitation changes.

The assessment employed a mixed research strategy involving a review of quantitative data and survey of individuals and groups living along all segments of rehabilitated roads. It captured the views of 104 community members in focus group discussions and of 28 other “key” community residents, such as farmers and local leaders, in semi-structured interviews about the impact of road rehabilitation activities.

Survey participants reported significant positive changes in local conditions post rehabilitation. They universally reported increased availability of transportation services, as well as major reductions in travel time and costs. In particular, the majority of routes saw a reported post rehabilitation decrease of over 50 percent in travel time, while the cost of transporting key farm produce declined by between 33 percent and 80 percent. Reduced transport costs appear to have produced broader economic consequences. Barkedu, a trade and agricultural hub in Lofa, relocated its weekly market to a larger area to accommodate the increased number of buyers and sellers post rehabilitation. Further along the agriculture value chain, blacksmiths in Lofa and Nimba reported tripling sales of farming tools.

Survey respondents also reported increased health care access. Ambulance services became available only after rehabilitation. Clinics close to rehabilitated roads reported increased requests for family planning and antenatal care. A clinic in Nimba saw a jump in antenatal care visits from 35 per day pre rehabilitation to 50-100 per day post rehabilitation. Requests for family planning services at a clinic in Bong climbed from 50 per day pre rehabilitation to 175-200 per day post rehabilitation.

Additionally, increased availability of transportation services post rehabilitation has directly affected the delivery of education services. Educators reported increased student attendance and enrollment, with one school in Bong reporting post rehabilitation enrollment increasing from 200 to 250 students.

Community members reported generally positive perceptions about the changes caused by the road rehabilitation. Women reported a greater sense of security due to increased police access post rehabilitation. Young people, having seen farmers benefit from improved road conditions, were perceived to be enthusiastic about farming as an income source. Youth surveyed boasted about selling farm produce to save money for major purchases, mainly motorbikes--which are an important mode of commercial passenger transport.

Members of vulnerable groups reported deriving direct benefits from the road rehabilitation. Twelve out of thirteen physically disabled participants in focus group discussions reported increased access to transportation due to increased availability of cars on rehabilitated road segments.

Given the qualitative nature of the assessment, these findings cannot be generalized to the population of the road catchment areas and may apply only to community members who participated in the focus group discussions or were interviewed by the assessment team. However, to the extent they suggest significant positive changes in communities served by rehabilitated roads, the findings may inform budgetary decisions for the USAID Liberia portfolio and the design of Economic Growth activities.

# ROAD PROJECT BACKGROUND

Liberia has an annual average rainfall of 4,624 mm<sup>1</sup>, and during the rainy season, unpaved roads deteriorate, raising costs for traversing the country.<sup>2</sup> The 2007 Liberia marketing survey notes that the cost to transport goods to Monrovia from the interior counties to Monrovia goes up by 53 percent during the rainy season as the non-paved roads in those deteriorate significantly.<sup>3</sup>

Implementation of the FTF initiative by USAID includes several components to promote sustainable growth in agricultural productivity, including improved access to strong markets.<sup>4</sup> The farm-to-market road rehabilitation (F2MRR) is the umbrella under which the Engineering Services for Rural Road Rehabilitation (ES3R) falls. Road selection was prioritized by road condition and informed by a cost-benefit analysis (CBA) for five priority feeder rural roads useful to FED.<sup>5</sup> The total budget allocated to the three engineering firms executing the improvements is \$3.2 million for the initially executed construction for Phase I.

In January 2014, under ES3R, USAID/Liberia awarded firm-fixed-price contracts directly to three Liberian engineering firms for the rehabilitation and maintenance of 84 kilometers (km) of selected farm to market roads in Bong, Lofa, and Nimba counties, serving as Phase I of a planned total rehabilitation effort of 450 km through 2019. Table I details the road locations and lengths per contractor for Phase I, completed in 2016.

**Table I. Phase I road maintenance contracts by county**

County	Contractor	Road Segment	Length (km)	LSA Assessment Inclusion
<b>Bong</b>	Westwood Corporation	Tolomain-Lele-Palala	29.9	Yes
		Gbenequelleh-Janyea	10.5	No
		Gbenequelleh-Duita-Molly Town	9.2	No
<b>Lofa</b>	SSF Entrepreneur	Barkedu-Jarmulor-Moibadu	8.3	Yes
		Bitijama	3.6	No
		Galamai	1.7	No
<b>Nimba</b>	21st Century	Bahn-Payee-Zuoplay	14.9	Yes
		Dwonwea-Zoe Lappa	4.1	No
		Duanpea	2.5	No

<sup>1</sup> Courtesy of Climatemps Liberia, <http://www.liberia.climatemps.com/precipitation.php>

<sup>2</sup> Courtesy of Liberia Constraints Analysis, 2013.

<sup>3</sup> Survey of Market and Marketers, 2007.

<sup>4</sup> Engineering Services for Rural Roads Rehabilitation (ES3R) Performance Management Plan, 2015.

<sup>5</sup> Preliminary Cost Estimate of the Improvement of Five Priority FED Non-Paved Feeder Rural Roads (FRR) in Agricultural Areas in the Counties Bong and Lofa, 2013.

As of August 2016, work on the Phase 2 roads is nearing completion for two of the three counties, with the last county needing roughly three months of work during the dryer months. The most recent update on Phase 2 Road segment completion placed Bong at 86 percent completed, Lofa at 90 percent and Nimba at 75 percent. Final inspection will occur in early 2017.<sup>6</sup> Phase 2 roads were selected systematically through a standard tool for road project identification developed by USAID's ES3R activity. The selection tool measured criteria according to transport network characteristics (35 percent), agriculture and market access (35 percent), and education, health, other development (30 percent).

No data exists to quantify impact because no baseline survey was conducted.

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<sup>6</sup> All roads rehabilitated under ES3R will be maintained with initial funding support from FRAMP, which will be phased out over time as Government of Liberia resources take over. One of FRAMP's objectives is to leave behind a maintenance system that is competent, regular and continuous.

# ASSESSMENT PURPOSE & ASSESSMENT QUESTIONS

## ASSESSMENT PURPOSE

In early 2016, USAID/Liberia commissioned a qualitative assessment of farm-to-market road rehabilitation contracted to three Liberian engineering firms in January 2014 through the end of 2019.<sup>7</sup> The selection of roads being rehabilitated is linked directly to improving the effectiveness of implementation by USAID/Liberia's Food and Enterprise Development (FED) activity. The budget allocated to the three engineering firms is \$3.2 million for the initially executed construction under Phase I.

The qualitative assessment of the farm-to-market road rehabilitation recorded perceptions of significant change in local conditions as a result of road rehabilitation activities by collecting recall information from individuals and groups living along target roads. The assessment captured an independent examination of individual, household, community, and enterprise-level effects. The assessment did not capture impact of road construction itself.

The assessment identified strengths, constraints, and consequences related to implementation of the rehabilitation project and provides concise, actionable recommendations for strategy modification. Findings and recommendations were targeted to maximize the use of evidence to inform the budgetary decisions on the USAID/Liberia portfolio, inform strategy design by Feed the Future (FTF) within the Bureau of Food Security (BFS), and inform a potential, larger impact evaluation. The information produced by the assessment will also be considered for the USAID/Liberia Development Conference in January 2017 and be applied towards adaptive implementation by FRAMP.

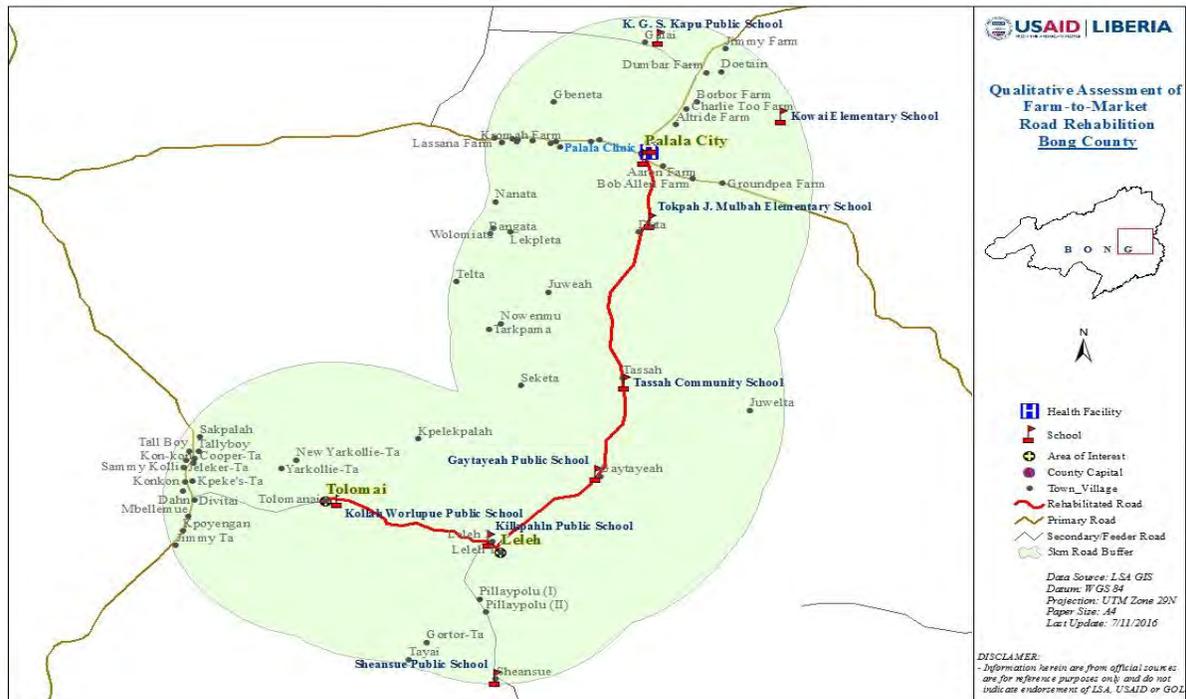
The key intended audience is USAID/Liberia and USAID/Washington, with BFS. Secondary users include the implementers of FRAMP and the Ministry of Public Works (MPW) of Liberia.

The assessment focused on Phase I rehabilitation along the following road segments: Palala-Lele-Tolomain, Bong County; Barkedu-Jarmulor-Moibadu, Lofa County and Bahn-Payee-Zuoplay Road, Nimba County. See Figures 1-3 below for a map of the road segments.

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<sup>7</sup> The assessment was conducted by Social Impact, the implementer of USAID's Liberia Strategic Analysis activity.

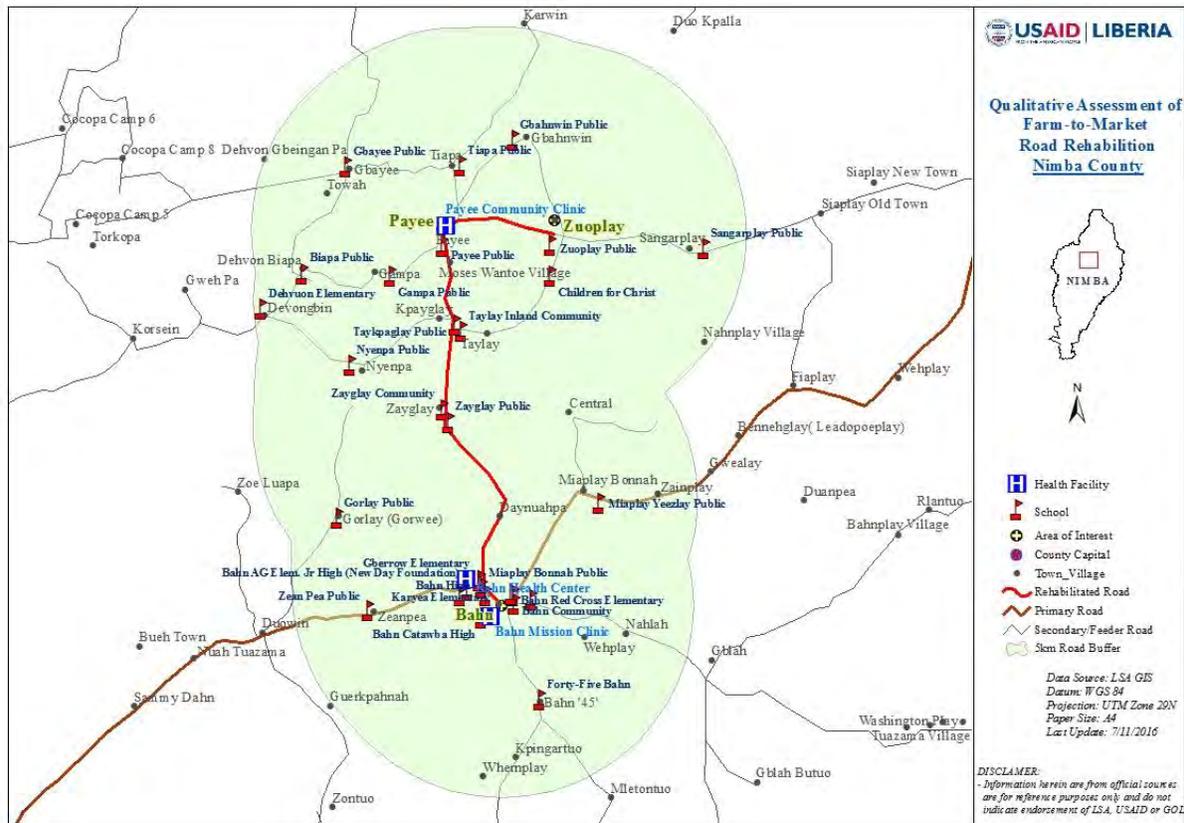
**Figure 1: Map of Palala-Lele-Tolomai, Bong County Road Segment**



**Figure 2: Barkedu-Jarmulor-Moibadu, Lofa County**



**Figure 3: Bahn-Payee-Zuoplay Road, Nimba County**



## ASSESSMENT QUESTIONS

The assessment focused on the following questions in the design of instruments, analysis tools, findings, conclusions, and recommendations of the assessment reporting.

**What are the significant changes in local conditions as a result of road rehabilitation activities?**

1. How are communities affected (positively or negatively) by the road rehabilitation?
  - How has the road rehabilitation affected access to service delivery?
    - Emphasis on health, education, finance, and other infrastructure such as power, cellular providers, transport, etc.
  - How has the road rehabilitation affected employment, income and profitability?
  - How has the road influenced other changes?
2. How do community members perceive the changes?

Instruments developed by the assessment team reflected the suggested questions provided in the SOW while complementing them with additional questions to attain the information sought by the overarching questions above. Furthermore, as a result of preliminary discussions with the client, instruments were designed to quantify certain outcomes whenever possible, such as transportation costs, before and after the rehabilitation. Please see Annex III: Data Collection Instruments for complete scripts of the assessment questions and probes.

# ASSESSMENT METHODS & LIMITATIONS

## ASSESSMENT METHODOLOGY

A mixed methods strategy was used to conduct the road rehabilitation assessment data collection process. The process included the review of relevant documents, participatory rural appraisal (PRA) with community members along each sample road segment, and a review of quantitative data. PRA is a suite of tools from which the assessment team used three: community and perception mapping, key informant interviews (KIIs), and focus group discussions (FGDs). While FGDs and KIIs are not exclusive to PRA, all three methods of collecting data help to triangulate responses into useful, reliable data for analysis.

### *Document Review*

During the first week of the assessment, the team conducted a thorough review of background documents related to road rehabilitation in Liberia. These sources provided valuable quantitative data to inform findings. Specifically, the focus on transportation time as it relates to clinics and schools was taken from the 2013 Liberia Demographic and Health Survey (DHS). Several documents, including the 2013 CBA for the Feeder Rural Roads, precipitated the need for costing data for transportation of persons and goods. A full list of documents reviewed is available in Annex IV: Sources.

### *Field Work*

After the background review phase, the team spent four weeks in the field conducting site visits and collecting data in order to gain a deeper understanding of localized experiences of community members and the implementation environment. Field work was based on 28 semi-structured KIIs and 12 FGDs resulting in a total of 132 respondents.

The sites visited by the assessment team were pre-selected by USAID/Liberia based on priority and completion of rehabilitation work. The team visited all named communities along road segments: Moibadu, Barkedu, and Jarmulor in Lofa; Lele, Tolomain, and Palala in Bong; Bahn, Zuoplay, and Payee in Nimba. In addition, the town of Zayglay, geographically between Payee and Bahn and centrally located along the Nimba prioritized road, was also included due to its location on the road segment.<sup>8</sup> The team did not add other communities further out from the road as initial review of data collected demonstrated respondents were coming from areas not immediately on the rehabilitated road.

Community entry was facilitated by FRAMP personnel and government officials, or community leaders and members when neither was available. The assessment team also informed the MPW Deputy Minister for Rural Development, the County Superintendents' offices in Bong, Lofa, and Nimba, and the District Commissioners for all districts along the rehabilitated roads.

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<sup>8</sup> The Zuoplay segment of the rehabilitated road is a branch off the main road segment, forming a "y"-shaped junction on the Payee (north) end of this road segment. Therefore, Zayglay represents the "center" of this road segment better than Zuoplay.

**Gender Perspective** – Every effort was made to maintain a gender balance in recruitment, but the reality of roles in rural Liberian society reflect the assessment’s emphasis on economic actors. Outside of petty trade or “market selling,” most roles assessed along the value chains were dominated by men. To access a wide perspective of women as economic actors, the category of market women was expanded to include women performing agriculture-related income generating activities (IGA). While the team was able to identify women in positions of authority when targeting community leadership, men still represented the majority.

**Social Perspective** – By targeting youth and vulnerable populations through the sampling protocol, the data reflects a broad spectrum of perspectives and experiences. In Liberia, youth are defined as persons below the age of 35. For this assessment, vulnerable persons were defined as physically disabled, Ebola survivors, widows, and orphans, pregnant teenagers, and/or generally those with no means of providing and caring for themselves.

### **Key Informant Interviews**

During the course of the assessment, 28 KIIs were conducted. While there were 28 interviews conducted, several interviews were conducted more as group interviews (more than one interviewee), as often rural community members were more comfortable with others present. This situation also occurred due to the need for translation for some of the key informants. Table 2 below shows the number of KIIs targeted and conducted with each type of stakeholder group; a more detailed breakdown of these categories is included in Annex II: Assessment Methods, Table 8. Characteristics of KIIs. Community leaders were town chiefs or women’s group leaders. Economic actors comprised of agricultural input suppliers, transport union heads, motorcyclists, market women, VLSA heads, and tea shop owners. Social service providers included health workers, traditional midwives, school principals, and teachers.

**Table 2. Number of Key Informant Interviews Targeted and Reached**

<b>Category</b>	<b>Total targeted</b>	<b>Female reached</b>	<b>Male reached</b>	<b>Total completed</b>
Farmer	0	1	3	4
Economic Actor	12	1	9	10
Social Service Provider	3	3	5	8
Community Leader	9	2	4	6
<b>Total KIIs</b>	<b>24</b>	<b>7</b>	<b>21</b>	<b>28</b>

Targets were adjusted during the inbrief with USAID/Liberia to reflect more balanced stakeholder views. Ten economic actors were interviewed across all three counties, as opposed to the original target of 12, so that the team could reach more social service providers. Moreover, many interviewees represented more than one category; there were economic actors, social service providers, and community leaders who reported participation in farming activities.

## Conceptual and Perception Mapping

This tool promoted community participation in the analysis of its own findings. Mapping exercises took place immediately before FGDs to introduce the purpose of the assessment. As FGDs with different target groups were scheduled simultaneously, members of all the groups participated jointly in the mapping exercises and then separated for their own discussions. Also, in instances where too many persons had been recruited for FGDs, the mapping exercises served to include those who did not sit in on the discussions. The mapping exercises gathered data on how different locations in the communities were valued and informed which structures and points pre-dated the road rehabilitation or arrived post-rehabilitation.



Photo 1: Mapping exercises conducted during pilot testing in Mount Barclay.

## Focus Group Discussions



Photo 2: FGD conducted, with community mapping exercise still present, in Moibadu, Lofa.

During the assessment, 12 focus groups were conducted, four per rehabilitated road segment. Each group averaged 8.7 participants, reaching a strong sample of 104 respondents. Group discussion promoted idea sharing and provided consensus for the data collected, helping overcome certain biases explained in the next section on data limitations. The discussions were organized around a semi-structured focus group guide (see Annex III: Data Collection Instruments). Table 3 below lists the participating respondent groups, along with the original target and completed sample size per category.

To illustrate the demographic makeup of respondents participating in FGDs, basic information was recorded to capture age, number of children, education level, and agricultural experience, among others. Table 4 below breaks down characteristics per county.

Table 3. Number of Focus Groups Targeted and Reached

Category	Ages	Total Targeted	Total Reached
Market Women or Agriculture-related IGAs	28-49	24	25
FED Direct Beneficiaries	28-49	24	26
Youth	16-27	24	24
Vulnerable Populations (poor, unwed mothers, disabled, school dropouts)	18-49	24	29
Total FGD Participants		<b>96</b>	<b>104</b>

**Table 4. Summary of FGD characteristics**

Characteristic	County			Total
	Lofa	Bong	Nimba	
Avg. Age	31.9	45.9	41.0	40.1
Avg. No. of Children	3.8	4.9	5.2	4.7
Education Mode	23 (no education)	15 (no education)	12 (some HS)	52 (no education)
Agri. Experience %	90.0	94.7	94.6	93.3
Mode IGA	11 (none)	18 (none)	12 (Selling)	38 (none)
Percentage Female	60.0	65.8	61.1	62.5
Percentage Male	40.0	34.2	38.9	37.5

### **Data Analysis and Reporting**

Qualitative data collected via PRA (mapping, FGD, and KII) were analyzed using systematic methods. The assessment team developed a coding matrix to categorize each response from FGDs and KIIs. One foundation of qualitative data collection is iterative inquiry: asking the same questions until consistent themes emerge and are revalidated among different respondent groups and interviews. This method helped minimize recall biases and provide reliable insight despite the lack of robust numbers. More detail on analysis is provided in Annex II: Assessment Methods.

### **DATA LIMITATIONS**

Because the assessment relies primarily on qualitative data, the knowledge it generated may not be generalized to other people or other settings. It is not possible to extrapolate the results of the qualitative research conducted for this assessment to that of the general population because fewer people are studied than in quantitative research. This also makes it difficult to make systematic comparisons, as the findings may be unique to the relatively few people included in the mapping, FGD, and KII activities.

These disadvantages of qualitative data analysis mean it is difficult to make quantitative projections from the findings of the assessment. For example, while this report includes estimations of reduction in travel time in different road segments (Table 5 below), these reported reductions cannot be averaged and extrapolated to the entire road rehabilitation activity funded by USAID/Liberia.

Despite the illustrative – not representative – nature of qualitative data collection, the assessment team endeavored, where possible, to quantify road impact through existing survey data to form an overall picture of the road rehabilitation impact, which can provide the framework for more detailed study in the future.

**Snowball sampling** – Snowball sampling occurs when a study participant is used to suggest or recruit other participants in a community who match criteria set by the protocol. Bias is introduced based on familiarity of respondents and the likelihood of common experiences. During this assessment, recruitment was done through community members’ identification of potential participants. During FGD recruitment, snowball sampling occurred due to time constraints and availability of targeted individuals in rural locations. Farmers tend to go to the fields at the same time. This problem occurred in Lofa, where the community leader was also part of the FED local rice farming project. In Bong and Lofa

counties, the team drew on community members who were not part of the target populations for recruiting to mitigate snowball sampling biases in those locations.

Although it is customary and necessary to use community leaders and even elected officials for community entry, the assessment team tried to mitigate any bias that might be caused by identifying actors in target categories by not exclusively relying on county officials or government employees. In Lofa, the town chief in Moibadu led introductions in the community, while in Barkedu and Jarmulor, entry was guided by the assistant to the Paramount Chief. In Bong, the team used previous connections with an input supplier to aid in recruitment in Palala, a school teacher in Tolomain, and various community members in Lele. The team benefited in Bong by conducting data collection on market days. In Nimba, the Independence Day holiday interfered with team efforts to meet with government officials and FRAMP personnel. Fortunately, community entry was eased due to one team member's fluency in the local dialects. Along the Nimba road segment, Payee community entry was facilitated by a local FED farmer, Bahn entry by the Market Association Head, Zayglay entry by the town chief, and Zuoplay entry by the Paramount Chief.

The assessment sought to randomize exclusion whenever more than the target eight potential participants were available. For example, if there were 12 people, every third person was excluded to reach the target number of eight persons.

**Sampling Bias** – The assessment was limited in the geographic scope of site visits and did not travel far from rehabilitated roads. The sample of respondents may have had different accessibility experiences as compared to those in more rural locations. To address this challenge, the assessment team was present for five market days: Barkedu, Palala, Lele, Tolomain, and Bahn. During market days, people came from various smaller towns outside of the immediate road area.

**Recall Bias** – Recall bias, caused by incomplete or inaccurate recollection of events by respondents, can introduce a systematic error to data. The assessment's mixed-methods approach aimed to mitigate recall bias. A consensus on pricing was determined based on multiple inquiries to multiple respondents in the KIs and FGDs, and was also triangulated with a review of quantitative data. Any data that was not corroborated by more than one identical response was not considered a reportable finding.

# FINDINGS, CONCLUSIONS & RECOMMENDATIONS

The following section enumerates and highlights the findings of the data collection efforts. When appropriate, there are comparisons to existing data for reference.

## FINDINGS

### *Transportation*

#### **Travel Time**

As reported by Key Informants Interview (KIIs) and the Focus Group Discussions (FGDs), there was a significant reduction in travel time post-rehabilitation. In KIIs in Bong, Lofa, and Nimba counties, a majority of respondents (n=18 out of 28 respondents) said the rehabilitated roads had reduced travel time. The following quotation from a member of a motorcyclist union in Lofa represents the opinion of the majority of respondents: “It used to take us one hour from Barkedu to Jarmulor, but now it takes 15 minutes.” Furthermore, a majority of participants in each of the four FGDs in Bong, Lofa, and Nimba asserted travel time had decreased following the rehabilitation of the roads. For example, during a FGD in Lofa, a participant commented, “Now we only have to wait for five to ten minutes to get on a commercial motorbike.” Another participant eagerly agreed, saying, “Now we leave for the market at 7 a.m... but before we had to start going by 5:30 to 6 a.m...”

Equally as important, there were more available modes of transportation in all three road segments. In particular, pre-rehabilitation roads were not passable by car/taxi, and many people “walked by line.” For each road segment, walking would take between two and four hours to traverse the entire road length. However, after the completion of the road work, cars have become regular road users. For instance, in all eight of the KIIs in Bong county respondents cited instances of cars and taxis beginning to use the rehabilitated roads. Also, the greater variety of transportation led to reports that few, if any, were still traveling by foot to reach neighboring towns or markets.

The assessment team noted the average travel time and average cost for transportation of goods and people between locations along the rehabilitated roads as expressed by participants in KIIs and FGDs in Bong, Lofa, and Nimba counties. See Table 5 below. However, the assessment team noted that due to the nature of qualitative research these findings cannot be generalized to the population of the road catchment areas. The findings in the table below may apply to only the few participants in the community mapping, FGD, and KII activities.

**Table 5. Summary of Changes in Transportation Time and Cost for Selected Roads, pre- and post- Rehabilitation**

County	Mode of Transport	Route		Before Rehabilitation			After Rehabilitation			Percent Change		
		From	To	Passenger Cost (LD)	Goods Cost (LD)	Time (min)	Passenger Cost (LD)	Goods Cost (LD)	Time (min)	Passenger Cost (LD)	Goods Cost (LD)	Time (min)
Lofa	Walking	Moibadu	Barkedu			90			N/A			
	Car	Moibadu	Barkedu		150		100	100	15		-33%	
	Motorbike	Moibadu	Barkedu	350		75	150		30	-57%		-60%
	Walking	Jarmulor	Barkedu			80			40			-50%
	Car	Jarmulor	Barkedu	100		35	50		15	-50%		-57%
	Motorbike	Jarmulor	Barkedu	200		40	150	75	15	-25%		-63%
Bong	Walking	Tolomain	Gbarnga			210			N/A			
	Car	Tolomain	Gbarnga	150		90	100		60	-33%		-33%
	Motorbike	Tolomain	Gbarnga	200	200	60	150	100	45	-25%	-50%	-25%
	Car	Lele	Palala	250	100	180	150	50	25	-40%	-50%	-86%
	Motorbike	Lele	Palala	350	100	120	250	50	60	-29%	-50%	-50%
	Car	Lele	Gbarnga	250			200		120	-20%		
Nimba	Motorbike	Lele	Gbarnga	450		150	300		90	-33%		-40%
	Walking	Payee	Bahn			120			N/A			
	Car	Payee	Bahn	100	150	60	50		40	-50%	N/A	-33%
	Motorbike	Payee	Bahn	150		90	75		30	-50%		-67%
	Walking	Zuoplay	Bahn			180			90			-50%
	Car	Zayglay	Bahn	150	150	120	100	30	25	-33%	-80%	-79%
Motorbike	Zayglay	Bahn	200	200	120	100	50	60	-50%	-75%	-50%	

Comments made by participants in FGDs and KIs unanimously indicated a decrease in travel time between locations along the rehabilitated roads. The majority of routes that participants commented on (n=10 out of 14) saw decreases of over 50 percent in travel time. For example, in Lofa, there was a 60 percent decrease in travel time by motorbike from Moibadu to Barkedu, the entire length of the road. It should be noted that this figure is the time from Moibadu to its nearest market and clinic in Barkedu.

In Nimba, there was a 67 percent reduction in motorbike travel time from Payee to Bahn, representing the time from Payee to the nearest market. For Bong, respondents reported a 50 percent decrease in motorbike travel time from Lele to Palala, representing the time to the nearest clinic. See Table 5 above.

**Table 6. Time required to reach nearest health facility. Courtesy of Liberia DHS 2013.**

Percent distribution of households' time required to get to nearest health facility by usual means of transportation according to residence.

Time (min) to HF by Usual Mode of Transport	Residence		
	Urban (%)	Rural (%)	Total (%)
1-20	45	15.8	32.4
20-40	32.1	16.5	25.3
41-60	11	15.4	12.9
61-120	5	24.1	13.3
120+	3.9	25.8	13.4
Don't know	2.9	2.3	2.6
Total	100	100	100
No. of HH	5,289	4,044	9,333

While the data was collected through very different methods, the team used the quantitative Liberia DHS<sup>9</sup> (Table 6) as an approximate benchmark for comparison. For almost half (49.9 percent) of Liberians living in rural areas, it takes more than one hour to reach the nearest health facility by their usual mode of transport. For all communities along prioritized road segments, based on respondent estimation, no one's time to health facility exceeded one hour, post-rehabilitation.

### Transportation Costs

Transportation costs were measured by how much it cost to transport oneself and how much it cost to transport a load of goods. In KIs in Bong, Lofa, and Nimba counties, a majority of respondents (n=22 out of 28 respondents) said the rehabilitated roads had reduced transportation cost. The following quotation from a member of a transportation union in Nimba County represents the opinion of the majority of respondents: "Before the road rehabilitation, Bahn to Payee to take a sick person on charter was 4000 LD... but now car charter from Bahn to Payee for a sick person is 500 LD."

Furthermore, a majority of participants in each of the four FGDs in Bong, Lofa, and Nimba indicated transportation costs had decreased following the rehabilitation of the roads. For example, during a FGD in Bong County, a female participant aged 42 said, "When the road was bad, we paid \$150 LD, now we pay \$125 LD to go to Zeweinta." A male participant aged 53 agreed, saying, "Before I was paying \$250 LD for myself, and it cost me \$150 LD to transport a bag of bitter balls. Now it costs \$75 LD for myself and \$100 LD for the bag of produce."

The typical denominations for loads were either 100 kg bags or 50 kg bags. Prior to road rehabilitation,

<sup>9</sup> The Liberia DHS used a weighted sampling method which attempted to collect data from 9,677 households in Liberia, with a 99 percent success rate.

respondents reported costs cut into how much they were able to make from selling their produce. In Table 5 above, changes in travel time and cost were analyzed by percent change post-rehabilitation. In Lofa, there was a 33 percent reduction in the cost of transportation of a 100 kg bag of peanuts. In Bong, transportation costs for 100 kg bags of pepper dropped by half. For Nimba, the cost of transportation of a bag of pepper to market reduced by as much as 80 percent from Zayglay to Bahn.

However, as mentioned above in the section on methodological limitations, the assessment team noted that due to the nature of qualitative research these findings cannot be generalized to the population of the road catchment areas. The findings mentioned above may apply to only the few participants in the community mapping, FGD, and KII activities.

### Compelling Case: Competition, Competition



With the improved roads, a larger supply of transportation services became available to an already existing demand in remote communities. The Motorcyclist Head in Lele, Bong county, described this shift, “Before the road was fix[ed], we were only four bike riders here, but now we have more than fifty bike riders coming from Gbarnga to come here to do business.” Before, passengers had to wait until one of the four motorbike drivers was available. If they did not carry them, the person could not go.

Actors in the transport sector understood that competition is not necessarily bad for business. Road rehabilitation opened up access to a transport market that, alone, they could not serve. The Driver Union Head in Lele shared, “We are very happy for this road. Smaller cars (taxicabs and minivans) are now using this road to transport passengers and goods as compare[d] to the past where only bigger cars (pickups and jeeps) could run on this road due to the deplorable road condition.”

The emergence of this market allows more people to profit from supplying transport services, while consumers on the demand side save money and time through competitive and more frequent transport.

## Access to Service Delivery

### Health

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*“Before the road rehabilitation, the sick were taken to the clinic by foot in [a] hammock. Now the ambulance at the clinic transports the sick.”*

*– Blacksmith, Barkedu, Lofa County*

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Every key informant and all FGDs indicated ambulance services were possible only after the road rehabilitation. Moreover, after the road repair, even if the ambulances were not available, community members were now able to call for a car to go to the clinic.

Also notable in health care, Bong and Nimba county clinics close to rehabilitated roads reported increases in family planning requests, as well as decreases in neo-natal deaths.

From KIs, respondents indicated there were more frequent community visits from health care workers and health-related organizations. Moreover, the majority of participants in FGDs in Bong and Lofa counties perceived rehabilitated roads had improved access for pregnant women to visit clinics and for health care workers to visit communities.

**Table 7. Changes in Health Care Access post-Rehabilitation in Payee (Nimba) and Palala (Bong)**

Indicator	Payee Clinic (Nimba)		Palala Clinic (Bong)	
	Before Rehab	After Rehab	Before Rehab	After Rehab
Family Planning Services	5-10	50- 100	50	175- 200
Antenatal Care	35	50- 100		
PMTCT	35	50- 100	175	200- 250
TTM and GCHV Trained	100%	60%		
Neo Natal Deaths	5-10	1-3		
Maternal Mortality	1	0		
Monthly Outreach	3- 4	5- 6		

This information was gathered from two facilities only: Payee clinic in Nimba and the Palala clinic in Bong. The numbers do not reflect the counties as a whole and serve as a limited sample size. The data was not reported as a result of rigorous quantitative design and is not statistically representative. For this reason, the information can be interpreted as illustrative and requiring further research to prove correlation between road rehabilitation and improvements in health care access.

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*"If it was not for the road, I would have been dead. When I delivered my last child, I had some problems, but because the road was good, the ambulance came for me."*  
 – Respondent from Vulnerable Group, Tolomain, Bong County

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### **Compelling Case: Vaccinations are coming to town!**

Improvements in clinic outreach are not only affecting immediate medical needs of Liberians; it is building a future for a healthier generation. Prior to road rehabilitation, mothers occasionally would take their babies to the clinic for vaccines if they were on their way to the market, but vaccination campaigns were not reaching the far communities. Since the road improvements, community health workers have been able to reach farther communities with outreach services. A midwife from the Palala clinic explained how community health workers now are even going beyond their catchment area to provide hard-to-reach communities with vaccinations and family planning outreach.

An Officer in Charge at Payee clinic said likewise, "Before the road got fixed, my vaccine outreach team only used to go out maybe once or twice a month to distances like 15 or 20 minute walks, but once the road got fixed, our outreach team goes out four to five times a month and to places where the bike can reach." By going to the communities rather than making people come to the clinic, many more children are vaccinated. Payee clinic's Officer in Charge proudly shared, "Our number of vaccinated people has more than tripled. It used to be like 200 to 250 a month but now we are talking about more than 800 a month."

Payee clinic has seen attendance of Trained Traditional Midwives at meetings go from 50-60% to 100%. Palala clinic has seen the number of mothers coming for antenatal care triple. The ripples of access are far reaching. Health workers are receiving more training. Liberians are receiving better and more frequent services.

## **Education**

In all three counties, all educators (n=4 out of 4 respondents) reported an increase in regular attendance by students and teachers. As one school teacher in Tolomain, Bong, noted, “Teachers were not coming to work regularly, now they do.” Another school teacher in Palala, Bong, suggested, “Since the road rehabilitation, enrolment of students has increased from 200 students to 250 students.” However, the assessment team noted that due to the nature of qualitative research these findings cannot be quantified and generalized to the population of the road catchment areas.

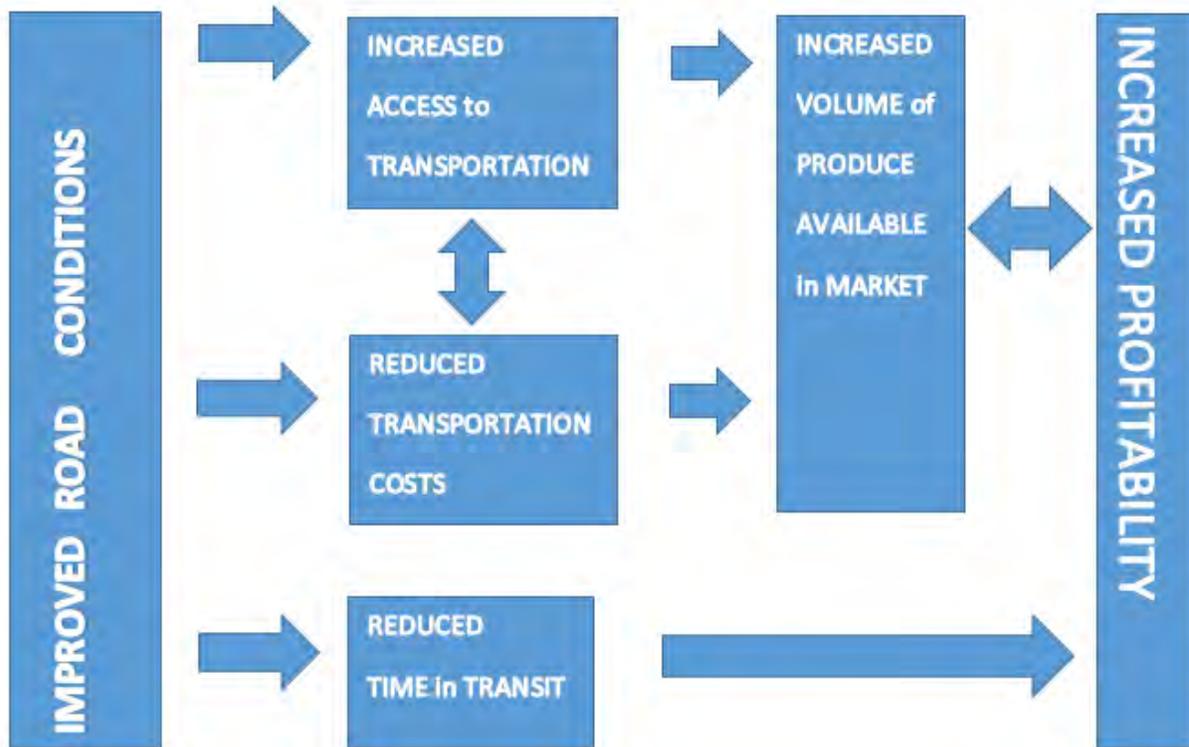
Furthermore, the road repair led to increased visits from County Education Officers (CEOs) and District Education Officers (DEOs) at the five schools (Barkedu, Tolomain, Payee, Zayglay, and Zuoplay), according to a KII with an education worker in Bong and a KII with an education worker in Nimba. Schools also reported a change in how supplies were received. Previously, supplies were delivered to the nearest major city, then educators were forced to find their way to those locations for pick up – and to pay their own way to do so. Post-rehabilitation, deliveries are brought directly to the schools. The majority of KIIs with participants involved in education indicated deliveries were made more frequently during this rainy season than those before the roads were rehabilitated. At an FGD in Bong, respondents reported that the improved road conditions led to the school in Payee being repaired.

## ***Employment, Income, and Profitability***

Fifty-seven respondents involved in agriculture reported increased income from the sale of goods and a decrease in the cost of transportation of people and their goods. Nearly all FED direct beneficiaries in FGDs in Bong, Lofa, and Nimba reported that they were able to save a greater amount of money than in previous years, prior to the road rehabilitation. In the market, respondents reported community members were able to transport more produce, increasing what goods were available to sell at market. This created more opportunities to generate a larger supply to sell to distant markets, such as Monrovia or internationally.

The following quotation from a male participant in a FGD in Lofa County represented the opinion of many of the respondents: “Before [the road conditions improved] we spent more and saved less, but now we can spend and still save.” Of the six KIIs who were farmers or participated in farming activities, five stated they were seeing greater revenue from sale of produce. (Most used the word “profit,” but it was unclear if they understood the difference.)

**Figure 4. Profitability model for farm-to-market road intervention**



The assessment team observed numerous self-led economic development initiatives spurred by road rehabilitation. Generally, most development activities invest a number of structured, integrated, proven and sustained efforts to promote livelihood-related and entrepreneurial action. A candid case of the road rehabilitation was the number of development initiatives proactively undertaken by Liberians where the project was implemented. For example, in Barkedu, Lofa County, the local leadership and local chapter of the Liberian Marketing Association) jointly embarked on the relocation of the district’s weekly market to a larger area, in order to accommodate the increasing number of buyers and sellers who were showing up weekly since the rehabilitation of the road.

Further along the agricultural value chain, the blacksmiths in Barkedu and Bahn procured more materials that enabled them to triple their sale of customized agricultural tools for farmers. Youth are taking initiative and “crowding-in” to vegetable production and aggregation. As one vegetable trader and aggregator from Palala remarked, “Even some of our school-going youths have now started their own vegetable trading business that they run during their spare time.” A success of economic development is its ability to inspire citizens to engage and lead further growth.

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*“Young people are getting more organized than before. We built a palava hut for ourselves, and we are planning on opening a youth center. The youth is more united.”*  
 – Youth Leader, Moibadu, Lofa

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### **Other Changes from the Road Rehabilitation**

The wait time for transportation decreased from hours to minutes, according to FGDs and KIIs. Participants spoke of “motorbikes waiting” for them along the road. Only three key informants mentioned continued problems in terms of the availability of transportation. All of these respondents resided in Nimba and complained that there were not many cars on non-market days. However, they did indicate that motorbikes ran regularly on all days. Actual trip time decreased in all three counties, with only one respondent still walking regularly (student). All other respondents mentioned they now traveled by motorbike or car. The ability to find transportation altered the time people would leave for market, allowing them to spend less time in transit.

In Bahn, a Cellcom™ cellular tower was established after the road rehabilitation, but it could not be confirmed whether this was as a direct result of the road rehabilitation. In Payee, the largest school is being renovated since the road improvements allow for easier transport of building materials such as cement and steels rods, according to the town chief and school principal. In Moibadu, a new town building was built immediately following the road rehabilitation in Lofa county with the same reason mentioned (ease of building material transport). Respondents in Lofa and Nimba mentioned that the improved road meant they were able to bring in building materials to help construction projects.

#### **Compelling Case: Local Governance**

While the road rehabilitation activity was carried out mainly to improve the farm-to-market linkages for beneficiaries of the FED program, it had many spillover effects in other areas, including local governance. Residents of Moibadu, Lofa, especially community leaders, reported an increase in the number of visits by county and district level administrative authorities. “The road rehabilitation affected our community in a positive way. Before the fixing of the road, local government officials did not visit our town. Cars and motorcycles could not reach Moibadu,” remarked the community youth leader of Moibadu.

According to all 3 of the community leaders interviewed in Moibadu, the rehabilitation of roads improved local governance in four major ways: (1) by prompting regular visits by county and district level administrative officials; (2) by improving the responsiveness of law enforcement officers; (3) by improving attendance of community leaders (Town Chief, Youth Leader, and Women Chairlady) at local governance meetings; and (4) by improving networking, learning and information sharing among their peers from other villages and towns. As the Town Chief of Moibadu put it, “We can now coordinate better with other community leader[s], thanks to the present condition of the road.”

### **Community Perception: Women**

According to FGDs in Bong, Lofa, and Nimba counties, most women participants (n=25 out of 36 participants) perceived having greater freedom of movement due to improved road conditions during the day. Female participants in FGDs in Bong, however, said they continue to avoid traveling at night on the rehabilitated roads. Male participants in FGDs in Nimba also confirmed female traders remain reluctant to travel at night even with the improved road conditions. Those women who did not report more freedom of movement complained of fear of ritualistic killings (“*heart men*”).

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*“We have the police in the town now. Before we had to call Voinjama to get help from the police”.*

*– Market woman, Barkedu, Lofa County*

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However, generally, security was reported by women – and men – as improving due to greater access by the Liberia National Police (LNP). Before rehabilitation, during focus groups in Bong and Nimba, it was reported that police would ask for transportation reimbursement from community members before they would respond to a distress call or dispute. Now, the police do not require the same assistance. This information was corroborated during KILs in the same counties.

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*“There is more food available in the market now. There are more buyers in the market and my goods don’t spoil like before. Before the road rehabilitation, about 50% of my goods used to spoil because of lack of access to the market.”*

*– Female farmer, Moibadu, Lofa*

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Focus groups of market women in all three counties reported increases in sales as volume of their produce available at market increased. More were involved in aggregating to supply buyers in bulk.

### **Compelling Case: Women Walking the “Woman’s Walk”**



Women participants in Bong, Lofa and Nimba reported significant freedom of movement due to the improved road conditions. Women in Moibadu, Lofa, explained, “Before fixing the road, it was not safe for us to travel alone to the market. If we wanted to go to the market on market days, we had to plan along with the men in our town that were going on the same market days. We had to wake up early by 5 or 5:30 a.m. to start walking.”

To keep up with the men, the women had to walk the “man’s walk”, or walk much faster despite the large load women would be carrying, to get to the market in time, buy, sell, and return home to do household tasks. Before road rehabilitation, the market used to start by 8:30 or 9:00 a.m. and close by 1:00 p.m. A woman from the Moibadu FGD concluded, “Since the road got fixed, we can now cook in the morning and do household tasks before going to the market. Motorcycles are now running all day, and the market can start now early as 7:00 a.m. and close by 4:00 p.m.”

The women from Moibadu highlighted a critical change with manifold benefits. Access to transport opened up opportunities for extended market exchange and to spend more time at home taking care of chores, with the simple but profound luxury to move at their own pace.

## Community Perception: Youth

Both youth and adults in KIIs and FGDs perceived youth having greater enthusiasm for agricultural activity after the road rehabilitation. Four non-youth key informants mentioned increased youth activity in agriculture. In all three counties, youth, in FGD and youth leaders in KIIs, boasted farming and selling their produce to save money for purchases, mainly motorbikes.

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*Due to the rehabilitation of the road, the youth of the town have organized themselves into a farmers group to plant peanuts, rice and other food items to sell in the market with the aim of generating revenue to help improve their lives and help volunteer teachers to teach their brother and sisters.*

*– Youth Leader, Moibadu, Lofa*

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Youth in KIIs also reported greater freedom of movement across the counties, which resulted in more opportunities to visit neighboring towns to play football matches or watch them on satellite TV.

### Compelling Case: Cultural Changes

Amidst the extensive economic and social service changes noted by respondents, youth respondents were enthusiastic about their increased access to fashion and pop culture as a result of the road rehabilitation. Liberians take pride in their dress appearance, regardless of how remotely located. One young woman at the Bahn market reflected how jean skirts used to be \$700-800 LD and a common weave was \$900 LD. She added, “You can find jeans skirt now for \$350LD [...] and some weave for \$300 – 400 LD. Now we can dress.”

A young man in Zayglay emphasized that he can find different kinds of bathing soaps in the market now. He lamented, “Before the road was fixed, you could not see bathing soap here.”



The youth are proudly “zuiting” and sporting their “new blades”, in other words, wearing the latest fashion. Being fresh in habit and hygiene is a high priority.

Through speaking to youth, it became clear that the rehabilitation of farm-to-market roads had a wider impact than anticipated. For youth, rehabilitation was valued from a different perspective:

- When going to school, the rehabilitated roads provided motivation through some assurance that the teacher and most fellow classmates will show up for the day.
- When helping parents on their farms, better roads meant that their crops would reach the market, and the family will have that much-needed money to buy a bag of rice during the “rainy hunger season” and repair their leaking roof.

- When planning annual social occasions, it was an assurance that a friendly football tournament with youth from other communities would be possible and even be “pocket friendly.”
- When tackling personal projects, the roads provided the confidence that the current cycle of kuu and susu<sup>10</sup> will be successful, and they will be able to buy the motorbike that they have been dreaming of.
- For those girls and boys wanting to buy fashionable clothing and the latest “hair do” at an affordable cost, the rehabilitated roads provided the confidence that more traders will show up at their weekly market and give them the best deals on used and new clothing.
- For those simply wanting to escape to the alternative world offered by Nollywood, Hollywood and European football through the joy of cable television, the rehabilitated roads offered them the opportunity to be whisked off by a willing “pehn pehn boy”<sup>11</sup> to a newly opened video club in town.

### ***Community Perception: Vulnerable Population***

The most significant finding among the vulnerable groups was specific to the disabled. During FGDs, 12 out of 13 physically disabled persons indicated increased access to transportation due to the availability of cars on road segments. Many with leg disabilities or trouble with balance, walking great distances was prohibitive to their movement. Taking motorbikes was risky due to the likelihood of injury. However, post-rehabilitation, the availability of cars gives the disabled a safer mode of travel. Many reported starting to “make garden and carry market.” For pregnant teenagers, it affords them greater opportunity to go for ANC.

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<sup>10</sup> Susu is a Liberian expression used to describe a rotational saving scheme often adopted by micro entrepreneurs in both rural and urban areas. In a Susu, every member agrees to periodically (daily, weekly and monthly) contribute a designated amount that is provided to a given member for the accomplishment of a personal project. Kuu is a Liberian expression used to describe a rotational labor sharing scheme adopted by farmers in rural Liberia. Farmers formed kuus in groups of 10 – 20 persons and designated a day when all kuu members would work on a particular member’s farm.

<sup>11</sup> Pehn pehn boy - a Liberian expression used to describe a commercial motorcyclist.

## CONCLUSIONS

### *Changes in Road Conditions*

#### **Travel Time and Transportation Costs**

- Rehabilitated roads decrease travel time, compounded by greater availability of transportation modes.
- Greater access to transportation through navigable and accessible roads decreases the transportation costs of both passengers and goods.

#### **Access to Service Delivery**

- Improved road conditions increase health care access for ANC and general illness due to greater availability of ambulance services and more options for reaching the clinic/health facility. Improvements also significantly decrease the time needed to reach facilities, and increase the methods by which community members can travel to clinics.
- Availability of transport (e.g. motorbikes) increases means of reaching school daily for both students and teachers.

#### **Employment, Profitability, and Income**

- Constraints that inflated transportation costs were removed. An increase in revenue from the sale of goods led to greater income and to more opportunities to save money for FED farmers and other community members involved in agricultural value chains, such as market women.

#### **Other Changes from the Road Rehabilitation**

- Less time spent in transit led to less opportunity costs for community members and more time to engage in economic and household activities.
- Improved road conditions led to improved local governance through increased coordination between community leadership and county and district level administrative officials.
- The narrowness and steep shoulders of the new roads may pose a risk for an increase in accidents, due to operators' unfamiliarity with the road's new width and the increased volume of traffic.

### *Community Perception*

#### **Women**

- Improved conditions give women greater access to services, including health services, and increased opportunities for income generation.

#### **Youth**

- Having seen others benefit from improved road conditions, youth are encouraged to consider agriculture as a viable means of earning income.

#### **Vulnerable Population**

- The road rehabilitation increased more transportation options available for vulnerable populations, increasing access to services and creating new opportunities for livelihoods.

## RECOMMENDATIONS

### *Recommendations for Future Research*

The assessment findings indicate that USAID/Liberia's contracting of the rehabilitation of pre-vetted and strategically selected road segments improved the effectiveness of activity implementation across its portfolio, especially the Food and Enterprise Development (FED) activity. FED farmers in all counties reported the ability to save money; market women reported increases in volume of produce available to sell at market and in income generated; costs of transport are down substantially.

That said, the scale of the outcomes and the benefit of this investment in relation to other investments are not sufficiently assessed through qualitative methods. USAID should consider looking at potential outcomes through a quantitative analysis and cost benefit analysis (CBA). The results could provide a stronger evidence-based foundation for USAID-sponsored road rehabilitation efforts, helping with the selection of the best roads for rehabilitation and providing information for project design teams across sectors to consider as they plan for projects and activities in the future.

USAID should consider adding quantitative research methods to future assessment of farm-to-market roads. Methods such as surveys or experimental designs will allow findings to be generalized to the population, whether nationally or a road catchment area. Quantitative data will permit estimates of the magnitude, distribution, and correlation of impacts, and can be used to describe the costs and benefits of roads interventions, permitting a CBA.

A quantitative assessment that can be used for research or activity M&E design should consider the measurement of the following indicators. These include standard USAID Foreign Assistance Framework indicators (F indicators) according to the latest 2016 revision.

#### Economic Growth

- F indicator EG.3.1-1, 4.5.1-17: Kilometers of roads improved or constructed as a result of USG assistance
- F indicator EG.3-9, 4.5-2: Number of full-time equivalent (FTE) jobs created with USG assistance
- F indicator EG.2.1-2, New: Average time (in hours) to export goods along trade corridor receiving USG assistance
- Number of vehicles on a defined road segment
- Prices of staple goods at the market
- Price of fuel
- Transportation cost for goods
- Transportation cost for people
- Volume of sales
- USD profit of sales
- USD savings from sales
- Gender-sensitive measurement of opportunity costs (quantifying the number of hours spent on daily tasks: cooking, walking, motor transporting, selling, gathering supplies such as water and wood, farming, leisure, sleeping)
- F indicator GNDR-2: Percentage of female participants in USG-assisted programs designed to increase access to productive economic resources (assets, credit, income or employment)

#### Education

- F indicator ES.1-3, 3.2.1-14: Number of learners in primary schools or equivalent non-school based settings reached with USG education assistance
- Frequency of student attendance

- Frequency of teacher attendance (disaggregate absences due to travel time to pick up pay checks, travel time to pick up supplies, health-related, etc.)
- Number of teacher trainings attended by teachers
- Number of CEO and DEO visits
- Number of school supply deliveries per quarter

#### Health

- Number of patients brought by ambulance, car, motorbike, wheelbarrow, and foot
- Number of gCHVs trained
- Number of ANC visits
- Number of family planning visits
- Number of vaccinations distributed

#### Security

- Frequency of police officer presence in community

A rigorously designed assessment will need to prove direct correlation between the rehabilitation of roads and the change in indicators. Least of all, this requires a baseline of the indicators prior to road rehabilitation.

### ***Recommendations for Cross-Sectoral Planning***

Road rehabilitation led to significant changes in the operating environments of various sectors with expected and unexpected effects. Future road rehabilitation plans should be integrated into project and activity design within the mission. The mission should provide project design teams and implementing partners with information on existing and planned road rehabilitation activities. Information could be provided in text as well as through GIS maps overlaying existing program information with completed and planned road rehabilitation activities. Using these tools, the team recommends that at a minimum, the following implications of road rehabilitation be considered during project and activity design within the mission.

**Economic Growth:** The assessment suggests that road rehabilitation can reduce barriers to economic growth for Liberian farmers and business owners. Road rehabilitation plans should be integrated into economic growth project design to support site selection and provide more tailored trainings and technical support. This should take into account the new opportunities available to communities in road catchment areas and those opportunities that are not available to those outside of the road catchment areas.

**Education:** Limited school access for both teachers and students in certain rural communities is a critical assumption included in education program design both for teacher training and education provision. Reductions in cost and time associated with travel in programming for communities with planned road rehabilitation could affect the roll out of education activities, site selection and even training and instructional design.

**Health:** Health service providers must be equipped to address increase in demand. Given the universal reporting of increased access to ambulance services and means of finding transport to and from clinics, service providers must be equipped with the personnel, supplies and management support necessary to address this increase in demand. Upon expanding into later phases of road rehabilitation, USAID should liaise with actors to anticipate the increase in demand and encourage inclusion of infrastructure improvement in planning efforts.

**Youth:** Since the road rehabilitation, youth social and economic activity increased. Youth have been encouraged by seeing others in their communities benefit from the greater access the rehabilitation affords. In this way, road rehabilitation may provide an opportunity to better engage youth in economic

growth and democracy and governance activities. Project design teams should consider a shift in focus on future programming in rehabilitated road catchment areas to target more youth as actors in USAID programming.

**Gender:** The assessment findings indicated overall gains for both men and women in terms of time saving, economic opportunity, and access to services. However, road access may affect men and women differently over time. For this reason, the assessment team recommends that project design teams apply a gender-sensitive approach to the design of road rehabilitation activities that takes into account the effects of road rehabilitation as transformative in change for the status of women in Liberia. This assessment brought out two main areas to be considered through this gender-sensitive approach. First, the effect of easier access of roadside communities to the LNP may, over time, affect reporting and response practices with regards to gender-based violence. Second, the precarious security situation for women on the roads may lead to a differential impact on women as they feel less safe on roads at night than their male counterparts.

### ***Recommendations for the Development Outreach and Communication (DOC) Team***

The assessment team identified several illustrative phenomena to showcase the impact of USAID's road rehabilitation. While all locations that were sampled demonstrated significant changes, the importance of access was more emphasized in the remote locations.

**Moibadu, Lofa:** As the furthest community from any of the main roads, its community members exemplified the greatest reductions in travel times and increases in profitability due to the implementation of FED activities and the road rehabilitation.

**Barkedu, Lofa:** The Barkedu clinic benefitted immensely from the road rehabilitation due to increased health service delivery to catchment areas including communities like Moibadu and Jarmulor. Respondents in these remote communities universally validated the benefits of ambulance access in times of pregnancy care or general injuries. Most significantly, this entire district was heavily hit by the Ebola Virus Disease, and the prompt removal of infected bodies was one of the most important preventative measures necessary in combatting the outbreak. U.S. government officials estimated 70 percent of new infections could be attributed to unsafe practices in the management of infected dead bodies.<sup>12</sup> During the outbreak, the MOH's ability to respond was overburdened so a diaspora group from the U.S. pooled funds to purchase the ambulance that now serves Barkedu clinic and the district, even after the emergency.

**Palala, Bong:** Through the combined synergy of FED implementation and road rehabilitation, entrepreneurs such as Bouakai Harris have been able to increase profits and strengthen agricultural value chains along the sector. Bouakai sells agriculture tools and seeds to the farmers in the surrounding areas. With the emergent rice, livestock, and vegetable markets through FED and heightened market activity due to the road rehabilitation, the salesman is able to supply much needed equipment at affordable prices and consistent supply given the wide demand. Decreased input costs and more productive farming practices for farmers lead to decreased commercial costs for Liberian consumers, stretching benefits of the value chain all the way to the availability of nutritious and diverse diets for Liberians.

When the DOC team develops a communication plan, the research team can be available for additional questions and clarification.

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<sup>12</sup> Gilblom, K. "Ebola Infections Dropping With Safer Burials, Power Says." (Nov. 2, 2014).

# ANNEXES

## ANNEX I: ASSESSMENT STATEMENT OF WORK

### Scope of Work

#### Qualitative assessment of farm-to-market road rehabilitation

**Background:** In January 2014 USAID/Liberia awarded contracts to three Liberian engineering firms for the rehabilitation and maintenance of 84 km of selected farm to market roads in Bong, Lofa and Nimba counties. These awards constituted the initial phase of a planned total rehabilitation effort of 450 km in Bong, Lofa, Nimba and Grand Bassa through 2018. These original contracts were modified in April/May 2015 to extend the completion dates and increase the number of road segments and cumulative km to be rehabilitated. The details are summarized below.

**Table 8. Road maintenance contracts**

County	Contractor	Road Segment	Length (km)
Bong	Westwood Corporation	Phase 1: Tolomain-Lele-Palala	29.9
		Gbenequelleh-Janyea	10.5
		Gbenequelleh-Duita-Molly Town	9.2
		Phase 2: Taylorta-Marlonta-Yandewoin	14.1
		Gbondoi-Gbarnla	17.5
Lofa	SSF	Phase 1: Barkedu-Jarmulor-Moibadu	8.3
		Bitijama	3.6
		Galamai	1.7
		Phase 2: John's Town-Bulor	15.0
		Phase 1: Bahn-Payee-Zuoplay	14.9
Nimba	21 <sup>st</sup> Century	Dwonwea-Zoe Lappa	4.1
		Duanpea	2.5
		Phase 2: Gogein-Zuoplay Jct-Doumpa-Zuoplay	22.1
		Gaopa-Garwompa	5.8
TOTAL			

The rehabilitation needs of the tertiary road network in the four counties far exceeds 450 km, even taking into consideration the contributions of other development partners; accordingly, priorities had to be established. Phase I roads for rehabilitation were selected based on the immediate needs of USAID/Liberia's Food and Enterprise Development (FED) contract, a \$75 million Feed the Future award targeting the development of rice, cassava, goat and vegetable value chains, to serve their farmer clusters. Construction work on Phase I roads was substantially completed by June-September 2015 and the segments concerned placed under routine maintenance.

As of April 2016 work on the Phase 2 roads was ongoing, with substantial completion expected before the rains begin in May/June 2016 and final inspection in early 2017. The Phase 2 roads were selected based on a "tool for road project identification" developed with USAID's implementing partner CDM Smith, contractor for the Engineering Services for Rural Road Rehabilitation (ES3R) activity. To be

eligible for inclusion in the selection process, road links had to possess one or more of the following characteristics:

- Provide support to FED by reducing transportation difficulties between FED farmers and markets;
- Provide access to other USAID partner sites in the vicinity of FED farmers/groups;
- Support priorities of the county development agenda where they intersect with FED.

Stakeholders at central and county levels then helped to develop a final selection tool, based on the following criteria:

- Transport network characteristics (35%): point of origin, number of intersections, number of villages connected;
- Agriculture and market access (35%): number of FED-supported farmers, field demonstration sites, markets, processing and storage facilities;
- Education, health, other development (30%): number of health facilities, number of educational institutions connected, other development activities.

Thus, a credible and relatively transparent tool for establishing priorities was put in place; but as baseline surveys were not conducted, there is no data against which to quantify impact.

**Objective:** The objective of the qualitative study is to record perceptions of significant changes (both positive and negative) in local conditions as a result of road rehabilitation activities by collecting recall information from individuals and groups living along target roads. Individual, household, community and enterprise-level effects will be captured.

**Methods:** Focus group discussions and key informant interviews should be conducted. Participant observation, and analysis of secondary data if it is available, may also be utilized.

**Focus group discussions:** Approximately five groups should be held in selected communities along each sample road segment. Separate groups for men and women are recommended, with every effort made to include a range of ages and socio-economic conditions. Indicative questions include:

- What is the population of the community?
- How many households are there in the community?
- Are there farmer groups or producers' associations in the community? If yes, are they assisted through FED?
- What services are presently available in the community? Probe to get a complete inventory: electricity source if any, water supply, telephone landline, cell phone network, internet connectivity, primary/secondary schools, vocational training, health facilities, church, mosque, police, court, legal services, bank, microfinance institution, market, grinding mill, community meeting place, skilled crafts/trades (mason, carpenter, bicycle repair etc.). Did these services exist in the area prior to the road rehabilitation? Which services have become available subsequent to the rehabilitation? Which activities have intensified because of road rehabilitation? Have there been an increase in number of vehicles (buses, trucks, tuk tuks, taxi, etc.) plying the road after rehabilitation? What new activities have you seen/observed along the road?

- In what ways has the rehabilitation of the road benefited the community?
- In what ways has the rehabilitation of the road led to or exacerbate problems in the community (increase in crime, for example)?
- In what ways might the rehabilitation of the road benefit men, women and children in the community differently?

**Key informants:** At least 10 key informant interviews should be conducted along each road segment, reflecting the broadest possible cross section of the road catchment area. In addition to ordinary community members and gender balance, candidates for these interviews include community leaders, leaders/members of CSOs, traditional authorities, religious leaders, women’s group leaders, health care providers, teachers, extension agents and community development agents, farmers, shopkeepers and enterprise owners, market men and women, input suppliers, millers and processors, vehicle operators, transporters, road maintenance workers, and others to be determined. The interview protocol should include questions addressing the following topics:

- Is the interviewee a FED beneficiary;
- Is the interviewee a direct beneficiary of any other externally-funded development activity;
- Employment, income and profitability (directly through employment on road work and indirectly through provision of services to contractors);
- Agricultural sales and marketing linkages;
- Market size and diversity of products;
- Emergence of new markets;
- Access to agricultural inputs;
- Access to post-harvest services such as storage, milling, packaging, branding;
- Cost and duration of passenger travel to selected points;
- Cost of transporting goods to and from selected points;
- Traffic patterns and movements;
- Patterns of utilization of health services;
- School attendance among household members.

**Participant observation:** Participant observation relies on the cultivation of personal relationships with local informants as a way of learning about a culture, involving both observing and participating in the social life of a group. This may be a useful supplementary technique, time permitting.

### **Timing, Staffing and level of effort**

This work should commence as soon as possible in order to take advantage of the remaining window of time prior to the onset of the rainy season.

Work should be conducted along the following road segments, in the following priority order:

- Tolomain-Lele-Palala road, Bong County
- Barkedu-Jarmulor-Moibadu road, Lofa County
- Bahn-Payee-Zuoplay road, Nimba County

LOE and personnel requirements

- Instrument/questionnaire/discussion guide development: Estimate maximum five days LOE to draft questionnaires for key informants and protocols/discussion guides for focus group discussions. Requires one mid-level social science research analyst experienced in conducting interviews and discussions in rural Africa.
- Field testing and training: Estimate ten person-days days LOE to field test instruments and train interviewers/analysts. Social science researcher and interviewer/analysts (see below).
- Data collection and analysis: Estimate 18 working days **each** for two interviewers/analysts, one man and one woman: nine days for data collection (three working days per road segment), and nine days for drafting concise reports (three days for each report). Interviewers/analysts should preferably be Liberian and hold at least a BA or BSc in social science, economics or development; advanced degree an advantage. Should have previous experience conducting interviews, focus group discussions and/or survey research in rural Liberian settings and should have good command of one or more of the indigenous Liberian languages spoken in the target counties. Excellent English language speaking and writing skills are essential. Strong capability to analyze and synthesize qualitative data and prepare concise reports. The mid-level social science research analyst will provide field supervision.
- Final reports: The mid-level social science research analyst will review the drafts submitted by the interviewers/analysts and finalize reports for presentation. Five days LOE.

USAID/Liberia's Development Outreach and Communication (DOC) team is planning a series of short video programs highlighting successful USAID-implemented activities, including the farm to market road rehabilitation program. The consultants will liaise with the DOC team and help them to identify promising locales along the rehabilitated roads to film, as well as individuals to interview.

The consultants should also be prepared to work with the DOC team to provide input for success stories, fact sheets and other informational materials.

## ANNEX II: ASSESSMENT METHODS

### Methodology Details

#### Gender-sensitive Perspective

Recognizing that the effects of road rehabilitation may vary across gender, LSA applied a gender perspective to the entire assessment process. Starting with the desk review, background documents were reviewed with a gender-sensitive lens, looking for differences in women’s experiences from the road rehabilitation in order to inform a better understanding of gender dynamics in the implementation environment. The assessment team included both female and male interviewers, and a gender balance was sought among respondents in KIIs and participants in FGDs, so much as the other desired, demographic characteristics allow. Please see Tables 8 and 9 below for the breakdown by gender. During the data collection process, a female interviewer was present during interviews with female respondents. The team also organized gender-segregated focus groups to encourage active participation by all respondents.

#### Key Informant Interviews

To address the overarching assessment questions, semi-structured probing techniques were employed to follow up on information related to key questions. This method enabled flexibility and natural flow in the discussion.

A list of key informants is summarized in Table 8 below, along with the total sample sought from each stakeholder group, disaggregated by location, gender, and community roles. At least nine KIIs were conducted along each road segment. Selection of respondents was purposive due to constraints of respondent availability and the intent of the study. Once target groups were identified in the field, respondents were chosen at random when possible (when there were enough members of the target group to select). The goal was to include the broadest possible cross section of the road catchment area while gleaning information on impact to direct FED beneficiaries.

**Table 9. Characteristics of KIIs**

County	No.	RESPONDENT	CATEGORY	SEX
NIMBA	1	Farmer	Farmer	Male
	2	Farmer	Farmer	Male
	3	Farmer	Farmer	Female
	4	Agricultural Input Supplier	Economic Actor	Male
	5	Health worker	Social Service Provider	Male
	6	Health worker	Social Service Provider	Female
	7	Transport union	Economic Actor	Male
	8	Town Chief	Community Leader	Male
	9	School Principal	Social Service Provider	Male
	10	School Principal	Social Service Provider	Male
BONG	11	Traditional Midwife	Social Service Provider	Female
	12	Town chief	Community Leader	Male
	13	Education worker	Social Service Provider	Male

	14	Transport Union Head	Economic Actor	Male	
	15	Motorcyclist	Economic Actor	Male	
	16	Market woman	Economic Actor	Female	
	17	Agricultural Input Supplier	Economic Actor	Male	
	18	Clinic worker	Social Service Provider	Female	
	19	Women's Group Head	Community Leader	Female	
	LOFA	20	Youth Leader	Community Leader	Male
		21	Women's Group Head	Community Leader	Female
		22	VSLA Head	Economic Actor	Male
23		Tea Shop Owner	Economic Actor	Male	
24		Motorcyclist Union Head	Economic Actor	Male	
25		Farmer	Farmer	Male	
26		Education worker	Social Service Provider	Male	
27		Town chief	Community Leader	Male	
28		Agricultural Input Supplier	Economic Actor	Male	

### Focus Group Discussions

The research team conducted FGDs with community members through FGD guides to structure each session (see Annex III). Guides had tailored questions for each group. To enable community members to analyze their own situation, the research team used two tools from the participatory rural appraisal (PRA) method, including conceptual mapping and perception mapping to visually and collaboratively answer key assessment questions. The team utilized FGDs to get the perspectives of groups of people and to promote idea sharing and collaborative assessments. A list of FGD respondents is summarized in Table 9 below, along with the total sample sought from each stakeholder group, disaggregated by location, gender, and age.

**Table 10. Characteristics of FGDs**

County	Gender	Ages	Target	No. of Participants
Lofa	Female	27-40	Market Women	6
	Mixed	33-46	FED Direct Beneficiaries	8
	Mixed	12-31	Youth	8
	Mixed	11-56	Vulnerable Populations	8
Bong	Female	23-70	Market Women	9
	Mixed	40-70	FED Direct Beneficiaries	10
	Mixed	23-39	Youth	8
	Mixed	26-90	Vulnerable Populations	11
Nimba	Female	33-65	Market Women	10
	Mixed	21-75	FED Direct Beneficiaries	8
	Mixed	19-34	Youth	8

	Mixed	19-89	Vulnerable Populations	10
TOTAL				104

The interviewers completed two days of training and pilot testing in Montserrado<sup>13</sup> facilitated by the team leader to hone strong facilitation skills. The FGDs were conducted in town centers, palava huts, or other suitable venues in the community. FGDs averaged 50.1 minutes and did not exceed 61 minutes. After each FGD, team members immediately recorded the FGD results in previously defined templates, and these were submitted to the Team Leader on a daily basis to facilitate rapid analysis of field work results.

The research team conducted mapping exercises: conceptual mapping to allow community members to identify changes in access to social services and service delivery; and perception mapping<sup>14</sup> to encourage community members to identify positive and negative changes due to road rehabilitation. The primary aim was to collect information about significant change in local perceptions of distance and access, which can then be compared to established values in the literature. Furthermore, having different FGDs for men, women, vulnerable groups, and youth illustrated how perspectives differ between these groups.

### Site Selection

The assessment team used a purposive sample for this assessment. They visited at least three communities per prioritized road segment, resulting in a total of ten communities across Bong, Lofa, and Nimba. The selected communities offer a range of environments and reflect varying levels of accessibility, population, and commerce. Given the short time frame, the team limited the potential threat that mobility issues would have had on its ability to visit sites as scheduled. Also due to the condensed time period, the assessment team took advantage of “market days” in each county, along each road, as a means of recruiting a diverse population of respondents in a brief amount of time. Two FGDs were conducted at each of the market locations: Bahn (Nimba), Barkedu (Lofa), and Palala (Bong).

The selection of communities was finalized in conjunction with USAID/Liberia, Implementation Managers from the contractors, and the Technical Lead for Engineering from FRAMP. In order to target direct FED-beneficiaries, the assessment team solicited a list of all FED-beneficiaries, then selected farming group members in the vicinity of the assessed roads, and randomly select from the list (using a random number generator). The list includes farmers, aggregators and processors along the farm-to-market value chain, allowing for diversity within the purposive sample, while also being able to observe the effects the roads have had on direct beneficiaries, and even compare it to those who were not part of the FED program.

### Data Analysis and Reporting

The qualitative data gathered through the KIIs and FGDs were analyzed using systematic qualitative methods. A matrix was developed and populated, categorizing responses by related assessment question. The matrix facilitated the identification of trends, known as pattern analysis, and quantification

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<sup>13</sup> The pilot testing occurred 14-15 July in Montserrado county at FED sponsored sites: Careysburg, Mt. Barclay Community,

<sup>14</sup> Both mapping exercises were conducted one of two ways, weather depending. Either community members were presented with a “stick” and asked to draw in the Earth—in a relatively dry location—or they were provided with paper and markers. Participants also were given prompts relative to services and facilities to help the process (e.g. community town hall; e.g. local clinic or government school).

of similar responses (e.g. 29 out of 30 respondents saw positive benefits from the intervention), using a modified process based on accepted coding practices<sup>15</sup>. Team members coded both *in vivo*<sup>16</sup> and by descriptive attribution<sup>17</sup>, to not lose the essence of what is said, and each team member was oriented to the coding process in order to increase inter-rater reliability during the analytical process. In addition, analysis was done to identify demographic information, such as gender, age, location, etc., which were considered also during the analysis process and included in the assessment report.

Qualitative data used in the assessment report was anonymized, in order to ensure respondent confidentiality; respondents' sex, age, and data collection location was identified with any specific quotations, in order to provide context for the quotation. General aggregation of qualitative data was enumerated but not quantified.

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<sup>15</sup> Saldaña, J. *The Coding Manual for Qualitative Research*, Third Edition. Sage Publications, London; 2016

<sup>16</sup> In vivo qualitative analysis utilizes the actual words (quotes) from the respondent.

<sup>17</sup> Descriptive analysis summarizes the primary target of the information from the respondent.

## Assessment Design Matrix

Assessment Question	Criteria of Success/Indicator	Data Sources	Data Collection Methods				Data Analysis Plan	Assumptions/Risks/Considerations
			DR	KI	FG	MAP		
<b>DR = Desk Review</b>			<b>KI= Key Informant</b>		<b>FG = Focus Group</b>		<b>MAP = Conceptual/Perception Mapping</b>	
<b>What are the significant changes in local conditions as a result of road rehabilitation activities?</b>								
I. How are the communities affected (positive or negative) by the road rehabilitation?	<ul style="list-style-type: none"> <li>Identify scope: # of people, HHs, groups reached by rehabilitation</li> <li>Main indicators detailed in Q1a, b, and c below</li> </ul>	<ul style="list-style-type: none"> <li>CBA report</li> <li>FED population, HH, association data</li> <li>Liberia population census 2008</li> </ul>	X	X	X	X	Disaggregation: <ul style="list-style-type: none"> <li>Population</li> <li>HH</li> <li>Gender</li> <li>Farmer groups/producers' associations</li> <li>Location</li> </ul>	<ul style="list-style-type: none"> <li>Conclusions will rely heavily on estimates and the quality of population data.</li> </ul>
Ia) How has the road rehabilitation affected access to service delivery?	Respondents identify: <ul style="list-style-type: none"> <li>Present services available in community</li> <li>Services that have become available due to RR</li> <li>Activities that have intensified/increased due to RR</li> </ul>	Participatory Rural Appraisal: <ul style="list-style-type: none"> <li>Conceptual and Perception Mapping</li> </ul> FED Direct Beneficiaries FGDs Market Women/ Female Agr. IGAs FGDs Youth FGDs Vulnerable populations FGD GIS mapping data on health facilities and schools		X	X	X	<ul style="list-style-type: none"> <li>Beneficiary-centric analysis through PRA</li> </ul> Disaggregation: <ul style="list-style-type: none"> <li>Location</li> </ul>	<ul style="list-style-type: none"> <li>Keep in mind this is not a survey so qualitative findings will be illustrative in nature</li> <li>Assumes that services came because of RR while other developments could have encouraged service improvement</li> </ul>

Assessment Question	Criteria of Success/Indicator	Data Sources	Data Collection Methods				Data Analysis Plan	Assumptions/Risks/Considerations
			DR	KI	FG	MAP		
<b>DR = Desk Review</b>			<b>KI= Key Informant</b>		<b>FG = Focus Group</b>		<b>MAP = Conceptual/Perception Mapping</b>	
Ib) How has the road rehabilitation affected employment, income and profitability?	<ul style="list-style-type: none"> <li>- # of people directly employed by RR</li> <li>Respondents identify measured change in:               <ul style="list-style-type: none"> <li>- Agricultural sales</li> <li>- Market linkages</li> <li>- Post-harvest services</li> <li>- Market size/diversity</li> <li>- New markets</li> <li>- Ag inputs</li> <li>- Transportation costs</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Contractor data</li> <li>- FEWS Net data on transportation costs (people and goods), ag sales, access to ag inputs</li> <li>- KIIs with broad sample</li> <li>- FGDs with target groups</li> <li>- FED annual reports</li> </ul>	X	X	X	Disaggregation: <ul style="list-style-type: none"> <li>- Directly and indirectly employed by RR</li> <li>- Gender</li> <li>- Age group</li> <li>- Location</li> </ul>	<ul style="list-style-type: none"> <li>- Keep in mind this is not a survey so qualitative findings will be illustrative in nature</li> <li>- Variance in availability of comparable data to measure impact against</li> </ul>	
Ic) How has the road influenced other changes?	<ul style="list-style-type: none"> <li>- Capture changes outside of intended or planned changes</li> </ul>	Participatory Rural Appraisal: <ul style="list-style-type: none"> <li>- Conceptual and Perception Mapping</li> </ul> FED Direct Beneficiaries FGDs Market Women/ Female Agr. IGAs FGDs Youth FGDs Vulnerable populations FGD GIS mapping data on health facilities		X	X	X	<ul style="list-style-type: none"> <li>- Beneficiary-centric analysis through PRA</li> </ul> Disaggregation: <ul style="list-style-type: none"> <li>- Gender</li> <li>- Age groups (elders, adults, youth, children)</li> </ul>	<ul style="list-style-type: none"> <li>- Without a baseline, it may be difficult to link RR to the change</li> </ul>

Assessment Question	Criteria of Success/Indicator	Data Sources	Data Collection Methods				Data Analysis Plan	Assumptions/Risks/Considerations
			DR	KI	FG	MAP		
<b>DR = Desk Review</b>			<b>KI= Key Informant</b>		<b>FG = Focus Group</b>		<b>MAP = Conceptual/Perception Mapping</b>	
		and schools						
2. How do community members perceive the changes?	Respondents identify <ul style="list-style-type: none"> <li>– at least one benefit resulting from RR</li> <li>– at least one problem resulting from RR</li> <li>– difference of benefits/problems across gender and age groups</li> </ul>	Participatory Rural Appraisal: <ul style="list-style-type: none"> <li>- Conceptual and Perception Mapping</li> <li>FED Direct Beneficiaries FGDs</li> <li>Market Women/ Female Agr. IGAs FGDs</li> <li>Youth FGDs</li> <li>Vulnerable populations FGD</li> <li>GIS mapping data on health facilities and schools</li> </ul>			X	X	<ul style="list-style-type: none"> <li>- Beneficiary-centric analysis through PRA</li> <li>Disaggregation:               <ul style="list-style-type: none"> <li>- Gender</li> <li>- Age groups (elders, adults, youth, children)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>– It will be difficult to responsibly access child respondents so data will likely come from guardians</li> </ul>

## ANNEX III: DATA COLLECTION INSTRUMENTS

### Focus Group Discussion Script

Please fill the spaces in the box below before starting the discussion.

Date:			
Start Time:		End Time:	
Moderator ID:		Minute Taker ID:	
No. Participants/ Target Group			
Name of Audio File:			
Location of FGD:			

ID	age	Gender (M/F)	no. of Children	highest educ level	Experience in Agric.	Income-generating activities
D1						
D2						
D3						
D4						
D5						
D6						
D7						
D8						

## Focus Group Discussion Script

### Introduction

As the participants arrive, spend time “getting comfortable,” building rapport, and allowing people to adjust to the setting. Budget ten (10) minutes.

Prior to beginning, be sure to fill out the first page of the Focus Group Discussion Script and test the audio recorder.

### Moderator

“Good morning/afternoon!

My name is \_\_\_\_\_. We have been contracted to perform a Roads Rehabilitation Assessment on behalf of Liberia’s Food Enterprise Development (FED), a member of the US Agency for International Development (USAID). My colleagues, \_\_\_\_\_ and Alpha will be here to help with the discussion and take notes. What you say is important. This session will be audio recorded to be sure that we are able to include all that is said today. Do we have permission to record our discussion with you today? [Wait for all to agree. If someone does not want to be recorded, you may excuse him/her after thanking him for his time]

Today, we have come to learn from you. We will have a discussion about your community, your daily activities, and how they are affected by your use of the roads since the roadwork was completed. This discussion today is meant to help our study. No names will be associated with the information you share. There is nothing to lose from this session, nor is there anything to gain. **FED** would like to thank you for your time and participation. There are no right or wrong answers. We only want to know the truth about your community and its use of the roads. If you are under the age of 18, you will need an adult’s permission to participate today before we continue. Is there anyone who is under 18 years of age? Does anyone have any questions before we move forward?

### FGD Rules of Conduct:

“In order to have a good conversation it is important that we follow a few rules. We kindly ask you to:

- let each person finish their statement before you start to speak,
- do not start individual conversations – your comments are very valuable to us so please share them with the whole group,
- respect each other’s opinions even though you might have a different point of view,
- turn off your cell phone during the discussion (**Moderator: silence your own cell phone**),
- let us be quiet and pay attention; if for any reason you have to leave the room (to use the bathroom, etc.). Please come back in as quietly as you left.”

## **Moderator**

### **A. Significant Changes in Local Conditions**

1. Are you able to use the road to travel to other areas or carry goods more than before?
  - i. Probe: What types of activities or services are now available because the road is done? For example, visiting clinics, attending school, trips to markets, etc.
  - ii. Probe: Are these activities happening more often after the road was done?
  - iii. Are more people using the road? Are people coming from farther out than before the road was done to use the road?
2. Since the roads were done, have you or your family seen a change in money earned from your activities? Significantly more/Significantly less
  - i. Were the changes due to jobs working for the road project?
  - ii. Have more people been coming to market days since the roads improved? Is this helping your business?
  - iii. Have you observed changes in the cost of transportation, for you or for goods and crops, since the road was done?
    1. Probe: is it easier for you to reach the market than before?
      - a. Has it been easier or harder to find transportation since the road was done?
      - b. Probe: compare time of travel before and after to market
    2. Have you observed the cost of goods/fuel/services changing since the road work was done?
  - iv. Has there been a difference in the foods and goods available locally once the roadwork was completed?
    1. Probe: are there more crops available, or have you observed fewer “spoiled” products in the market?
    2. Probe: are spoiled crops still a problem? How much worse is the problem? How much better?
3. What other changes have occurred since the road work was done?
  - i. Probe: Do you have more/less time at home with family?
  - ii. Probe: Has your travel routine changed (travel farther/less far) since before the road was done?
  - iii. Are you participating in activities that you would not have done before when the road was bad?

### **B. Community Member Perception Part I**

1. What are some of the good things we have observed since the road work started here?
  - i. Probe: Have the benefits made a difference in: business, home life, social life?
2. What have been some of the challenges since the road project started?
  - i. Have the challenges affected your business? Daily activities? Finances? Ability to go to school or visit a clinic?

## **BEGIN TARGETED QUESTIONNAIRE SCRIPTS**

### **C. Community Member Perception Part II (Target: Women)**

1. Have women and girls noted any differences in their safety due to the road?
  - i. Probe: is it safer for women to travel alone and in the dark because of roads?
  - ii. Is there a change in wait time since the roadwork was done?
  - iii. Have there been changes in police activity since the roadwork was completed?
2. Since the roadwork was completed, have you observed changes how often or how easy/difficult it is for pregnant women to visit clinics?



## Semi-Structured Key Informant Interview

Date:

Interviewer: *May we audio-record this interview so we can capture all of the information you share?*

Response: Yes / No

Stakeholder:

Organization:

Title:

Time in Position:

1. Are you aware of the Food Enterprise Development Program (FED)? If so, how did you come to know about this program?
2. In what way has the road rehabilitation affected your business/ community/ organization?
3. What services/ facilities have been more available (schools, clinics, markets, hand pumps, etc.), as a result of the road rehabilitation?
4. How long does it take you now to get to:  
Market;  
School;  
Work;  
clinic?
5. Have you experienced changes in membership/ customers as a result of the road rehabilitation (FOR ORGANIZATIONS ONLY)?
6. Since the roads were finished, have you observed changes in what foods are available in the markets?
7. In the past year, has there been any change in the number of services available with the finishing of the road work?
8. Has the community seen any changes in youth activity-level since the roads were completed?
9. Who are those within your sector/ organization/ community that are enjoying the benefits of the road rehabilitation? How is it benefiting them? Who has seen challenges from the roadwork?
10. Have women and girls noted any differences in their safety due to the road? (FOR WOMEN ONLY)
  - o Probe: Is it safer for women to travel alone and in the dark because of roads?
  - o Probe: Is there a change in wait time since the roadwork was done?
  - o Have there been changes in police activity/monitoring since the roadwork was completed?
11. Since the roadwork was completed, have you observed changes how often or how easy/difficult it is for pregnant women to visit clinics?
  - o Has there been a change in how often health care workers come to the towns and communities?
12. Have you observed a change in attitudes/mood of the people in your community since the roadwork was completed?
13. Do you have any reports, documents, or reviews that you are able to share with us that have data we can use to supplement what we have discussed today (FOR ORGANIZATIONS ONLY)?

## **ANNEX IV: SOURCES**

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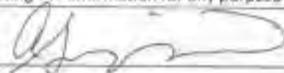
### ***Additional Desk Review Documents***

1. USAID RFP
2. Westwood Corporation Contract and modifications
3. Sam Shawki Fawaz (SSF) Entrepreneur Contract and modifications
4. 21<sup>st</sup> Century Contract and modifications
5. Priced BOQs/Project budget for subject contracts
6. Contractor Staff Contact List
7. ES3R Road Prioritization Report
8. ES3R PMP
9. FED Annual reports
10. USAID Research and survey reports
  - Cost-Benefit Analysis report for selected roads (2013)
11. Relevant GoL policy documents and technical reports
  - Technical Specifications for Feeder Road and Minor Bridge Works

## ANNEX V: DISCLOSURE OF CONFLICT OF INTEREST

<b>Name</b>	Alpha Simpson
<b>Title</b>	Senior Consultant/Chairman
<b>Organization</b>	Liberia Strategic Analysis
<b>Evaluation Position?</b>	<input checked="" type="checkbox"/> Team Leader <input type="checkbox"/> Team Member
<b>Evaluation Award Number (contract or other instrument)</b>	AID 669-C-16-00002
<b>USAID Project(s) Evaluated (include project name(s), implementer name(s) and award number(s), if applicable)</b>	Farm to Market Road Rehabilitation Assessment
<b>I have real or potential conflicts of interest to disclose.</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>If yes answered above, I disclose the following facts:</b> <i>Real or potential conflicts of interest may include, but are not limited to:</i> <ol style="list-style-type: none"> <li>1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.</li> <li>2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.</li> <li>3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.</li> <li>4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.</li> <li>5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.</li> <li>6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.</li> </ol>	

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

<b>Signature</b>	
<b>Date</b>	30-Jun-2016

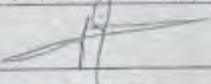
Name	KOLU M. G. GBAINTOR-JOHNSON
Title	EVALUATION ANALYST
Organization	LIBERIA STRATEGIC ANALYSIS
Evaluation Position?	Team Leader <input type="checkbox"/> Team member <input checked="" type="checkbox"/>
Evaluation Award Number (contract or other instrument)	
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	FARM TO MARKET ROAD REHABILITATION ASSESSMENT
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above, I disclose the following facts:</p> <p><i>Real or potential conflicts of interest may include, but are not limited to:</i></p> <ol style="list-style-type: none"> <li>1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.</li> <li>2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.</li> <li>3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.</li> <li>4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.</li> <li>5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.</li> <li>6. Preconceived ideas toward individuals, groups, organizations, or objectives of the party(ies) whose project(s) and organizations being evaluated that could bias the evaluation.</li> </ol>	

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change, if I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	24 June 2016

Name	HILARY B DAVIA
Title	ANALYST
Organization	LIBERIA STRATEGIC ANALYSIS
Evaluation Position?	Team Leader <input type="checkbox"/> Team member <input checked="" type="checkbox"/>
Evaluation Award Number (contract or other instrument)	
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Farm to Market Roads Rehabilitation Assessment
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>If yes answered above, I disclose the following facts:</b></p> <p><i>Real or potential conflicts of interest may include, but are not limited to:</i></p> <ol style="list-style-type: none"> <li>1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.</li> <li>2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.</li> <li>3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.</li> <li>4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.</li> <li>5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.</li> <li>6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.</li> </ol>	

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	24-6-2016

U.S. Agency for International Development - Liberia  
502 Benson Street  
Monrovia, Liberia