LEVE
Local Enterprise and Value Chain Enhancement Project

USAID | HAITI
FROM THE AMERICAN PEOPLE

Market Assessment for Skills in the Agribusiness and Construction Sectors in the Saint Marc Region



Report and Analysis
By
Harold Maass

Socio-Digital Research Group
Socio-Dig

January 21, 2016

CONTRIBUTORS

Principal Consultant
Harold Maass

Questionnaires and Data Management
Timothy T. Schwartz

Logistics and Accounting
Stephanie Pierre

Survey Supervisor
Jackly Beautelus

Field Surveyors
Pharrel Emile
Egain Ambeau
Othelo Bisnet
Chadson Pierre
Jude Intervol

Telephone Surveyors
Stephanie Pierre
Almathe Jean
Jhonny Jean
Berline Clertide
John Linde Louis

Contents

1. Executive Summary 1
2. Introduction 2
   The project 2
   LEVE 2
   CORAM 2
   The St. Marc Development Corridor 4
   EMAVA 4
   Background 5
   The agriculture labor market 6
   The construction labor market 8
3. Methodology 9
   Compiling the list of employers 9
   Free-list Survey 10
   Employer survey 11
   Farmer/worker surveys 11
4. Survey Findings 14
   Part 1: Agriculture 14
      The employers 14
      Staffing 15
      Farmer survey respondents 16
      Livelihood 17
      Agricultural training 23
      Interest in Schools and Training 24
      Agrigultural skills in demand 25
      Hiring prospects 27
      Vocational school training and employment prospects 27
   Part 2: Construction 28
      The employers 28
      Construction worker survey respondents 29

Staffing 32
Hiring prospects 36
Vocational school training and employment prospects 38
5. Conclusion 47
Recommendations 48
6. ANNEX 49
The farmer questionnaire 49
The worker questionnaire 51
Employer survey 52
Frequency Listing 55

Tables

Table 1: Skills vocational school students need to find work.....3
Table 2: Agricultural employee types (ave. per employer).....15
Table 3: Agribusiness permanent employees 15
Table 4: Location of farmer survey respondents.....15
Table 5: Land holdings of farmer survey respondents.....16
Table 6: Location of schools attended.....22
Table 7: Sponsor of schools attended.....22
Table 8: Topics of training seminars.....22
Table 9: Sponsor of training seminars.....23
Table 10: Preference for training.....24
Table 11: Agribusiness staffing needs in next 6 months.....25
Table 12: Agribusiness staffing needs in next 3 years.....25
Table 13: Estimated hiring at agribusiness over next 3 years.....25
Table 14: Is formal training important in agricultural specialties?.....25
Table 15: Vocational school-trained workers in agribusinesses.....25
Table 16: Respondent Years of Experience as Bos and in Construction Industry.....29
Table 17: Time since last contract.....31
Table 18: Full-time, part-time at employers with permanent staff.....31
Table 19: Staffing needs in next 6 months at agribusinesses.....34
Table 20: Geographic source of jobs and employees.....37
Table 21: Trades requiring formal training.....37
Table 22: Most difficult *Bos* to find 37
Table 23: Location of vocational school.....39
Table 24: Time in vocational school.....39
Table 25: Time to become *bos* after tech school.....39
Table 26: Time unskilled laborers have trained to be a *bos*.....39
Table 27: Workers' preferred class times 42

Figures

Figure 1: U.S.-designated development corridors....5
Figure 2: The agribusiness labor market....8
Figure 3: Construction sector labor flow chart....9
Figure 4: Freelisting map overview....10
Figure 5: Freelisting map Cabaret....10
Figure 6: Freelisting map Saint-Marc....11
Figure 7: Construction sites visited for worker survey....12
Figure 8: Construction sites visited in Saint-Marc....13
Figure 9: Employer respondents by industry....13
Figure 10: Agricultural employers....14
Figure 11: Farmer sample population age profile....16
Figure 12: Most commonly planted crops....17
Figure 13: Most commonly owned trees....17
Figure 14: Owns livestock....18
Figure 15: Livestock owned....18
Figure 16: Most difficult tasks with animals....19
Figure 17: Livestock needs for which respondent would pay....19
Figure 18: Most necessary technology/expertise....20
Figure 19: Most difficult technology/expertise to find....20
Figure 20: Respondents who have ever used motorized farm equipment....20
Figure 21: Who operates the equipment....21
Figure 22: Hires vs. family....21
Figure 23: Would pay someone for mechanized service....21
Figure 24: Would like to learn to operate equipment....21
Figure 25: Wants to go to school or attend farming seminar training....23
Figure 26: School vs training seminars....23
Figure 27: Those who think they could find work with agricultural training....23
Figure 28: Preference for training....24
Figure 29: Construction employer types....26
Figure 30: Location of construction sites....27
Figure 31: Skilled workers employed last 3 years, on average....27
Figure 32: Skilled workers by trade....28
Figure 33: Age of construction workers....28
Figure 34: Construction worker commune of origin....29
Figure 35: Time living in work area....30
Figure 36: Milieu where worker was raised....30
Figure 37: Skilled workers employed last 3 years, on average....31
Figure 38: Construction employer has contract....31
Figure 39: Workers employed for latest contract....32

Figure 40: Apprentices employed in latest contract……33
Figure 41: Skilled laborers/apprentices with techschool training……34
Figure 42: Hiring through next 6 months……34
Figure 43: Hiring over next 3 years……34
Figure 44: Projected hiring next 6 months……35
Figure 45: Projected hiring next 3 years……35
Figure 46: Hiring by contractor or tradesman……36
Figure 47: Skilled worker training……38
Figure 48: Cost of school……38
Figure 49: Skilled workers desiring further training……39
Figure 50: Other training desired by skilled workers……40
Figure 51: Unskilled laborers seeking skilled status……40
Figure 52: Specialties sought by unskilled workers……41
Figure 53: Vocational school training desired by unskilled workers……41
Figure 54: Specialists workers believe benefit most from formal training……42
Figure 55: Vocational trainees workers believe most likely to find jobs……44

1. Executive Summary

1. The agriculture and construction sectors are two of Haiti's main employment engines. Construction in particular is a dynamic source of existing and potential new jobs.

2. Vocational education is necessary to prepare job candidates to meet the needs of employers. In the Saint-Marc area, the reopening of EMAVA has the potential to fill a vacuum in technical education left when the school closed more than a decade ago. A market assessment of skills in demand in the agriculture and construction sectors will help the school administration select courses with maximum benefits for job seekers and those already working in the sectors.

3. Farmers express demand for generalized training related to both crops and livestock, and to the operation of mechanized equipment. According to ODVA and local employers, agribusiness concerns have a growing but still limited demand for small-engine mechanics and operators of tractors, motorized cultivators and other machinery. Many farmers could benefit from increased access to this machinery. Many don't use it at all. Farmers have ongoing needs for training in water management, soils, planting techniques, and basic animal health care. The construction sector, with a vast network of employers, offers better prospects for job seekers.

4. Both sectors have demand, albeit limited, for mechanics and operators of small and heavy machinery. Training that provides general knowledge of these specialties, with instruction in equipment used in agriculture (cultivators and tractors) and construction (block-making machines and bulldozers), could position students to capitalize on job growth in both sectors.

5. Skilled and unskilled construction laborers would like to attend vocational schools – while continuing to work -- to improve their skills and learn new ones. Farmers also desire training in basic agricultural techniques and livestock care, and expect it to help them find more work.

6. There is a consensus among leaders of CORAM in Saint-Marc, and construction employers and workers that studying core construction jobs, such as masonry and carpentry, and specialties such as electrician, can give a job seeker the best chance of in finding a job due to high demand for these skills among a large network of construction employers.

2. Introduction

The project

The research presented in this report was commissioned by the Local Enterprise and Value Chain Enhancement Project (LEVE) as part of a USAID-USDA program working with the Haitian Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR) to rehabilitate three vocational schools. The goal was to assess the technical skills in demand in St. Marc and the Bas Artibonite. The data will inform planning for instruction at one of the schools to be rehabilitated, l'Ecole Moyenne d'Agriculture de la Vallée de l'Artibonite (EMAVA) outside of St. Marc. EMAVA plans to train its technicians through a learning-by-doing approach. It is therefore critical to determine which trades are in demand, so that the school can design its course offerings to ensure that graduates will enter the workforce equipped with knowledge and skills employers seek. As MARNDR leaders said at the launch of research, the ministry does not want to train people to join the ranks of the unemployed, it wants to help them enter the workforce with skills they need to succeed.

LEVE

The Local Enterprise and Value Chain Enhancement Project (LEVE) aims to foster economic growth through capacity building and job creation. Haiti's January 2010 earthquake destroyed infrastructure, inventory, and human capital, worsening existing economic problems, including high unemployment. USAID is funding the LEVE project to aid in the recovery by targeting micro-, small-, and medium-sized enterprises (MSME) to help them enhance their capacity. LEVE also is working with technical and vocational schools – such as EMAVA and another school operated by the Comite d'Organisation pour la Renovation de l'Avenue Maurepas (CORAM) in St. Marc. CORAM participated in this study to enhance its capacity to conduct market analyses. By working with these schools, LEVE aims to help them refine their course offerings and enhance their ability to place graduating students in steady employment.

CORAM

CORAM is an organization dedicated to community improvement projects. It was founded in 2001. CORAM's activities have included small construction projects, such as building or rebuilding small stretches of roads, small bridge-culvert projects, and the operation of a school. CORAM currently operates the Ecole Nationale Maurepas, a classical school for students ages 6 to 24, and when funding is available it offers vocational training in the afternoon, after the schoolchildren have finished their studies for the day. CORAM offers 16 courses, including 9 in



CORAM leaders work on the employer questionnaire.

construction trades (masonry, carpentry, tile laying, plumbing, electricity, metalwork, windows, construction management, and painting), 2 agricultural specialties (agricultural technician and animal health), hospitality, bar-restaurant management, small-engine mechanics, auto/moto mechanics, and refrigeration/air conditioning. CORAM's most popular courses are the main construction trades – masonry and carpentry – and the hospitality industry specialties. The top 5 of the 9 construction courses attract 47% of the school's students. CORAM provided a list of skills students need to acquire to succeed in the workplace (Table 1).

Table 1: Skills vocational school students need to find work

Agriculture tech	**Plumbing**
1- Safety 2- Plant care 3- Soil prep 4- Watering 5- Planting	1- Safety 2- Pipe placement 3- Installation of sanitary mechanisms 4- Pump, water heater, reservoir install. 5- Repairs
Animal Health	**Tile**
1- Safety 2- Treatment of illness 3- Reproduction, care 4- Vitamins 5- Injections	1- Safety 2- Tile cutting 3- Horizontal tile laying 4- Vertical tile laying 5- Maintenance and repair
Household electricity	**Ironwork/Blacksmith**
1- Safety 2- Electrical connections 3- Wiring 4- Electric installation **5-** Maintenance and repairs	1- Safety 2- Production of basic doors 3- Production of grills 4- Production of iron doors with bars 5- Advanced door production
Masonry	**Carpentry**
1- Safety 2- Proportion 3- Laying rocks 4- Laying cement blocks **5-** Stucco and plaster	1- Safety 2- Framing 3- Roofing 4- Doors 5- Windows

The survey process included a capacity building element to help the CORAM directors acquire experience and skills needed to conduct their own marketing analyses. This began with a general discussion of the agriculture and construction sectors, and CORAM vocational training. The principal consultant reviewed the methodology and frequency listing technique with CORAM directors Tony Desinord, Ralph Pierre Cauvin, and Junior Jean-Louis. Mr. Jean-Louis then worked in tandem with the consultant over five days, conducting qualitative interviews and filling out freelist questionnaires with employers in Saint-Marc and Pont Sonde. The members of the CORAM team endorsed and participated in discussions on the reorienting of the second questionnaire to include the targeting construction workers instead of the general population, and participated in the drafting of the employer questionnaire. Two CORAM directors later traveled to the Socio-Dig office in Thomassin and spent 1 1/2 days in intensive training in the use of Open Data Kit formatting and Tablets in executing surveys. During the training, they wrote two functional questionnaires and processed them on the ONA website. CORAM will apply the questionnaires in Marchand Dessalines.



Survey co-supervisor Almathe Jean discusses research techniques with Junior Jean-Louis (L) and Ralph Cauvin (R) in the Socio-Dig office.

The St. Marc Development Corridor

The focus on the St. Marc area, one of the development corridors defined by the U.S. government, reflects years of efforts to promote decentralization in Haiti. The St. Marc Development Corridor (Figure 1) is dominated by the city of St. Marc, and includes the communes of St. Marc (pop. 242,485), Grande Saline (21,131), Arcahaie (118,501), and Cabaret (62,063) (IHSI 2009). Overcrowding in the nation's capital, Port-au-Prince, was determined to be a factor in the death toll of Haiti's devastating 2010 earthquake, prompting renewed emphasis on decentralization in post-earthquake reconstruction and development efforts (Earth Institute 2013).



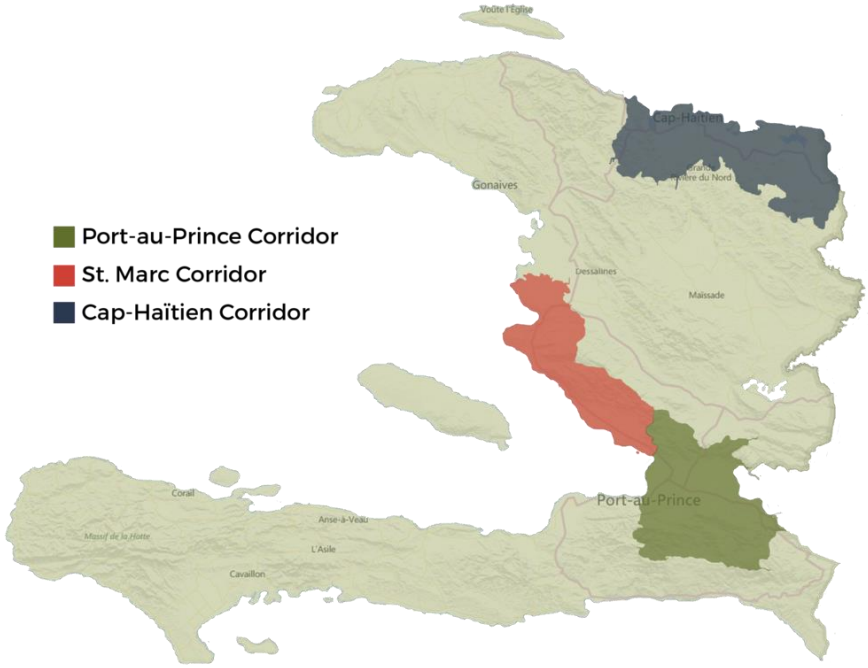
A farmer in a rice field near EMAVA.

EMAVA

EMAVA's campus is located just outside of Pont Sonde, a hub of commerce linking the rice-growing Artibonite Valley with the Saint-Marc Development Corridor and other parts of Haiti. The facility was quiet, with no activity, at the time of the field research. EMAVA was part of a

network of governmental technical schools established to transmit agricultural know-how to farmers, but it has been closed for more than a decade. This has left a vacuum in the region, according to the CORAM team and agronomists interviewed at l'Organisation pour le developpement de la Vallee de l'Artibonite (ODVA), a government agency with a research and training campus in Pont Sonde.

Figure 1: U.S.-designated development corridors



Source: USAID

Background



An agricultural store in Montrouis, supported by USAID.

Agribusiness and construction are two of LEVE's central activity sectors. In the St. Marc Development Corridor and across Haiti, agriculture and construction are the primary sources of employment. More than 60 percent of Haitians depend on agriculture for their livelihoods. Agricultural development is therefore universally viewed as a critical element in Haiti's post-earthquake reconstruction and long-term economic growth. LEVE is concentrating in this sector in the Port-au-Prince and St. Marc corridors by participating in the fruit, cereals, and aquaculture value chains, exploring such options as improving fruit procurement and processing during peak seasons to supply retailers all year, helping farmers explore ways to store edible grains, and expanding aquaculture production and distribution. The sector is dominated, however, by small-holder farmers, with limited numbers of formal-sector

businesses. This limits employment possibilities for workers with vocational training in agricultural techniques, animal health care, machine operating, and other fields.

Construction is considered the most dynamic employment sector in Haiti, ahead of agriculture and manufacturing (USAID 2008). The Economic Recovery Roadmap prepared by the Haiti President Working Group on Competitiveness cited housing and urban development as the area in need of the greatest foreign investment in the earthquake recovery effort. The sector's growth was expected to produce several billion in added revenue by the end of 2015, with as much as a third of the money going to the bottom 90% of the population.



A Cabaret mason interviewed in the worker survey.

The agriculture labor market

Agriculture accounts for about 27% of Haiti's gross national product, and employs half the country's work force. Most people in the sector are smallholder farmers – 85% of the rural population is involved in farming (FAO 2010). The sector is considered critical to economic and employment growth, but it has struggled in recent decades. Haiti, once self-sufficient in food production, now imports 60% of its food (FAO 2010). The country now imports 80% of its rice, while in the 1980s it only imported 19% (Aba Grangou) – a decline particularly significant to the rice-growing Artibonite.

The agribusiness sector in the Saint-Marc corridor is dominated by a few large companies. In Saint-Marc, Agroservice is the sector's leader, with a fertilizer mixing plant under construction, a mango commercial operation, and agricultural supply stores in the city and the nearby market hub of Pont Sonde. Although Agroservice has nationwide reach, its potential as an employer of local vocational school graduates is uncertain. Workers at agricultural supply stores owned or supplied by Agroservice said the company is a provider of agricultural training. An Agroservice store clerk said the company's employees all receive technical training internally. The owner of a *boutik entran* in Montrouis said he, too, had attended Agroservice seminars to learn how to explain products' use to his customers.



An ODVA-trained mechanic working at a Pont Sonde farm equipment store.

This results in a labor market with substantial training needs met by large employers, with important information then passed down to commercial middlemen and ultimately the end users of agricultural products (Figure 2). Other actors, including NGOs and government agencies, follow the same model, using small numbers of trained personnel to share information with farmers. The German Red Cross has a project in Arcahaie, for example, where a

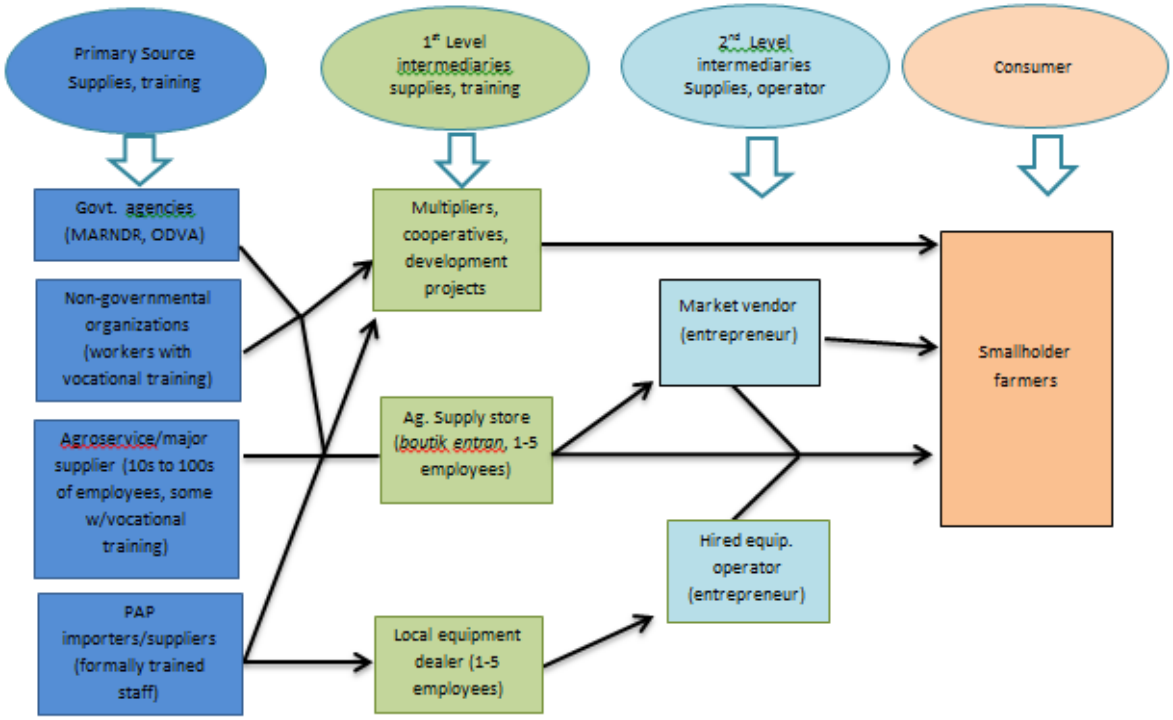
handful of agricultural technicians are sharing techniques with farmers in small model gardens hoping that they will spread the knowledge they acquire to thousands of farmers in three communal sections. Similarly, the Organisation pour le developpement de la Vallee de l'Artibonite (ODVA) in Pont Sonde, together with the Taiwanese government, has a project to reinforce the capacity of area rice farmers by training 80 "multipliers," who share what they have learned with other farmers.

The use of this model by large employers and agencies creates both obstacles and opportunities for vocational schools. It limits demand for specialized training (already constrained by the sector's underdevelopment), but offers the potential for partnering with large employers to meet their training needs. Agroservice executives declined to be interviewed for this research, but said they would discuss training and other issues directly with Agriculture ministry officials, if asked.

Nevertheless, there was a consensus among farmers, leaders in farmer associations, and employees in agricultural supply stores interviewed in the qualitative phase of the research that smallholder farmers would benefit significantly from technical training on a variety of topics. Numerous farmers in the corridor, suffering a drought at the time of the research, want instruction in water management to maximize the benefit they get from a water supply perceived to be decreasing – and becoming less reliable -- due to climate change. Others said that soil experts were a top priority, along with a lab where they can take samples and get advice on improving soil quality. Farmers outside Montrouis and Arcahaie said that basic animal health instruction was a critical need, to help farmers spot and address problems without going to the expense of paying a veterinarian, if one is even available, to deal with routine problems such as difficult births, illness, and growing grasses for animal consumption in times of drought. Poultry, and information on egg production, also are an area where farmers want to develop greater expertise. Young people who currently have few skills or employment prospects are eager for such training opportunities, said the leader of a farmer association in Montrouis.

A Pont Sonde agricultural machinery vendor said that mechanized agriculture offers high growth potential, particularly for the rice-growing Artibonite. Business is slow, however, and his main customers are NGOs, not farmers. He has a tractor and can make 2,000 HTG ($181.82 US) hiring himself out to plow 1 *kawo* (3.18 acres). Farmers could buy a motorized cultivator and do the same, but few smallholder farmers have the capital to do so (one store priced this machinery at 250,000 HTG, or $4,545 US). The business owner had imported a motorized transplanter months ago, but it had yet to spend a day in the field. "We have a shortage of operators," he said. "Nobody is trained to run it." Similarly, an agricultural group in Montrouis acquired a tractor from a USAID project for plowing banana and tomato fields. It was not in use at the time of the research because it had broken down, and nobody in the community could fix it.

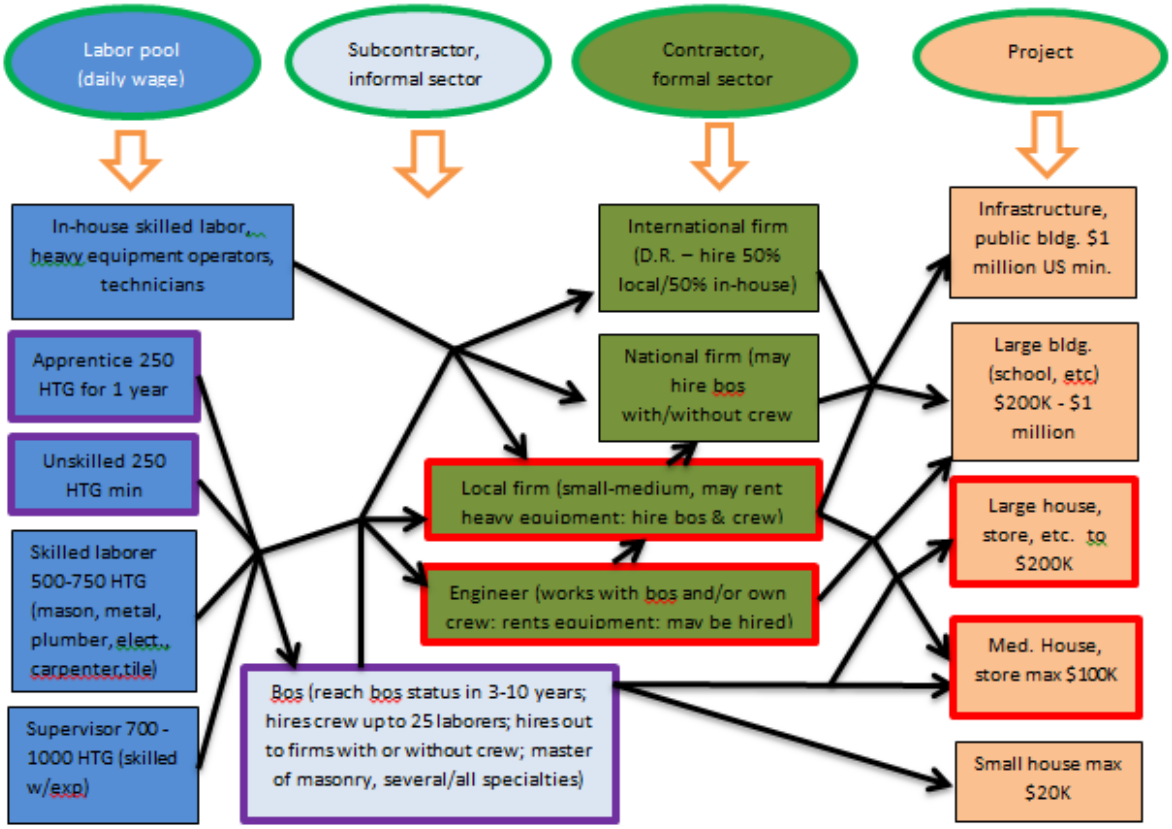
Figure 2: The agribusiness labor market



The construction labor market

The construction sector has a far more active network of employers, which includes an extensive web of informal sector tradesmen, laborers, and contractors, working sometimes on their own and sometimes for formal sector construction companies, or independent civil engineers. The main driver of this network is the contractor, or *kontramet* (Figure 3). The *kontramet* is a master of numerous trades, and typically works under contract either directly with a client building a house or small commercial building, or for a formal sector firm or engineer undertaking a larger project. Numerous interviews with *kontramet* in Saint-Marc indicated that the typical well-established *kontramet* has a team of about 25 skilled and unskilled workers who get steady work. *Kontramet* typically make more money working on their own (a typical figure reported was 8,000 to 9,000 Haitian dollars (about $775+ USD) per week, but when larger companies are hiring they will offer their services for less, in order to secure reliable pay. When the *kontramet* is hired by someone else – a civil engineer, a local construction company, or a major national or international firm – he might be hired alone or with his entire team.

Figure 3: Construction sector labor flow chart



3. Methodology

Compiling the list of employers

The first task in preparing for the study was compiling a list of employers in the agribusiness and construction industries, including those in both the formal and informal sectors. The consultants, in collaboration with representatives of CORAM, conducted qualitative research that included two dozen interviews with representatives of local government and leaders of the business community in St. Marc to execute a rapid analysis of the industries, which informed both the development of the employer questionnaire and the approach to gathering as broad a list of employer-respondents as possible. CORAM provided a list of businesses in St. Marc that have hired graduates from its trade school programs, and this list was incorporated into the broader list compiled by the survey team in visits to the four communes of the St. Marc development corridor, St. Marc, Grande Saline, Arcahaie, and Cabaret.

Free-list Survey

Members of the survey team were dispatched to the four communes in the St. Marc development corridor to gather frequency lists or "free lists" from 380 businesses (for an explanation of the method see "Frequency listing" in the Annex). Respondents provided lists of established *kontramet* (or, in the case of agricultural businesses, agribusiness suppliers). The process generated 153 contacts for a second survey, in which employers were asked about their employees, hiring needs, and demand for vocational training in their sectors. This preliminary field work yielded a comprehensive snapshot of the network of businesses working in these two industries. The construction businesses being visited include hardware stores, construction supply stores, cement-block makers, welders, carpenters, and others.

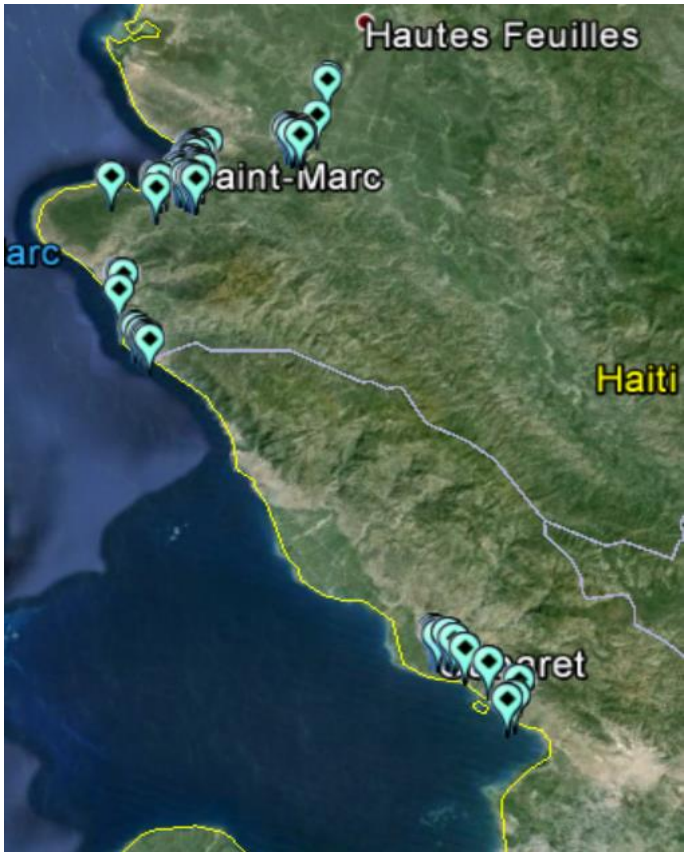


Figure 4: Freelisting map overview

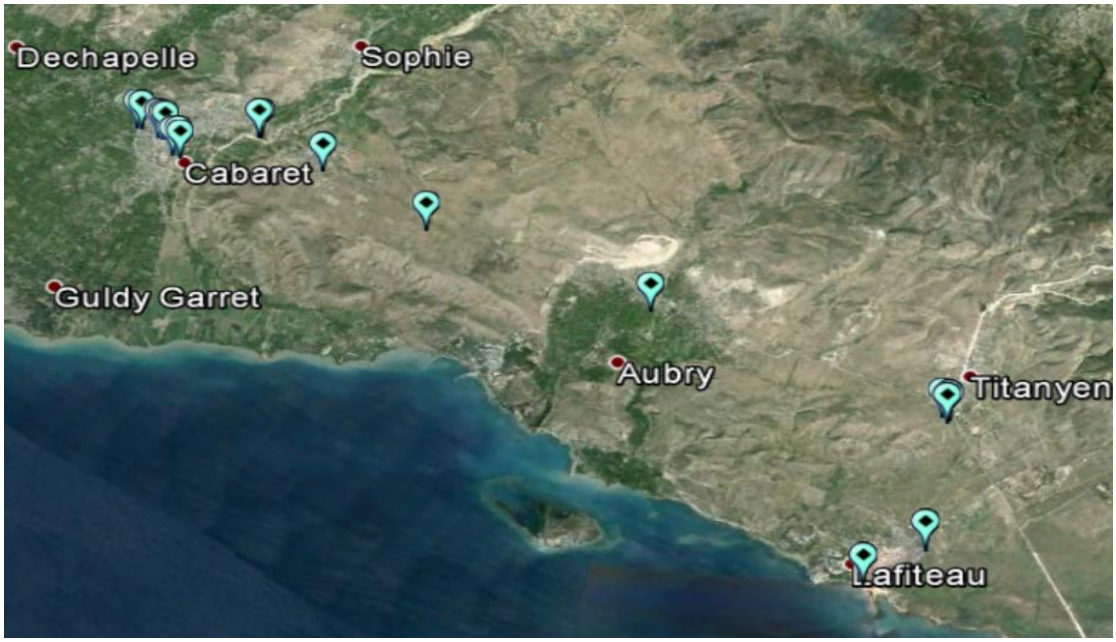


Figure 5: Freelisting map Cabaret



Figure 6: Freelisting map Saint-Marc

Employer survey

The next step, once the employer list was completed and reviewed, was to conduct the employer survey. The draft questionnaire for this phase was prepared and revised in collaboration with representatives from CORAM, and sent for review by representatives of RTI and MARNDR. Since the businesses, and work areas of roving informal construction employers, had all been visited by the survey team in the preceding phase of the research, and many of the employers have no fixed place of business, the employer surveys were completed by members of the survey team in telephone calls with the 153 respondents over the second and third weeks of November.

Farmer/worker surveys

Two final surveys were conducted. One was conducted with farmers from across the Saint-Marc corridor. The 157 participants were identified through the "snowballing" of the contractor-respondents found through the use of the freelisting technique. The contractor-respondents were asked to provide lists of farmers in their area. This technique was used to acquire a reliable list of subjects in the agricultural sector, and to ensure that the respondents were from the same

geographical area as the contractors. As both groups are mobile during the workday, both the contractors (in the employer survey) and the smallholder farmers were interviewed by telephone.

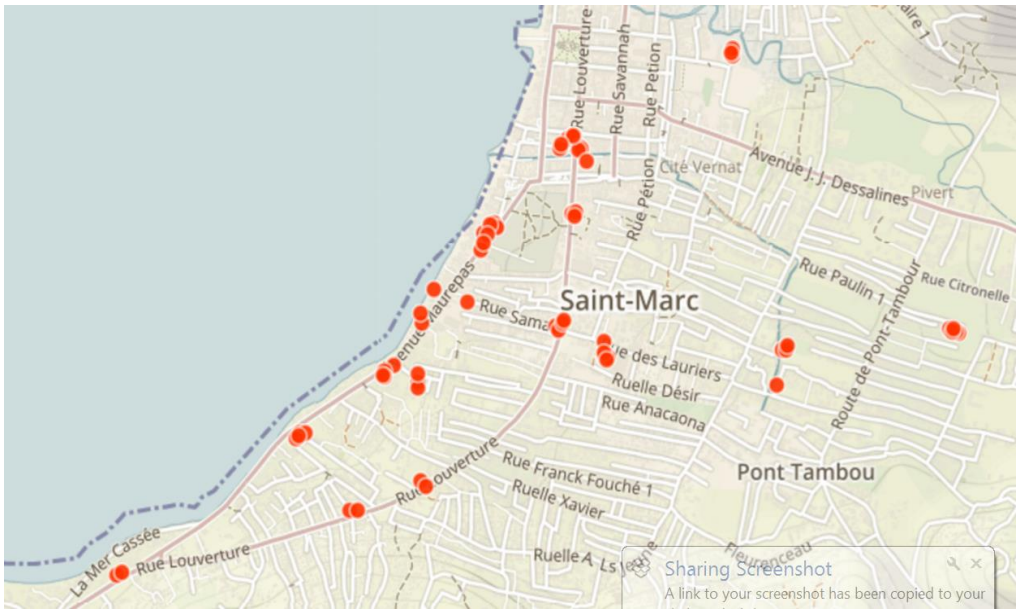
The construction sector survey was done with workers at randomly selected construction sites. Members of the survey team went to 50 randomly selected GPS points in the Saint-Marc Development Corridor and interviewed a target number of 8 construction workers at the nearest construction site to the point. This yielded a total of 323 surveys, although 20 were discarded because the site where they were interviewed fell outside the target corridor on the Verrettes side of Pont Sonde. The sample for this survey was larger than those of the agricultural worker and employer surveys, because surveyors were able to interview multiple respondents at each site.

Both worker surveys were intended to supplement insights and tendencies developed and identified in the qualitative research. The surveys were designed to assess the respondents' skill sets, how many had formal training in their sector, how important they viewed such training, and, finally, their attitudes toward the prospect of taking courses at vocational schools and what skills they believed were necessary for further professional advancement.

Figure 7: Construction sites visited for worker survey



Figure 8: Construction sites visited in Saint-Marc



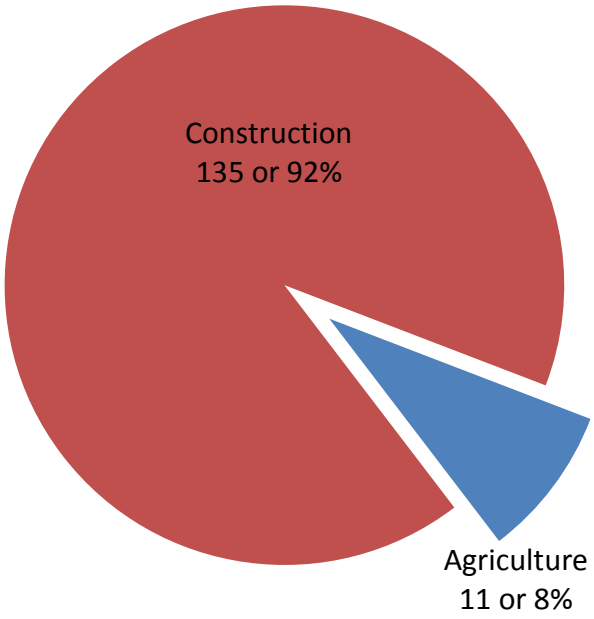
4. Survey Findings

Part 1: Agriculture

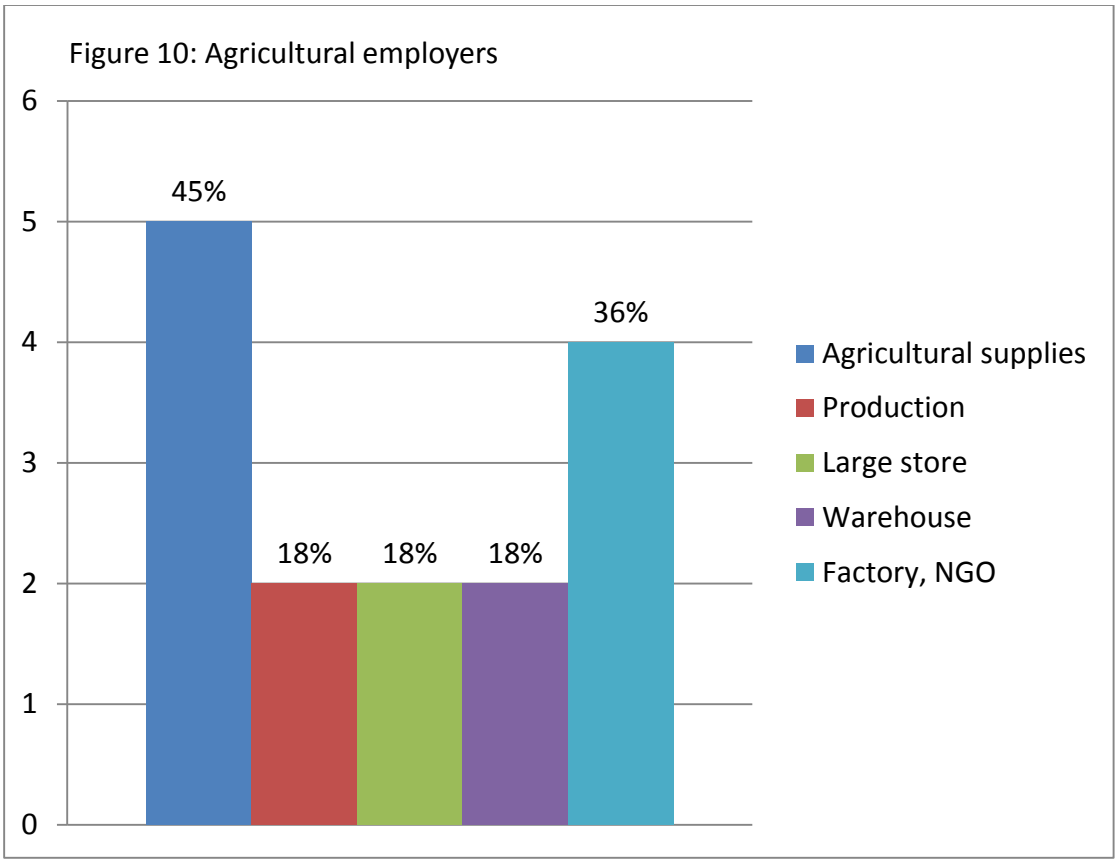
The employers

The vast majority of the businesses identified were in the construction sector (Figure 9). As mentioned above, despite the reliance of a majority of the population on agriculture, formal agribusiness in the target area is limited to a handful of very large firms and tiny stores supplying a network of individual market vendors and smallholder farmers. The construction industry, however, employs a vast network of contractors, engineers, construction firms, wholesale construction supply outlets, and smaller traditional hardware retail stores, as well as a variety of workshops producing concrete blocks, bricks, windows, doors, and other products used in building construction.

Figure 9: Employer respondents by industry



The agribusinesses included five stores selling agricultural supplies, such as fertilizer, pesticides, seeds, and tools (Figure 11). Some agricultural supply stores also sell motorized cultivators, rototillers, and other mechanized equipment, although the market for these machines is not well developed. The main Artibonite rice-growing areas, where mechanized equipment is marketed, are mostly just outside the St. Marc Development Corridor, so businesses within the corridor can cater to these areas. On the other end of the spectrum are relatively massive agribusinesses, such as Agroservice, which is building a fertilizer mixing factory in Saint-Marc, and Haiti Broilers, a poultry business in the industrial town of Lafito in Cabaret commune.



Staffing

Agribusinesses tend to have permanent staff, although this varies widely from the small agricultural supply stores, with a couple of part-time employees, to the factories, which have hundreds. Agricultural technicians and animal health are the courses in the sector offered at CORAM, but mechanics and equipment operators also were common agribusiness jobs, with other positions (in administration and various factory jobs) being the most numerous full-time positions (Table 2). On average, the agribusinesses surveyed had about 41.5 permanent staff members, 20 full-time and 23 part-time (Table 3). The typical independent agricultural supply store, however, has just two part-time employees.

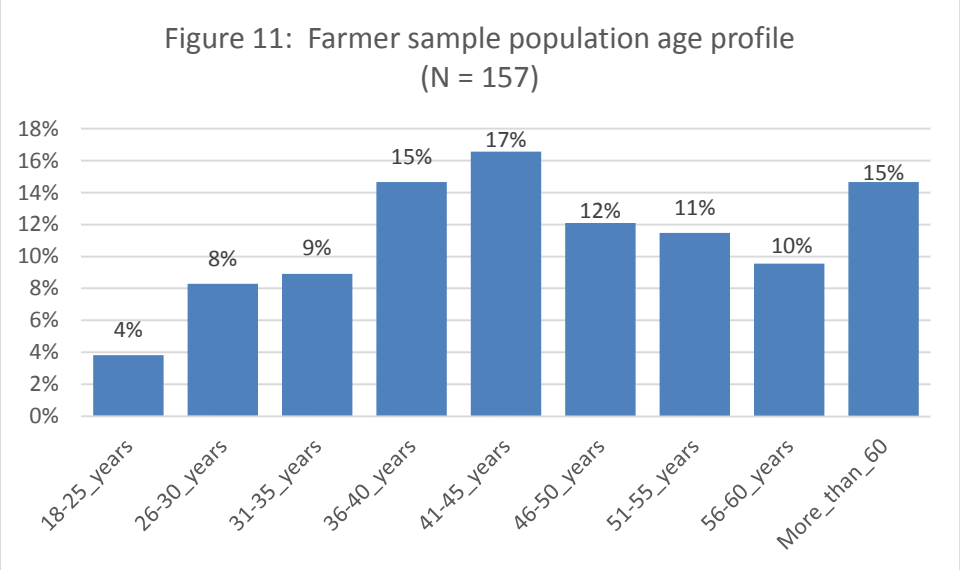
Table 2: Agricultural employee types (average per employer)				
Ag. Tech	Animal health	Mechanic	Operator	Other
2.0	0.2	3.2	1.6	12.9

Table 3: Agribusiness permanent employees		
Permanent staff	Full-time	Part-time
41.5	20.2	22.7

Farmer survey respondents

The respondents in the agricultural worker survey were spread across the St.-Marc Development Corridor. The vast majority were in Saint-Marc commune (Table 4). The respondents in the Saint-Marc area are the closest to EMAVA, and represent the population with the easiest access to the school. As in other surveys, the researchers had the greatest difficulty identifying and reaching respondents in Arcahaie (where 7 surveys were conducted) due to unrest in the area during the period in which the research was conducted. Fifteen percent (23) of the farmer respondents were women. The age profiles were distributed across the spectrum of the working population, with the highest concentrations in the 41-45 year-old age group (17%), and the 36-40 and over-60 groups (both 15%) (Figure 11).

Table 4: Location of farmer survey respondents		
Department	Commune	Surveys
West	Arcahaie	7
	Cabaret	22
Artibonite	Saint-Marc	128
Total		157

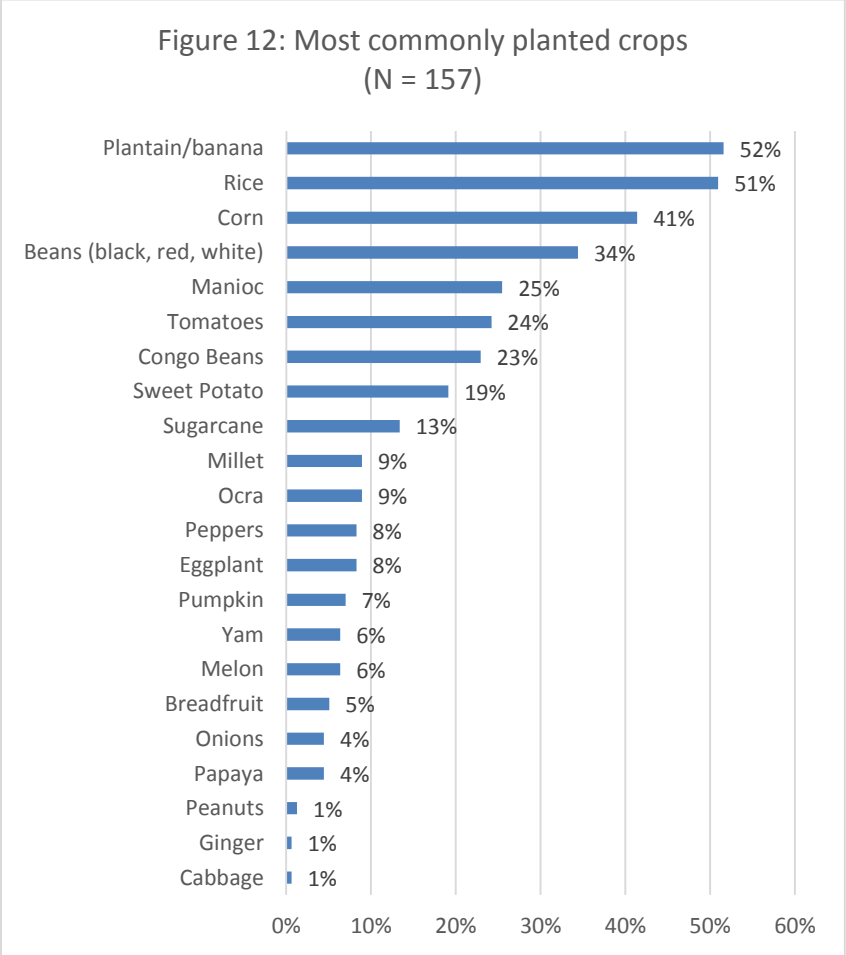


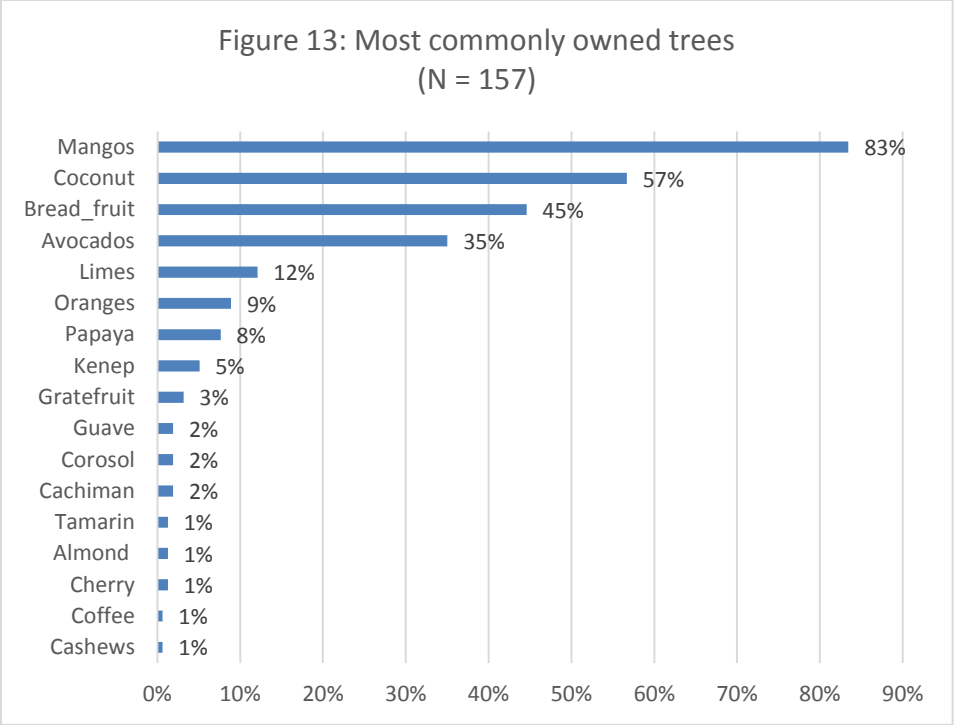
Livelihood

The farmers reported owning from 0 to 8 *kawo* (3.19 acres) of farmland (Table 5). The average holding was 1.53 *kawo* and the median was 1.50 *kawo*. These figures, like the age distribution above, are consistent with the national average across Haiti, an indication of the effectiveness of the freelisting technique in collecting data on tendencies in local populations. The primary crops for the respondents were plantains and bananas (52%), rice (51%), corn (41%), and beans (34%), followed by manioc (25%), tomatoes (24%), congo beans (23%), sweet potatoes (19%), and sugar cane (13%) (Figure 12). The most commonly reported fruit trees owned by respondents were mango (83%), coconut (57%), breadfruit (45%), and avocado (35%) (Figure 13).

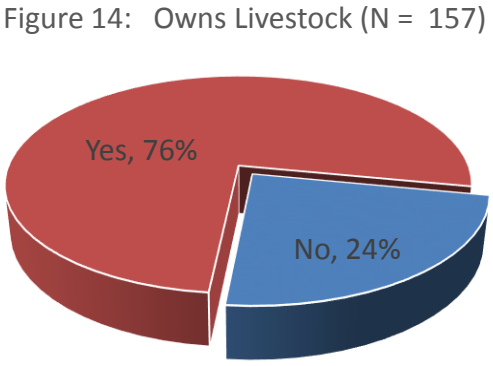
Table 5: Land holdings of farmer survey respondents

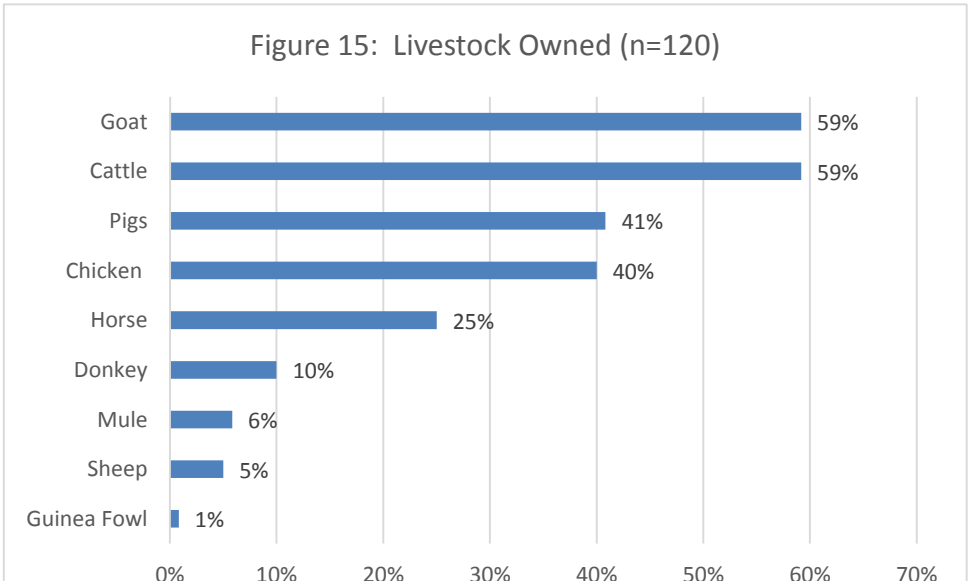
Average of Land Owned	Min of Land Owned2	Max of Land Owned3	Median Land Owned
1.53	0	8	1.5



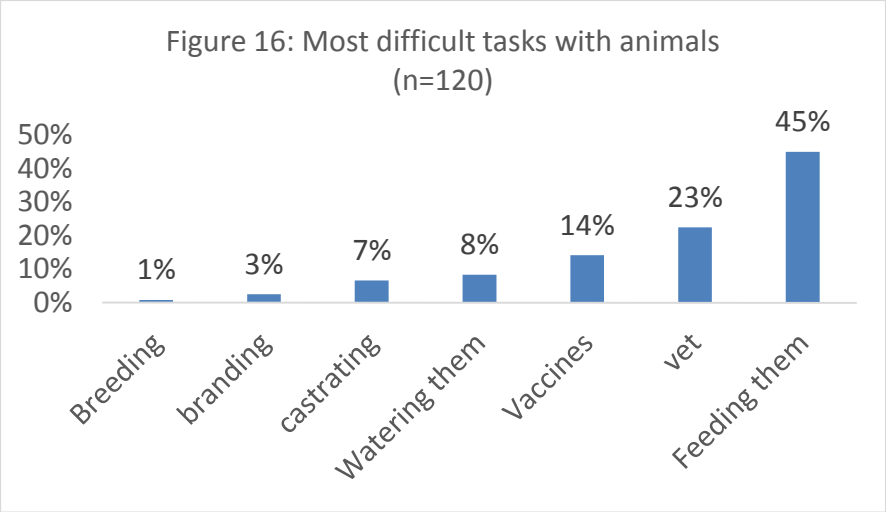


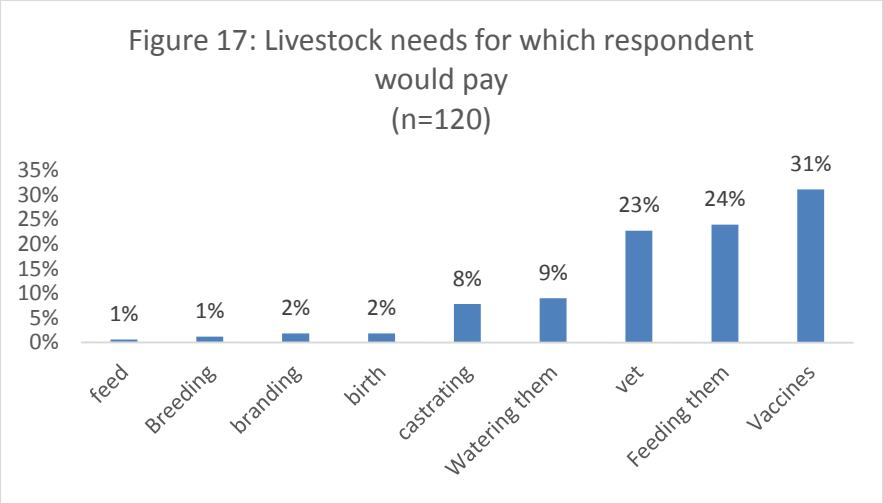
The majority of the respondents reported owning livestock (76%, Figure 14). The most common livestock were goats and cattle, both reported by 59% of the 120 farmers owning livestock (Figure 15). The next most frequently reported animals were pigs (41%) and chickens (40%), followed by animals used for transport.



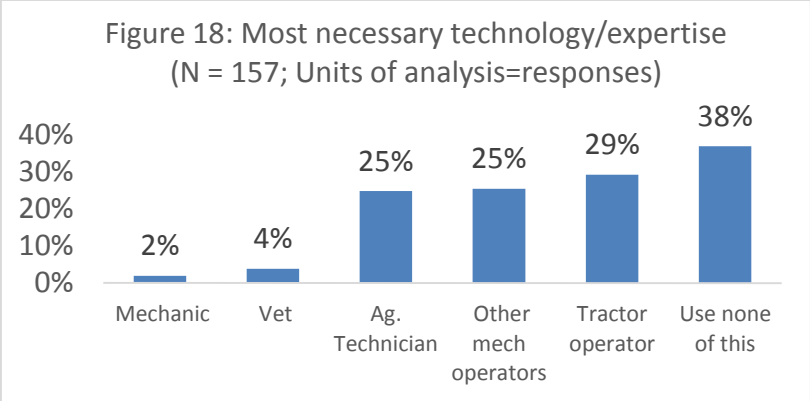


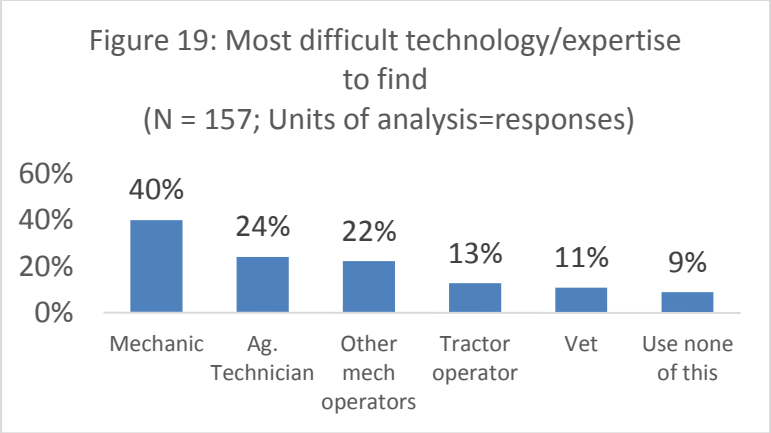
Among the 120 farmers reporting that they owned livestock, the task most frequently identified as the biggest challenge was feeding animals properly (45%; Figure 16). That task was followed by general animal health care (23%), vaccines (14%), watering (8%), and castrating (7%). When asked what services they would pay for, the largest number of respondents said vaccines (31%), followed by feeding (24%), and general veterinary care (23%; Figure 17).



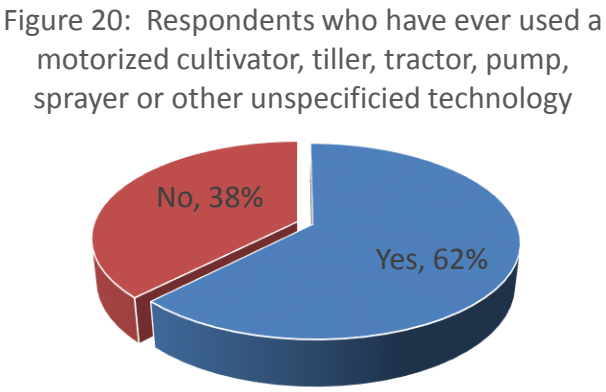


The types of agricultural specialists most frequently identified as necessary or valuable for farmers were tractor operators, who were chosen by 29% of the respondents, followed by operators of other, smaller mechanized equipment (pumps, cultivators, mills, etc.), and agricultural technicians (both named by 25%; Figure 18). It is important to note that 38% of the smallholder farmers interviewed emphasized that they had never used any kind of motorized farm equipment, because they only had access to and experience with basic hand tools. While mechanics were the experts least frequently named as necessary (2% in Figure 18), they were the most frequently identified as the most difficult specialists to find (40%; Figure 19). Agricultural technicians were the second most frequently cited as the most difficult expert to find (24%), followed by operators of mechanized equipment other than tractors (22%), tractor operators (13%) and veterinarians (11%).





As stated above, 38% of respondents said they had never used any kind of mechanized agricultural equipment. This includes irrigation equipment such as pumps, garden maintenance equipment such as sprayers, small machinery for tilling and other functions, processing equipment (mills), and heavy equipment such as tractors (Figure 20).



Of the 98 (62%) who had ever used any of the equipment, only 6% said they exclusively operated it themselves (Figure 21). The overwhelming majority (72%) exclusively relied on others to operate the equipment. The rest (21%) sometimes operate equipment themselves, and sometimes relied on other operators. Among those who relied on others, 63% always hired the operators, 1% always relied on family members, and 34% used both hired operators and family members (Figure 22).

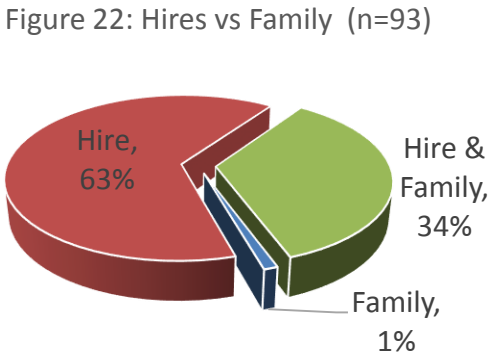
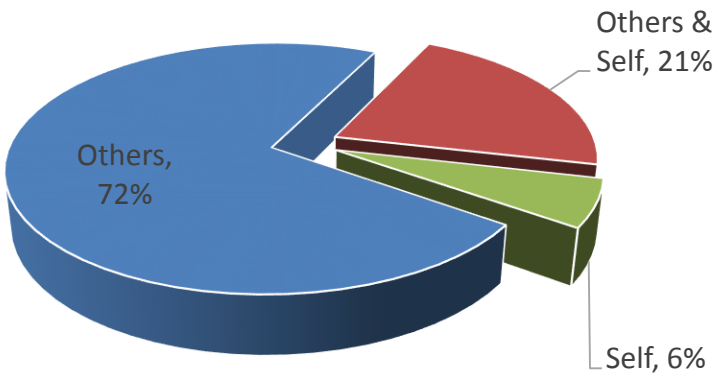


Figure 21: Who operates the equipment (n=98)



Among all respondents, 65% said they would like to learn how to operate motorized equipment, while 35% said they had no such desire. Similarly, 67% said they would be willing to pay someone to perform a service with mechanized equipment on their farmland, while 33% said they would not pay for such services (Figure 23).

Figure 23: Would pay someone for mechanized service (n=157)

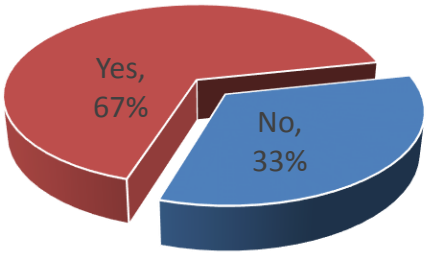
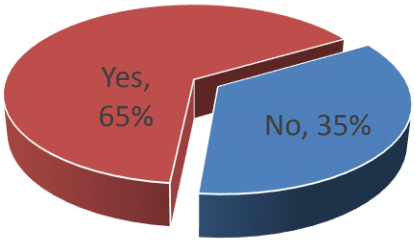


Figure 24: Would like to learn to operate equipment (n=157)



Agricultural training

Ten of the 157 farmer-respondents (6%) had been to agricultural school (see Table 6 for school locations, and Table 7 for school sponsors), and 41 (26%) had attended some kind seminar in agriculture or livestock, with by far the largest number of training seminars covering general agriculture techniques (see Table 8). Nine of those who had been to school had also been to additional training seminars. Thirty-two had attended training only (see Table 9 for a list of the training seminar sponsors). Inversely, 115 respondents had never been to school or had any kind of training. All 10 of those who attended school described it as agricultural school, and all 10 rated the experience as Very Useful (vs 'somewhat useful', 'not useful', and 'not useful at all'). Of those who had some training, 14 had only attended one training session or program.

Table 6: Location of schools attended

Location	Count of Respondents
St_Marc	2
Port-au-Prince	1
Archaie	1
Cabaret	1
Other	5

Table 7: Sponsor of schools attended

Sponsor	Count of Respondents
Association	2
BAC	1
ODVA	2
Pawol et aksyon	1
Protestant mission	2
USAID	2

Table 8: Topics of Training Seminars

Subject	Respondents
Agriculture and livestock	1
Agriculture general	12
Fertilizer	1
Livestock general	2
Millet	1
Pesticide	1
Plantain	1
Plantains	1
Planting	3
Rice	1
Rice, maize, sweet potatoes	1
Seed conservation, pesticide, planting	1
Seeds	2
Soil conservation	2
Stoarge (silos)	1
Sweet potatoes	1
Tree nursery	3

Table 9: Sponsor of Training Seminars	
Sponsor	Count of Respondents
ODVA	9
USAID	12
ONG	5
MARNDR	2
Other	15

Interest in Schools and Training

There is an overwhelming interest in going to school or attending training seminars (Figure 25), with most saying weekend evenings would be the most convenient class times. One hundred of 157 respondents want training in agricultural related professions; 40% said they would prefer a training seminar, while 21% said they would like to attend school; 39% expressed a desire to attend both (Figure 26). Many of those who lacked interest in attending school or training cited old age as the reason. Training was almost universally seen as a key to new employment opportunities, with 52% saying the training might help them find work, and 42% said it would help them find work –

Figure 25: Wants to go to School or Attend Farming Seminar Training (n=157)

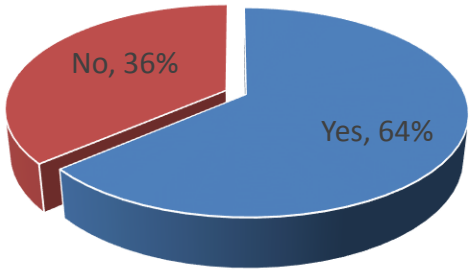


Figure 26: Prefers School vs Training Seminars (n=100)

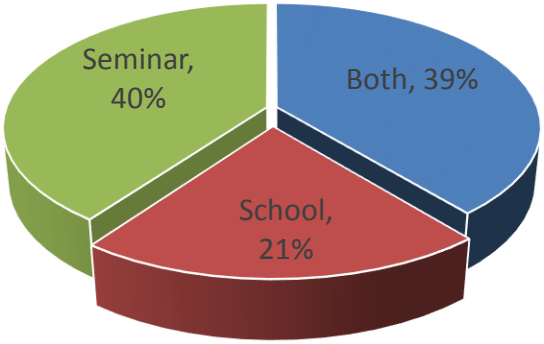
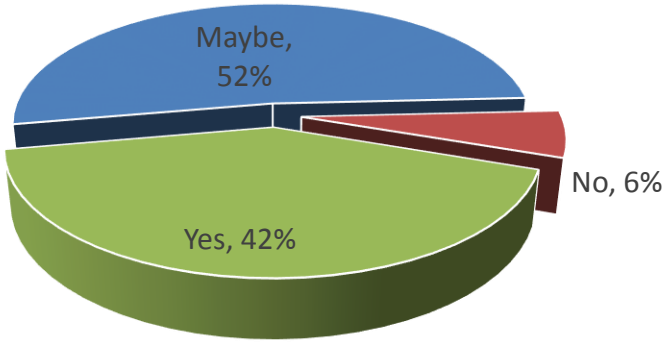


Figure 27: Those Who Think They Could Find Work With Agricultural Training (n=100)



meaning 94% thought that what they learned might help them find paid work (Figure 27).

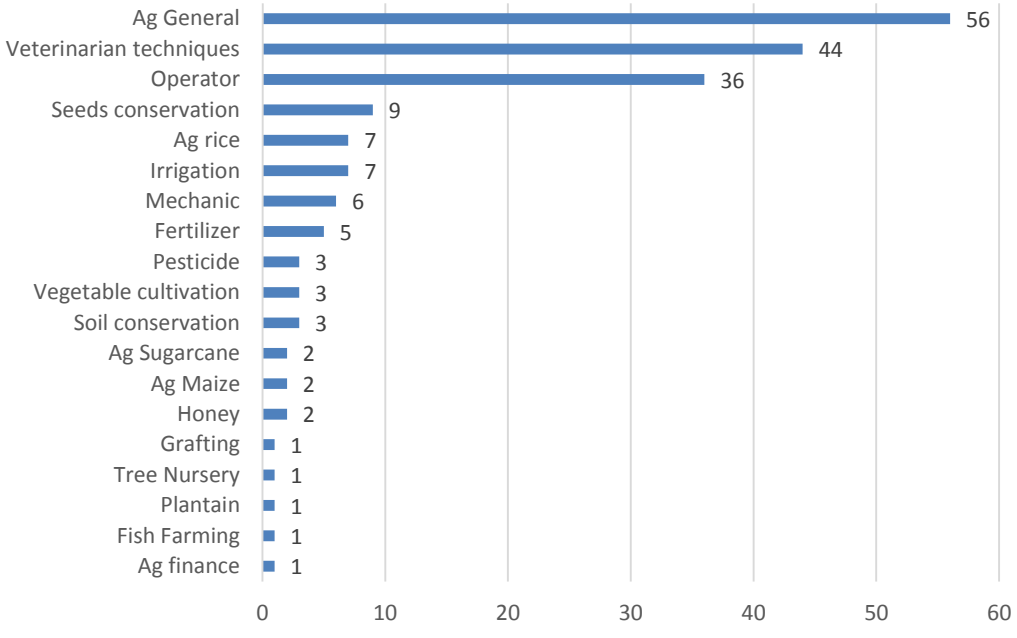
Agricultural skills in demand

When asked what kind of training they wanted, respondents most commonly cited general agriculture skills as their preferred topic. This answer was given by 56 respondents (36%). The skill set with the next greatest demand was veterinary techniques (44 or 28% of respondents), followed by non-tractor agricultural equipment operator (36 or 23%). Many of these respondents specifically named motorized tillers/cultivators as the machine they wanted to learn how to operate (Table 10, Figure 28). More specialized topics, such as fertilizers, soil conservation, pesticides, honey production, and grafting, were mentioned far less frequently.

Table 10: Preference for Training

Topics	Mentions	**Topics**	Mentions
Ag General	56	Pesticide	3
Veterinarian techniques	44	Honey	2
Operator	36	Ag Maize	2
Seeds conservation	9	Ag Sugarcane	2
Irrigation	7	Ag finance	1
Ag rice	7	Fish Farming	1
Mechanic	6	Plantain	1
Fertilizer	5	Tree Nursery	1
Soil conservation	3	Grafting	1
Vegetable cultivation	3		

Figure 28: Preference for Training
(Units of analysis are responses)



Hiring prospects

Many employer respondents hesitated to project whether they would hire more workers in the next six months, or in the next three years. Agricultural employers who made any projection at all typically predicted they would be hiring more workers (Table 11 and 12). The projected hiring needs were evenly distributed among the sector's common specialties (Table 13). While the number of employers is small, this expectation of hiring suggests the potential need for training in areas where employers and others, such as ODVA, identified the greatest demand, particularly for mechanics and operators of small (cultivators) and heavy machinery (tractors).

Table 11: Agribusiness staffing needs in next 6 months	
More workers	27%
Fewer	9%
Same	18%
Can't say	45%

Table 12: Agribusiness staffing needs in next 3 years	
More workers	55%
Fewer	9%
Can't say	36%

Table 13: Estimated hiring at agribusiness over next 3 years *(totals for 11 employers)*

Ag. tech	Animal health	Mechanic	Operator
5	4	4	4

Vocational school training and employment prospects

Employers placed considerable value on vocational school training. Nearly all of the agricultural employers said formal training was important for agricultural technicians, while fewer said so for the sector's other specialties (Table 14). Most had at least some employees who had undergone training (Table 15), which they received at schools in Saint-Marc, Port-au-Prince, and Belgium, and from NGOs such as Care, Oxfam, and the American Red Cross, as well as ODVA, a Haitian government agency.

Table 14: Is formal training important in agricultural specialties?

Important for:	Ag. technicians	Animal health	Mechanics	Operator
Employers answering 'yes'	91%	18%	36%	27%

Table 15: Vocational school-trained workers in Agribusinesses

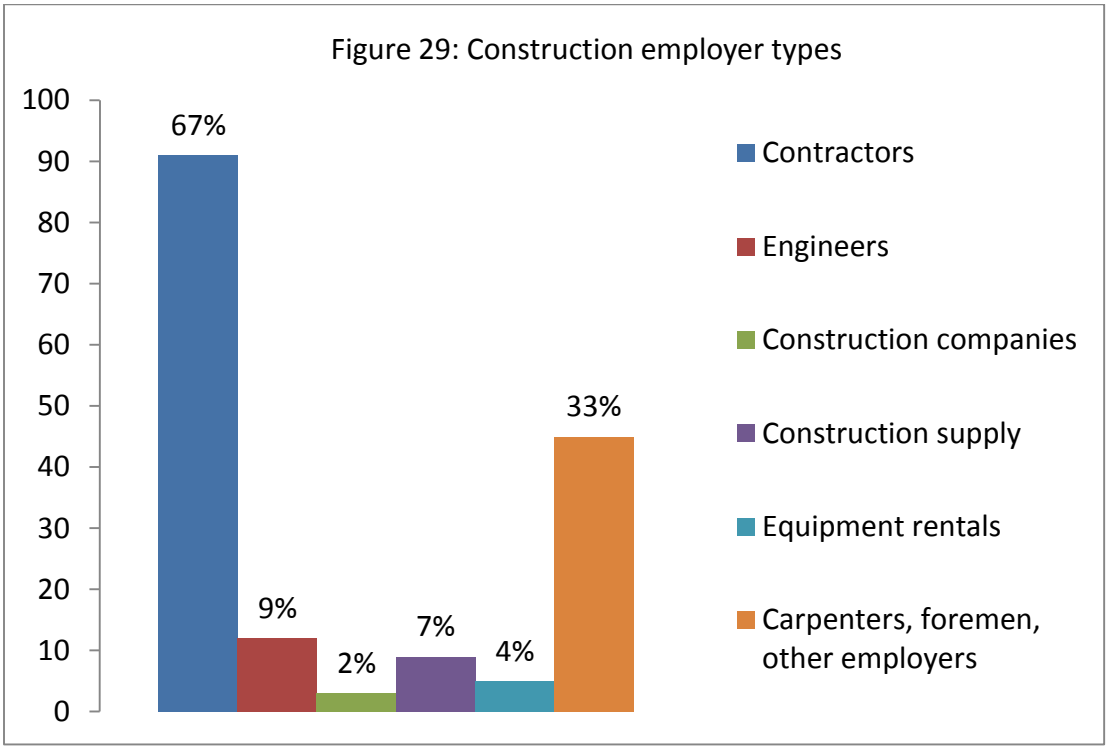
Business has tech-school trained workers	Ag. Tech	Animal health	Mechanic	Operator
Yes	0	0	2	0
Yes	1	0	0	0
Yes	1	0	0	0
Yes	5	0	2	30
No	0	0	0	0

Part 2: Construction

The employers

The largest group of construction employers surveyed was the general contractor, or *kontramet*, a master of numerous trades who sometimes contracts directly with a client and sometimes hires out himself and/or his team to an engineer or larger construction firm (Figure 29). Ninety-one of the 135 construction employers (67%) self-identified as a *kontramet* (percentages add up to more than 100 because respondents could list more than one construction business). The next largest group (33%) was a catch-all category comprised mainly of master carpenters and other tradesmen operating their own workshops and hiring teams of workers to be hired out together. Engineers (9%) and construction supply stores (7%) made up the next largest groups. There were three formal construction companies in the group, and five businesses that rented out construction equipment. The 135 respondents listed 165 businesses, as many employers have more than one complementary operation – construction firms will rent out their heavy machinery when they are not using it, some *kontramet* and engineers own construction supply stores, rent equipment, or deliver materials such as sand, lime, cement and rock.

Figure 29: Construction employer types



While the agricultural sector is dominated by smallholder farmers and ubiquitous vendors who buy and sell from a small number of staffed businesses, the construction industry is made up of a vast network of laborers and tradesmen who work on their own, as part of a team overseen by a contractor, or as hired hands in larger enterprises. The worker survey identified this enormous pool of workers as a potential source of students for area vocational schools. Of the 303 construction workers surveyed, 75% (228) were on job sites in Saint-Marc commune, while 16% (47) were in Arcahaie, and 9% (28) were in Cabaret (Figure 30). They included 84% (255) skilled workers (bos) and 16% (48) laborers (Figure 31).

Figure 30: Location of workers' construction sites

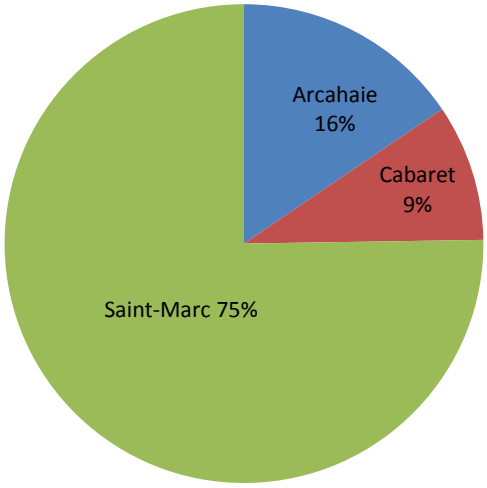
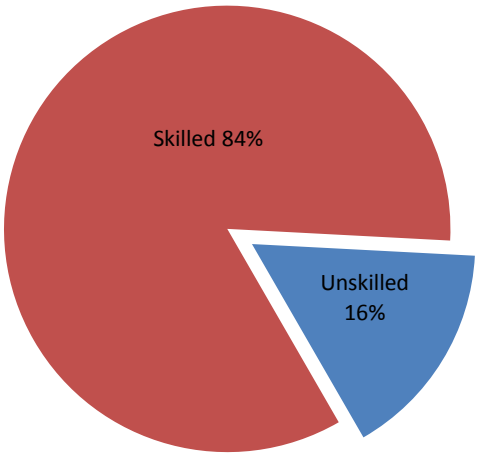
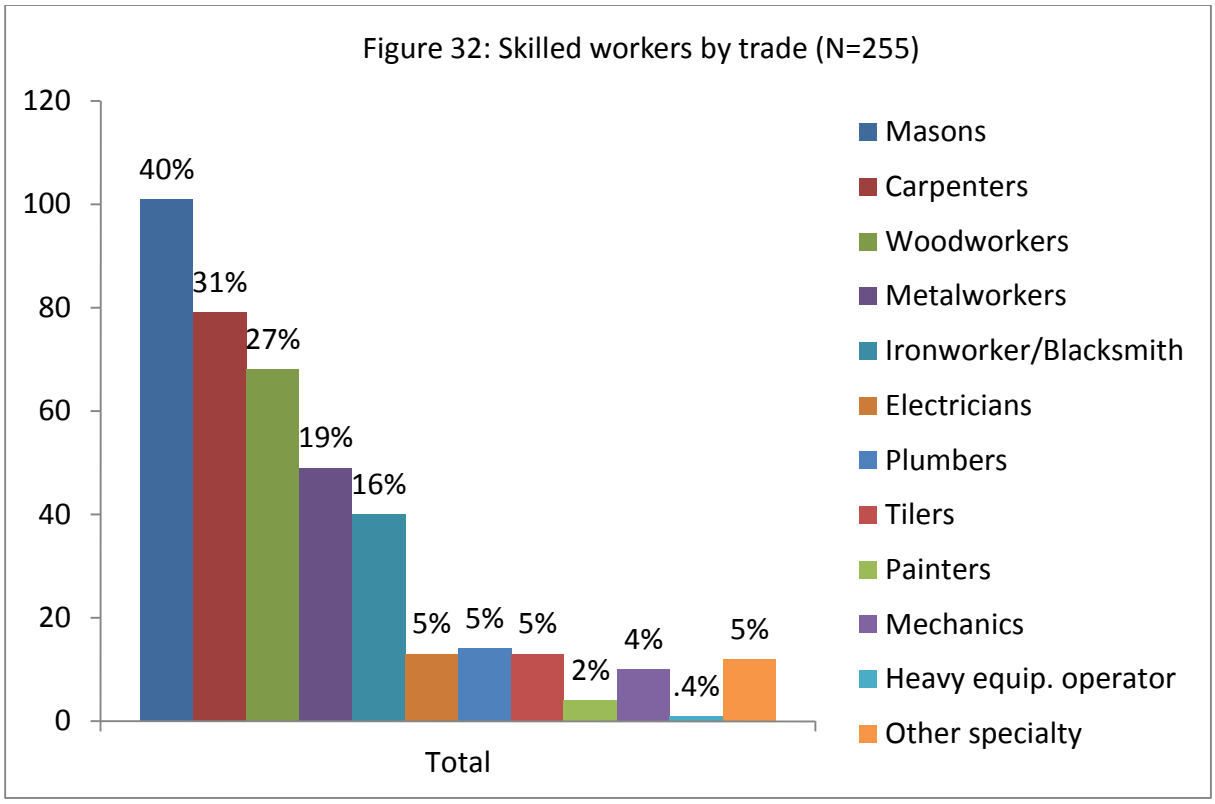


Figure 31: Skill levels of worker survey respondents (N=303)



Construction worker survey respondents

As mentioned above, about 5 of 6 workers surveyed were skilled tradesmen, with the rest unskilled laborers (Figure 31). The most common trades were masons and carpenters – described by the CORAM team and numerous *kontramet* as the backbone of any construction crew (Figure 32). "Without the mason and the carpenter," one *kontramet* said, "there *is* no construction." Some of the skilled workers were masters of more than one trade (Figure 32). The most common trade listed was mason (101 or 40% of the 255 skilled workers), followed by carpenter (79 or 31%), woodworkers (68 or 27%) -- who make and install such things as doors and windows -- metalworker (49 or 19%), and blacksmith (40 or 16%), and ironworkers/blacksmiths, who make metal doors, security grills, etc. The next most common trades were electrician and plumber.



The younger age groups were the largest (Figure 33). Seventy-two (24%) were aged 26-30, 60 (20%) were 18-25 years old, and 53 (17%) were 31-35. The older age groups had fewer and fewer workers, and only 2 (less than 1%) were over age 60. Just over half of those who said they were a skilled 'bos' said they had been in the industry for 10 or more years (Table 16). Of this group of 256 respondents, 140 (55%) said they had been working in the sector for 10 or more years, while even more (192, or 63%) said they had been a 'bos' for 10 or more years. This slight difference indicates that many skilled workers (especially woodworkers) put their skills to use doing other work before they began working with construction crews. The average educational level was nearly identical for skilled (7.95 years) and unskilled (7.94 years) workers.

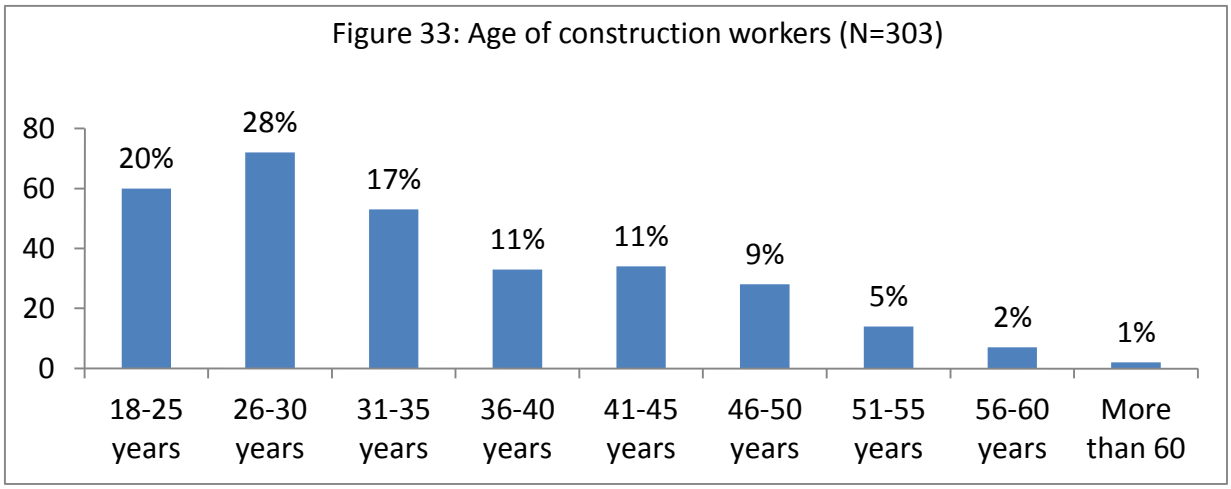
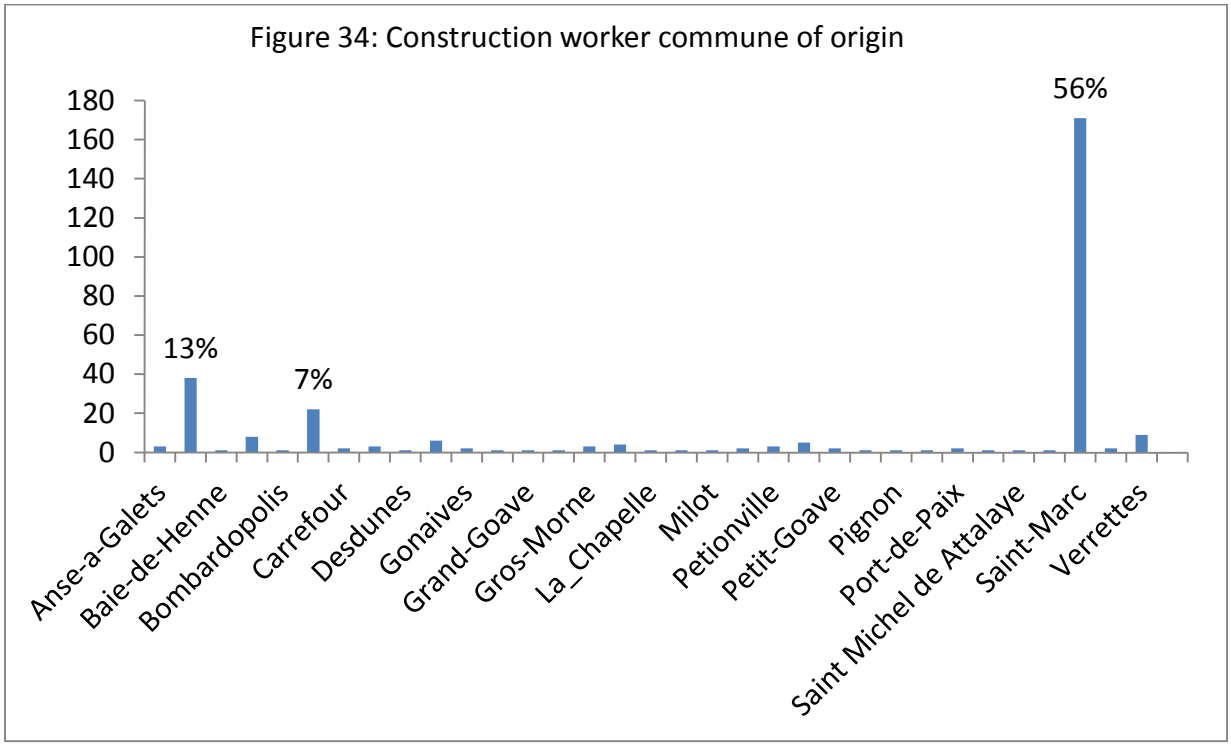
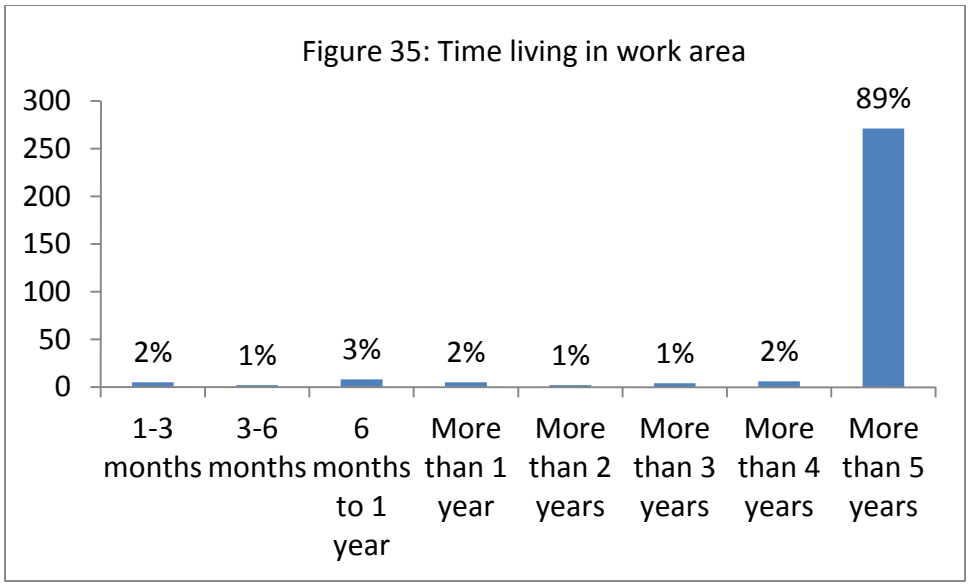
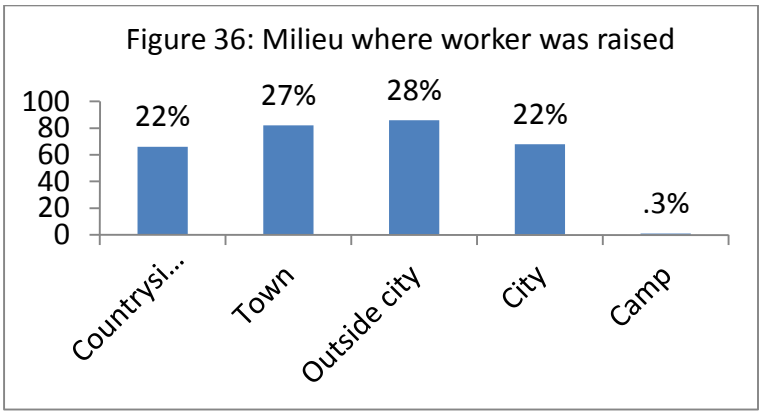


Table 16: Respondent Years of Experience as *Bos* and in Construction Industry												
	Years of experience											
Category	1	2	3	4	5	6	7	8	9	10	10-15	15 +
In construction	5%	4%	4%	5%	6%	6%	5%	6%	4%	13%	20%	23%
As skilled "bos"	4%	4%	4%	4%	7%	5%	6%	7%	3%	7%	20%	28%

All respondents encountered at the selected sites were men. Most of the workers were from the areas where they were employed – 171 (56%) were from Saint-Marc commune, 38 (13%) were from Arcahaie, and 22 (7%) were from Cabaret (Figure 34). The overwhelming majority (271 or 89%) had been in the zone where they were currently employed for more than five years (Figure 35), with a fairly even mix of those from the outskirts of a city or within its limits, from a provincial town, or the countryside (Figure 36).







Staffing

Construction employers reported that the number of people they employ varies depending on the quantity and size of their current contracts, if indeed they have any. On average, they reported employing a minimum of 7 and maximum of 18 skilled workers over the last three years (Figure 37). Forty-six percent of the construction employers reported that they had an active contract at the time of the survey, while 54% said they did not (Figure 38). Of the 74 that did not, 15 said their last contract was a week ago, 17 said their last contract was one month ago, and 13 said it was two months ago (Table 17). Fewer reported longer periods without a contract.

Figure 37: Skilled workers employed last 3 years, on average

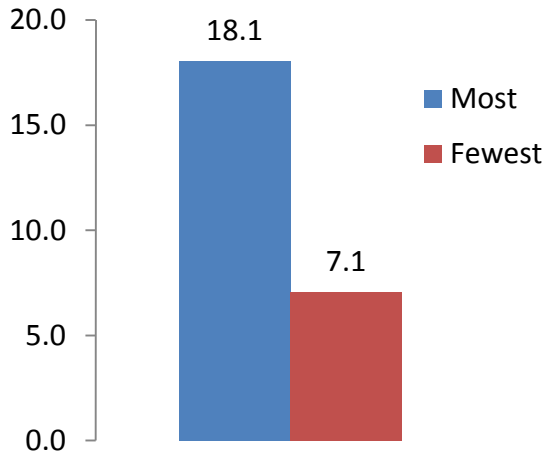
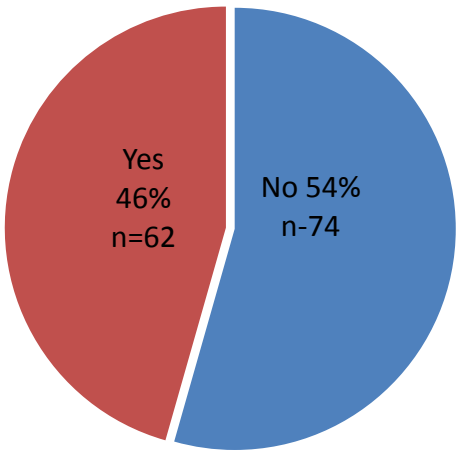


Figure 38: Construction employer has contract

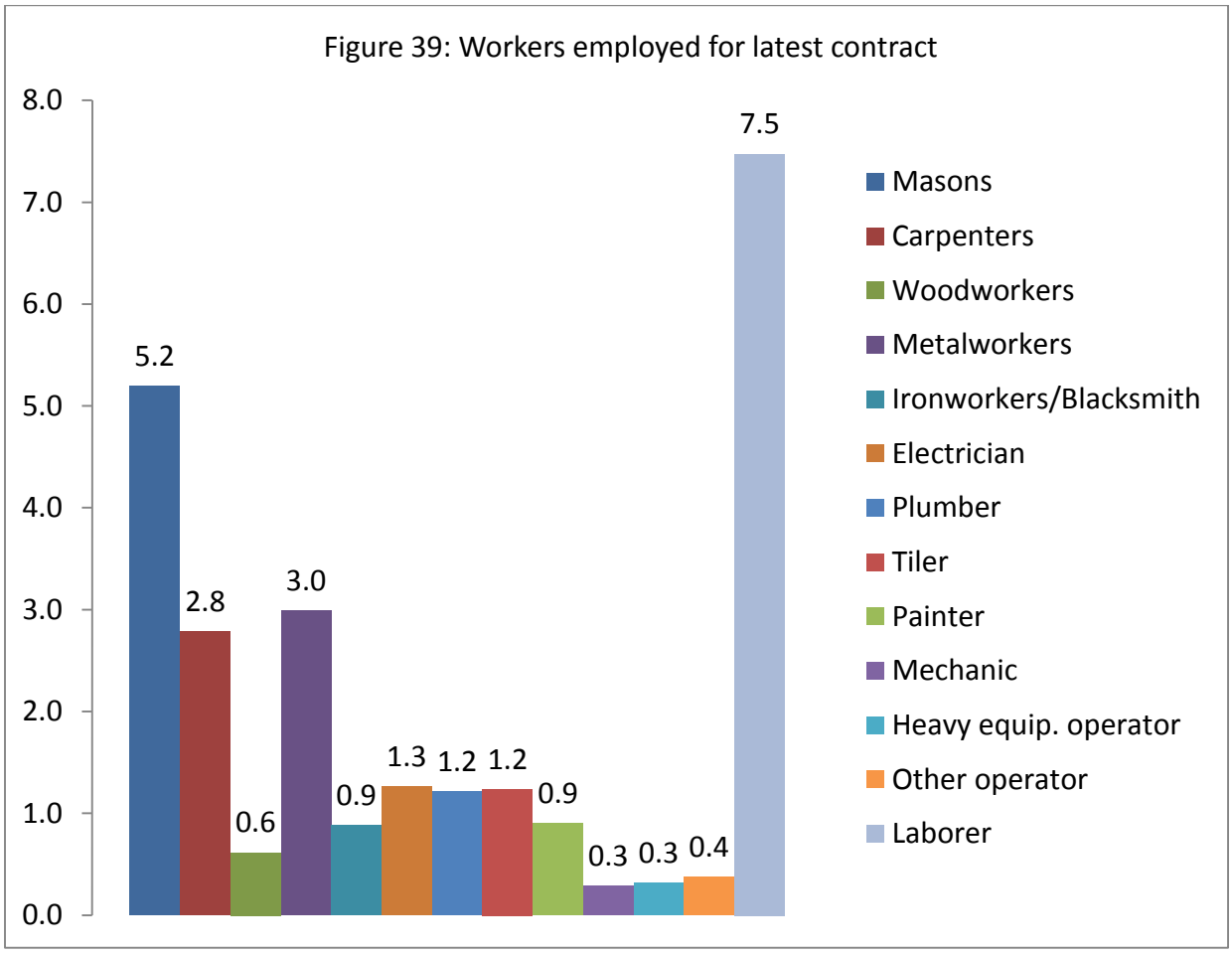


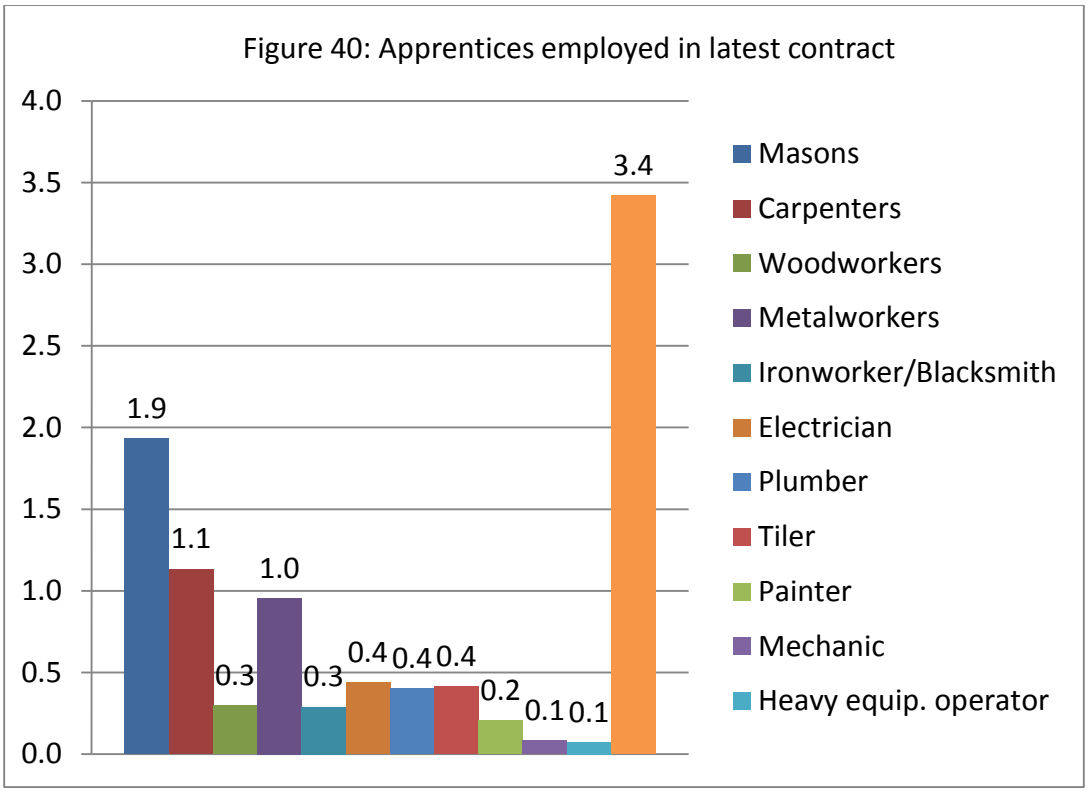
The average staff size reportedly hovered around 11 full-time and 11 part-time. Among the 91 construction employers who reported having steady, permanent staffing, there was little difference between the numbers reported by 49 respondents who said they had no current contract and 42 who said they had one (Table 18).

Construction employers listed masons as the most numerous skilled workers they employed for their most recent contract, with an average of 5.2 (Figure 39). The next most numerous were metalworker (3.0) and carpenters (2.8). These employers reported a similar distribution of apprentices they hired for the latest contract, with two to three skilled workers for every apprentice in the same trade (Figure 40). In both categories, the only workers to outnumber masons were simple laborers.

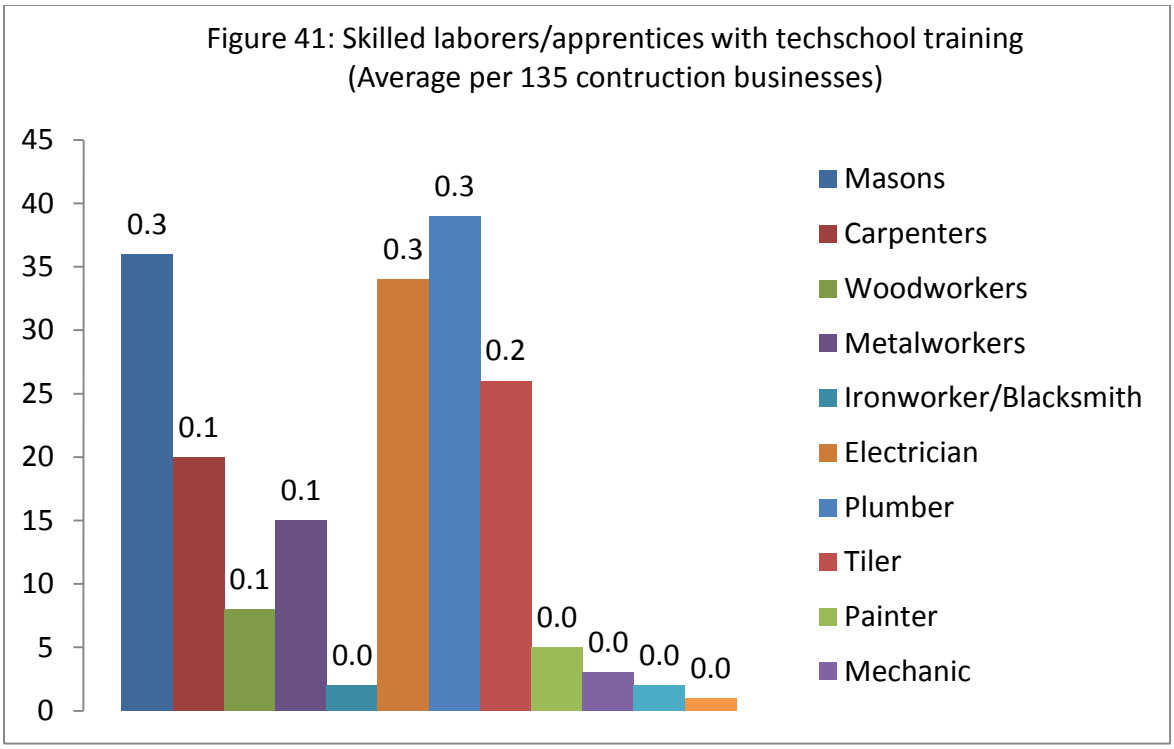
Table 17: Time since last contract	
Time	Employers (n=74)
1 week	20%
2 weeks	7%
3 weeks	3%
1 month	23%
2 months	18%
3 months	7%
4 months	3%
5 months	3%
6 months	4%
6 months-1 year	5%
More than 1 year	8%

Table 18: Full-time, part-time at employers with permanent staff		
Current contract	Full-time (ave.)	Part-time (ave.)
Yes (n=42)	11.1	10.4
No (n=49)	11.5	11.1


Figure 39: Workers employed for latest contract
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
5.2
2.8
0.6
3.0
0.9
1.3
1.2
1.2
0.9
0.3
0.3
0.4
7.5
Masons
Carpenters
Woodworkers
Metalworkers
Ironworkers/Blacksmith
Electrician
Plumber
Tiler
Painter
Mechanic
Heavy equip. operator
Other operator
Laborer



Kontramet reported in the qualitative phase of the research that masons benefit greatly from training at a vocational school, especially since the earthquake has increased demands for workers with knowledge of techniques necessary to make buildings better able to withstand a major temblor. Formal training is seen as even more critical for plumbers and electricians. The data support this argument. More construction employers (39) reported having electricians with vocational school training than any other trade. Masons were close behind (36), followed by plumbers (34), and tilers (26) This indicates a far higher rate of vocational school training for electricians vs. masons. The employers, on average, a combined 1.7 electricians and electrician-apprentices for their last contract, and a total of 39 (or an average of 0.3 per employer) with training in a vocational school; employers had an average of 7.1 masons and mason-apprentices, and a total of 36 (again roughly 0.3 on average) with formal training. In other words, more than 1 in 6 electricians had school training, compared to 1 in 27 masons (Figure 41).



Hiring prospects

Construction employers, like their agribusiness counterparts, tended to be unable to say whether they would be hiring in the next six months, or three years. When they did express an opinion about the future, they were more likely to say that their business and hiring outlook would improve (Table 19). Only 8% said they expected to be hiring more workers in the next six months (Figure 42), while 27 (21%) expected to hire more in the next three years (Figure 43). The skilled and unskilled workers they expected to need were those already employed in the largest numbers, led by laborers and masons (Figures 44 and 45).

Table 19: Hiring outlook for next six months	
More	21%
Less	6%
Same	3%
Cannot say	69%

Figure 42: Hiring through next 6 months

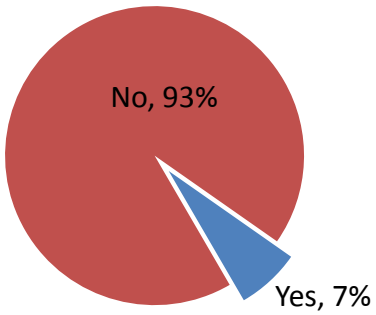
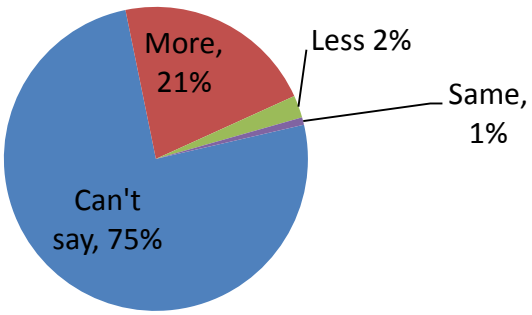
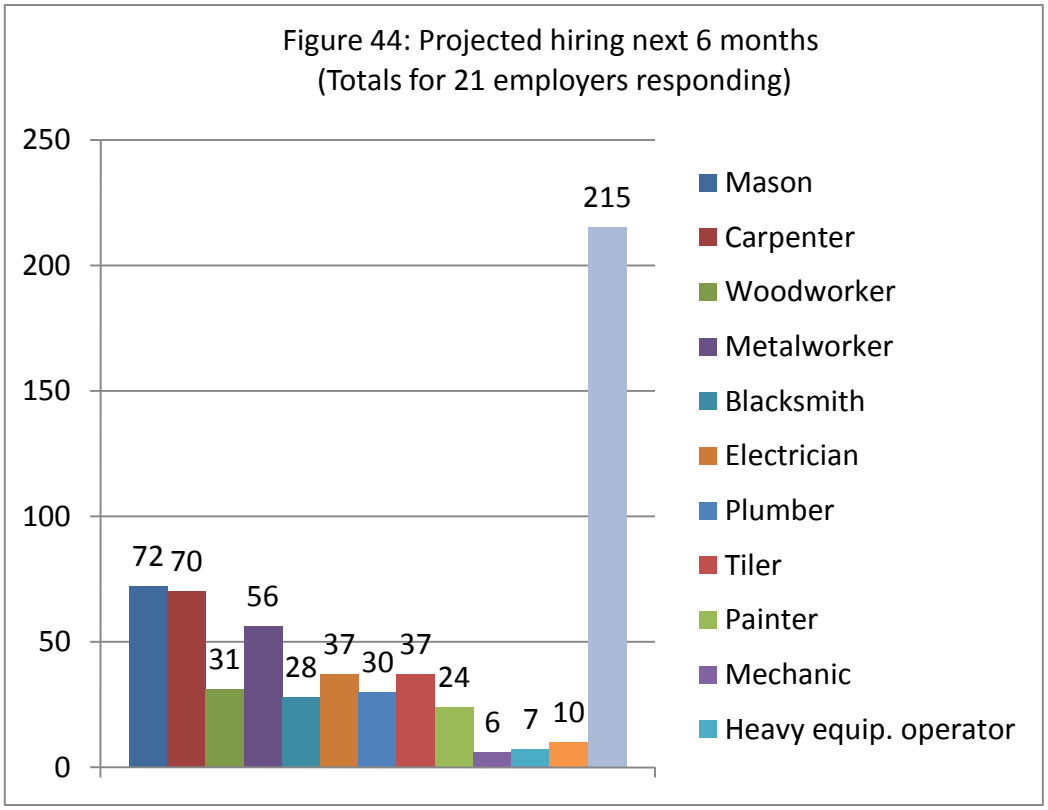
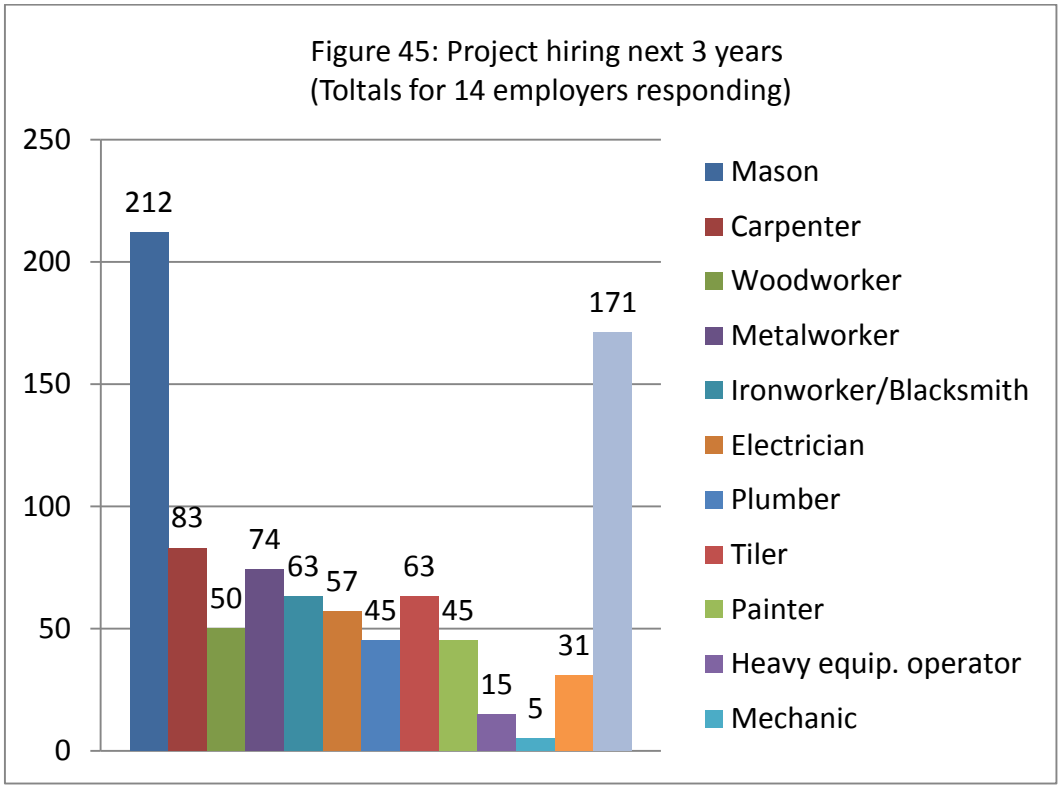


Figure 43: Hiring over next 3 years

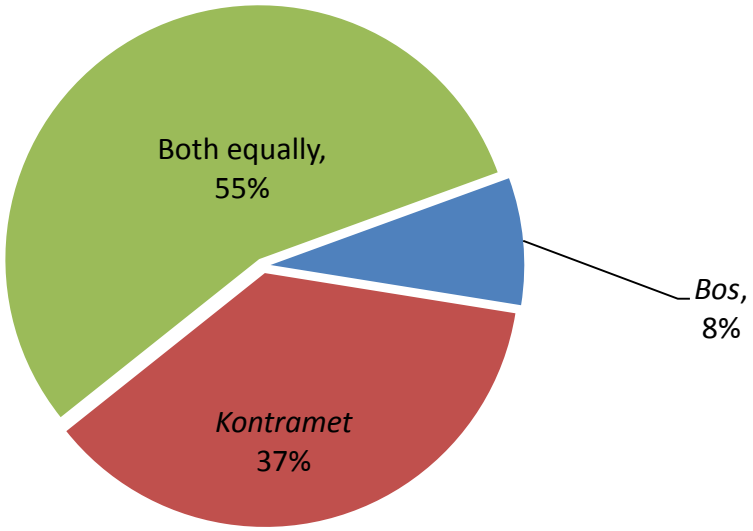



Figure 44: Projected hiring next 6 months
(Totals for 21 employers responding)
250
200
150
100
50
0
72
70
31
56
28
37
30
37
24
6
7
10
215
Mason
Carpenter
Woodworker
Metalworker
Blacksmith
Electrician
Plumber
Tiler
Painter
Mechanic
Heavy equip. operator


Figure 45: Project hiring next 3 years
(Toltals for 14 employers responding)
250
200
150
100
50
0
212
83
50
74
63
57
45
63
45
15
5
31
171
Mason
Carpenter
Woodworker
Metalworker
Ironworker/Blacksmith
Electrician
Plumber
Tiler
Painter
Heavy equip. operator
Mechanic

On informal sector construction crews, both skilled laborers and *kontramet* hire assistants and laborers, although hiring more often is in the hands of the *kontramet* (Figure 46). *Kontramet* stressed in qualitative interviews that all decisions on their job sites ultimately fall to them.

Figure 46: Hiring by contractor or tradesman



Employers expected to find most of their workers from the commune where their business was based. They expected to find contracts and new clients from all over (Table 20).

Table 20: Geographic source of jobs and employees			
	Workers	Jobs	New clients
Immediate area	19%	21%	9%
Commune	53%	31%	16%
All over	21%	49%	76%

Vocational school training and employment prospects

Among construction employers, electricians, tile specialists, plumbers, and masons were the trades seen as most needing formal training (Table 21). Employers were allowed to name more than one specialist benefiting from schooling, and 80% (108) named electricians, 73% (99) named tilers, 72% (98) picked plumbers, and 51% (69) masons. No tradesmen were seen as hard to find by many employers (Table 22). Those most frequently named were heavy equipment operator (named by 12% of construction employers) and tiler (named by 9% of employers). Heavy equipment operators are not in great demand, and for that reason some construction company operators and others, including an engineer working for the Haitian public works office in Saint-Marc, said these

operators were extremely valuable. The public works engineer pointed to a backhoe in the yard of the agency's garage, and said, "If my operator got sick tomorrow I would not be able to use that, because I couldn't find anyone who could drive it."

Table 21: Trades requiring formal training

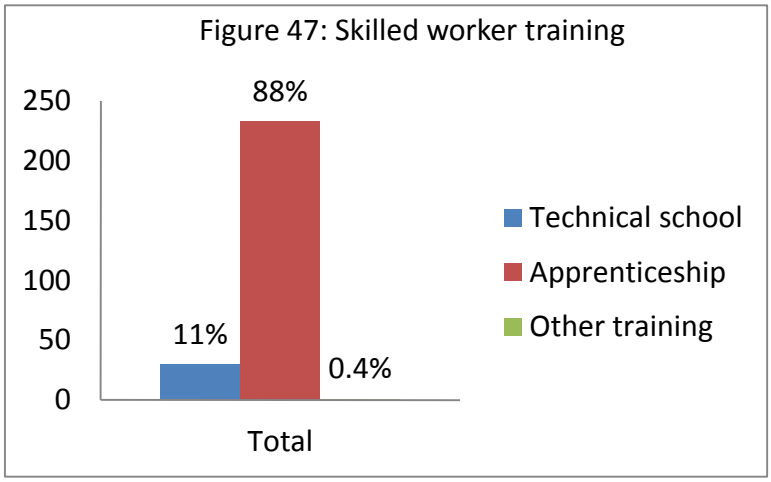
Trade	Employers prizing schooling
Electrician	79%
Tiler	73%
Plumber	72%
Mason	51%
Heavy equip. operator	26%
Metalworker	23%
Carpenter	23%
Mechanic	17%
Ironworker/Blacksmith	15%
Woodworker	13%
Painter	4%
Other operator	4%
Other	1%
None	6%

Table 22: Most difficult 'Bos' to find

Trade	Employers
Heavy equip. operator	12%
Tiler	9%
Mechanic	3%
Electrician	2%
Mason	1%
Metalworker	1%
Ironworker/Blacksmith	1%
Stonelayer	1%
Other operator	1%
AC installer	1%
N/A	1%
None	64%

Most of the skilled workers (233 out of 264, or 88%) achieved the status through apprenticeship, while only 30 (11%) did so by attending vocational school (Figure 47). Most of these studied either in Saint-Marc (10, or 33% of the 30 with tech-school training) or Port-au-Prince (9, or 30%) (Table

23). They attended these schools for periods as short as 1-3 months and as long as more than 3 years (Table 24). The cost of the schooling ranged from nothing to $7000 HTD (under $700 USD; Figure 48). Nine of the 30 who had attended school paid nothing. This is consistent with the model of the vocational classes CORAM offers when it can find funding. CORAM does not charge students, but asks them to making a contribution of 500 HTG (roughly $9 US) if they secure employment after graduating.



Technical schools offered an accelerated track toward ‘bos’ status. Thirty-seven percent (11) of the 30 skilled workers who had attended vocational school said they achieved ‘bos’ status in 1-3 months, while 70% (21) had made it by 1 year (Table 25). Unskilled workers seeking to become skilled typically described the process as taking years (Tables 26). Family connections also can provide access to a construction trade, although further study is needed to determine how important a factor it is (see the Annex).

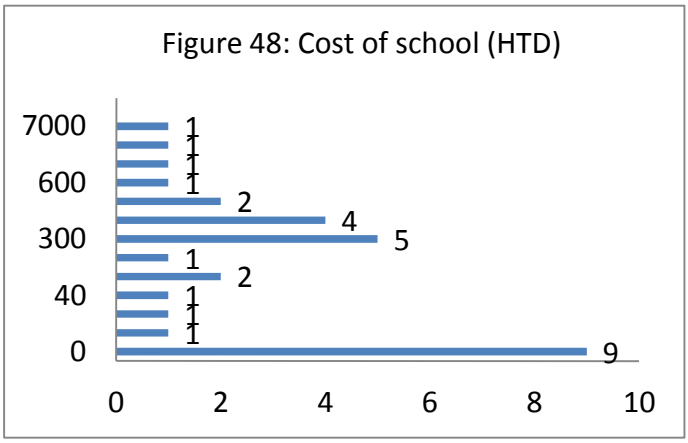


Table 23: Location of vocational school	
Saint-Marc	33%
Port-au-Prince	30%
Dominican Republic	13%
Pont Sonde	7%
Arcahaie	7%
Jeremie	3%
Leogane	3%
Les Caves	3%
Gressier	3%
Total	**30**

Table 24: Time in vocational school	
1-3 months	10%
3-6 months	17%
6-9 months	0%
1 year	17%
18 months	3%
2 years	30%
3 years	13%
More than 3 years	7%
Total responses	**30**

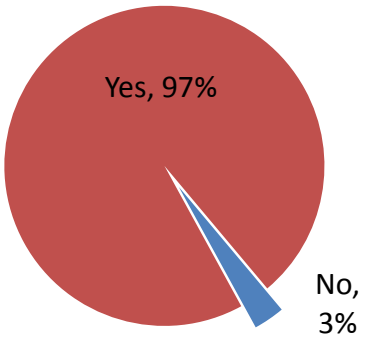
Table 25: Time to become *bos* after tech school (n=30)	
1-3 months	37%
3-6 months	13%
6 months-1 year	20%
More than 1 year	17%
More than 2 years	7%
More than 3 years	3%
More than 5 years	3%

Table 26: Time unskilled laborers have trained to be 'bos'			
Time	Employed as a construction worker (n=33)	Working to be *bos* (n=33)	Left to become a *bos* (n=48)
1-3 months	0%	9%	n/a
3-6 months	9%	21%	n/a
6 months-1 year	24%	21%	n/a
More than 1 year	30%	9%	25%
More than 2 years	15%	15%	13%
More than 3 years	15%	12%	17%
More than 4 years	3%	0%	6%
More than 5 years	3%	12%	4%

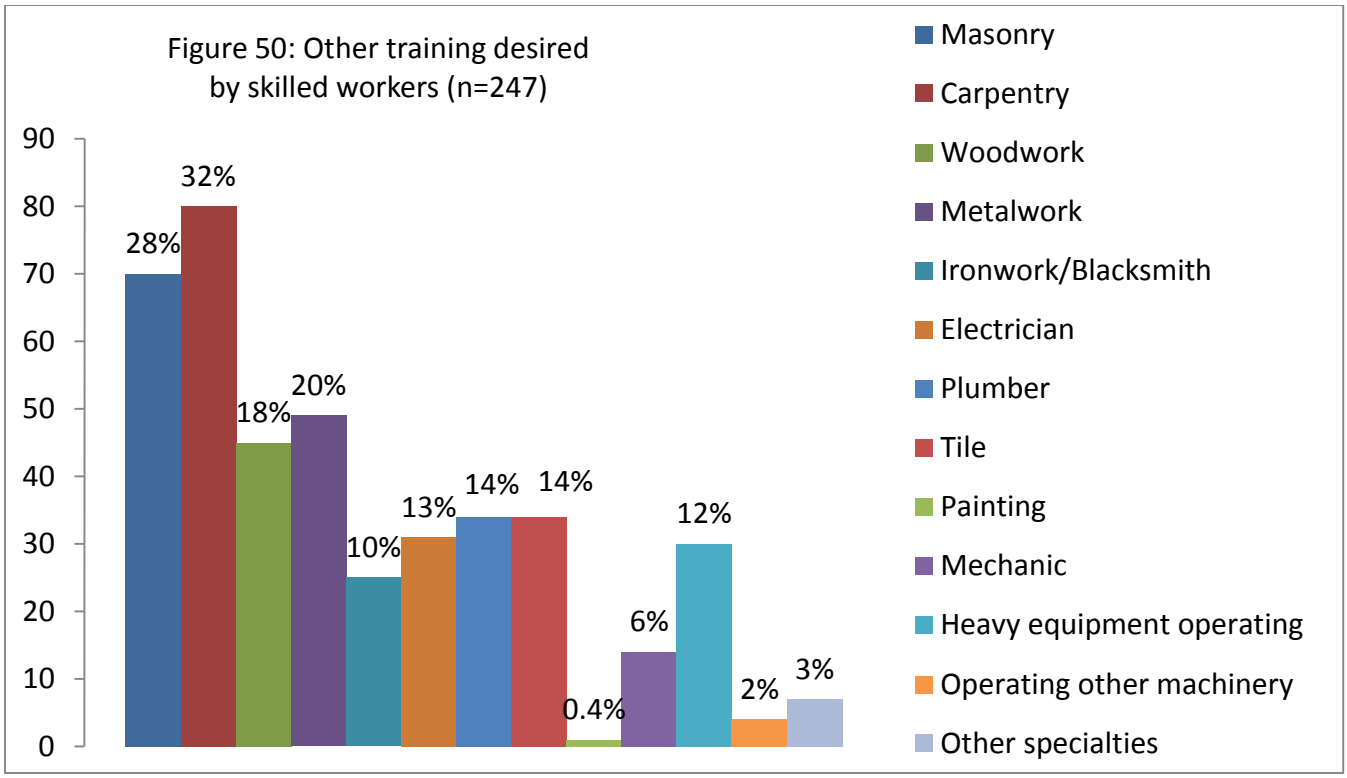
6 years	n/a	n/a	13%
7years	n/a	n/a	4%
10 years	n/a	n/a	8%
More than 10 years	n/a	n/a	2%
More than 15 years	n/a	n/a	8%

The respect for formal training among workers is reflected in the near universal desire – among skilled and unskilled workers alike – to attend trade school. All but eight of the skilled workers expressed a desire to seek further training in school (Figure 49), and all but one of the unskilled workers said they would like to attend a technical school of some kind.

Figure 49: Skilled workers desiring further training

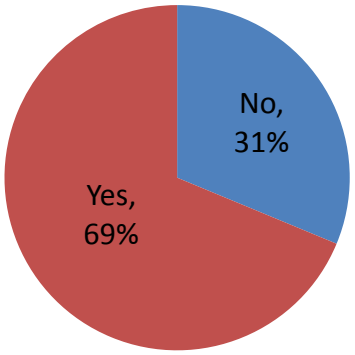


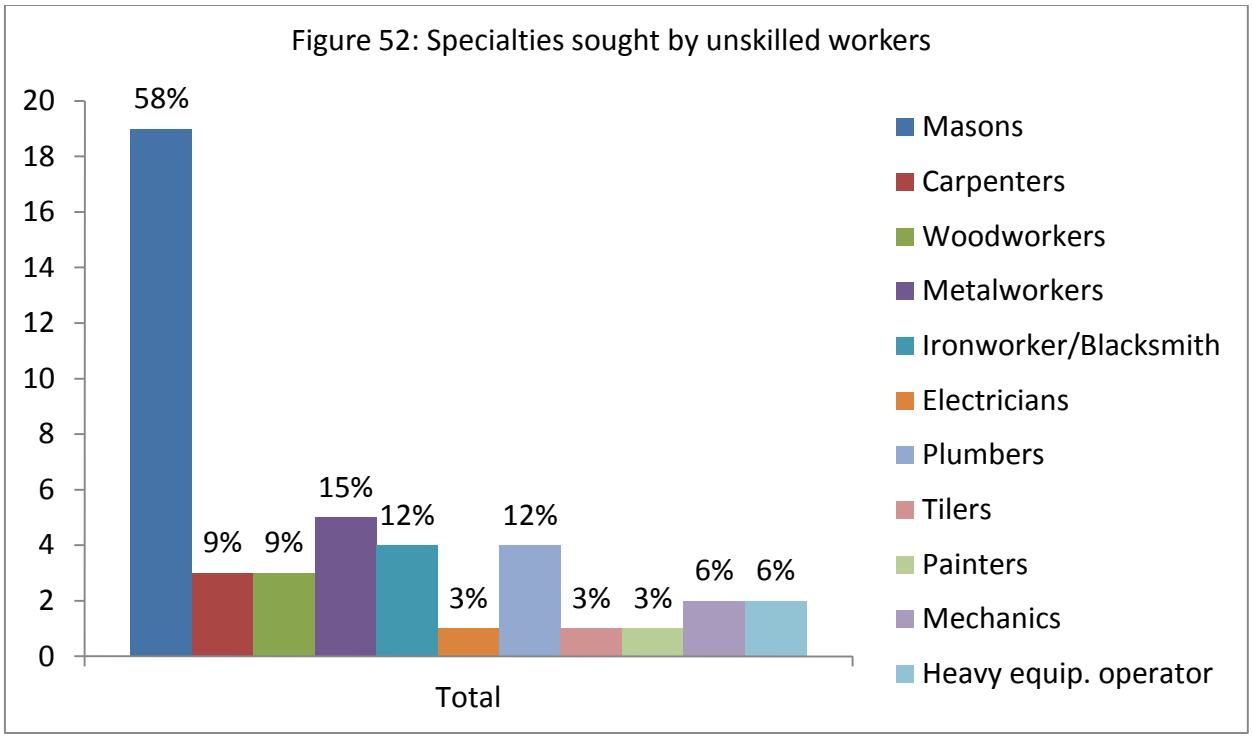
The trades most in demand among the 247 skilled workers desiring further training, in school, were carpentry (80 or 32% of the 247 tradesmen expressing a desire to attend school for further training), masonry (70 or 28%), metalwork (49 or 20%), and woodwork (45 or 18%), all positions central to any construction crew (Figure 50). Tiler and plumber (34 each, 14%) also were popular choices, as were electrician (31 or 13%) and heavy equipment operator (30 or 12%). Some tradesmen wanted to study more than one trade, which was to be expected as this would help a 'bos' become a *kontramet*.

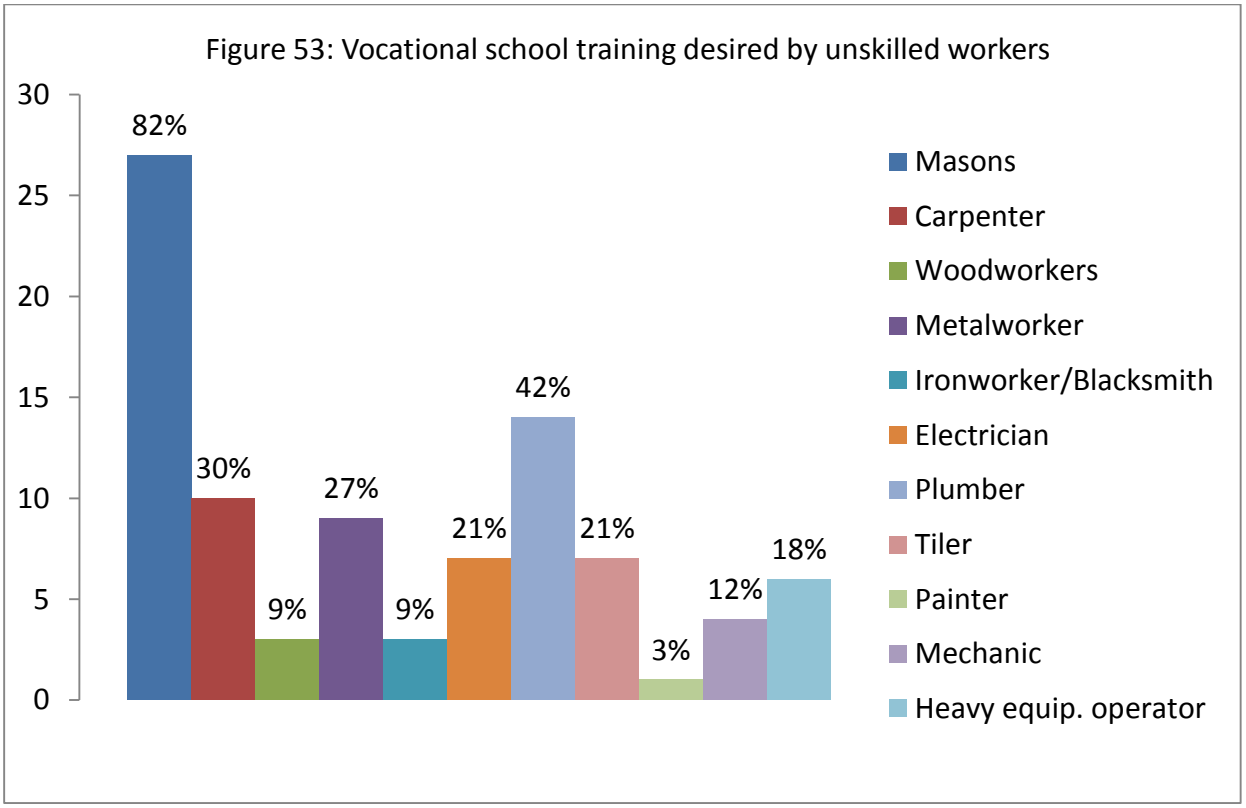


Approximately two-thirds of the unskilled workers (33 or 69%) said they wished to become skilled workers (Figure 51). Among these 33 workers, masonry was by far the most popular choice among skills sought by unskilled workers hoping to be become a *bos*, with 58% identifying this as a trade they hoped to master (Figure 52). Masonry also was the top vocational school course desired by workers, with 82% choosing it as their first choice (Figure 53). The second and third choices were ironworker/blacksmith (42%), and carpenter (30%). In interviews, construction workers and *kontramet* explained that any tradesman hoping to become a *kontramet* would have to master masonry, which is one reason why even workers hoping to work in another trade would have an interest in one day studying masonry in a vocational school. The leaders of CORAM also identified the main construction trades, particularly masonry and carpentry, as the classes in greatest demand.

Figure 51: Unskilled laborers seeking skilled status







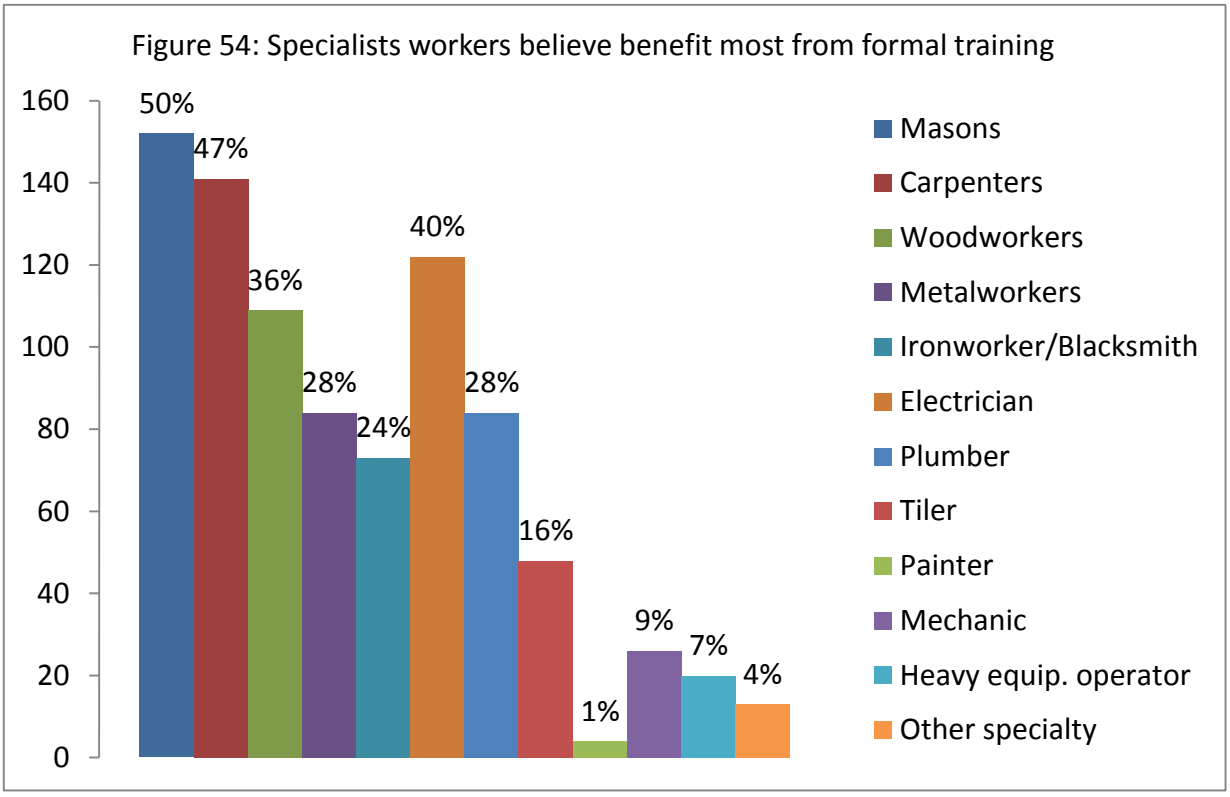
Ralph Pierre Cauvin of CORAM said that many construction workers who already have jobs would like to attend vocational school to improve their skills, learn a new trade, or gain expertise necessary to become a *kontramet*. They find doing so difficult, however, because they cannot

afford to miss work. “There are people who are working who are truly in need,” he said. “They would have to be able to get training in their free time. We would have to choose a time that works for them.” A carpenter at a Saint-Marc construction site echoed this concern, saying, “I’d like to go back to school but I can’t because I have responsibilities. I have children to feed. I just can’t do it.” All 303 workers surveyed were asked what times would be best for vocational school classes to be held. Due to their desire to continue working if they do attend classes, most workers, similar to their counterparts working in agriculture, expressed a desire to attend school afternoons or evenings, preferably on Saturdays or Sundays, so that they would be able to continue working while they studied (Table 27 – note that respondents were permitted to list more than one day or time, so totals will add up to greater than 100%).

Table 27: Construction workers’ preferred class times

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Afternoon	36%	10%	7%	9%	8%	13%	35%
Early a.m.	4%	4%	3%	2%	3%	2%	5%
Morning	3%	3%	2%	2%	1%	1%	4%
Evening	24%	11%	9%	7%	6%	6%	19%

Workers believe many specialists would benefit from vocational school training, especially critical ones including masons, carpenters, metalworkers, and electricians (Figure 54). Among the 303

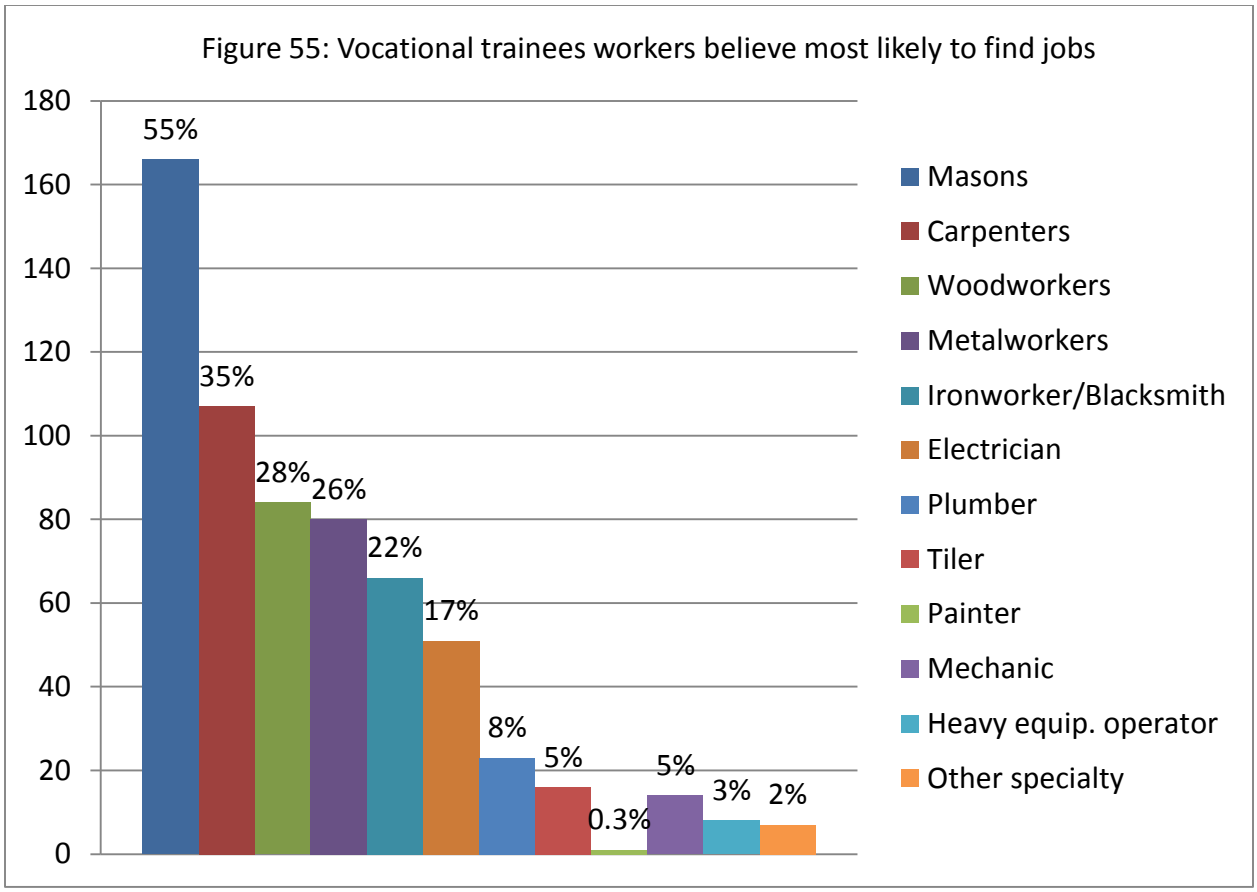


workers, 152 (50%) said masons benefit most from studying at a vocational school, followed by 141 (47%) naming carpenters, and 122 (40%) naming electricians.

Ultimately, the question of which trade to study boils down to picking the course that maximizes one's chances of finding a job. The team at CORAM said that masonry was without question the class that had the best record for job placement. The team estimated that 98% of the school's masonry graduates found work after completing the six-month course, while 60% to 70% of the students in the other trades found work. Direct contact with *kontramet* is an important part of CORAM's success in finding those jobs. "Most of the masons find work in the informal sector," CORAM school director Tony Desinord said. "In the informal sector anybody can call you to come do a job." The workers expressed similar feelings about the vocational training most likely to result in the student finding a job. Among workers, 166 or 55% said those studying masonry were most likely to find a job, followed by those studying carpentry (107 or 35%), with the other trades lagging far behind (Figure 55).



A mason on a Saint-Marc construction site, after participating in the worker survey.



5. Conclusion

The qualitative and quantitative research indicate strong demand for training in both the agricultural and construction sectors in the Saint-Marc Development Corridor. Smallholder farmers and agricultural employers placed a high value on formal training. Farmers reported high demand for training in general farming techniques, livestock care (particularly related to vaccines and other factors in animal health), and the operation of mechanized equipment such as motorized cultivators. A smaller number expressed interest in training in specific topics, such as seed conservation, irrigation, and rice cultivation – all therefore good topics to cover in general training. Agricultural employers are interested in and anticipate growing demand for everything from agricultural technicians, to machinery operators, and mechanics. There are important limiting factors in agriculture, however, including farmers' lack of access to mechanized equipment and the limited number of formal-sector agricultural employers, as well as a tendency among some larger employers to provide necessary training in-house.

Among construction employers and workers alike, formal training is considered valuable. It can dramatically speed up a worker's ability to become recognized as a skilled worker worthy of higher wages than those earned by simple laborers. The skills in greatest demand and considered most likely to help a worker find a job are the central construction trades – mason and carpenter – and

critical specialties such as metal, electrical and tile work, and plumbing. Formal training is most essential for specialists such as electricians, although they are far outnumbered on job sites by masons and other key *bos*, so training demand is strong for both. Construction employers also said the sector lacked mechanics and operators for heavy construction equipment. Demand for these skills is limited, however, by the fact that few employers in the area under study have significant numbers of these machines.

Recommendations

- Offer generalized instruction in agricultural techniques, covering such topics as seeds conservation, irrigation, and rice cultivation.
- Provide courses in the basics of livestock care, including vaccination and proper feeding.
- Explore options for providing instruction in the operation of farm machinery, such as motorized cultivators, as well as small-engine repair. Consider whether it would be possible or desirable to cover the operation of a variety of both agricultural and construction machines, to prepare students to seek jobs in either sector.
- Reach out to farmers and agribusiness employers outside the Saint-Marc corridor in the heart of the Artibonite Valley rice-growing area, where the potential demand for mechanized agriculture skills is strong.
- Consider exploring the potential for partnerships with agribusinesses to provide training sought for groups of employees.
- Focus construction sector instruction in key positions, including mason, carpenter, metalworker, electrician, plumber, and tile worker. These jobs are seen as those where expertise is the key to finding and keeping work, and increasing earnings.
- Communicate with informal sector *kontramet* or general contractors. They and their supervising tradesmen are important employers in the sector, and have steady demand for workers at all levels. Many also have workers eager for further trainining in schools.
- Training can be targeted both at the unemployed seeking marketable skills, and by those (both farmers and construction workers) already working. In courses intended for those already working, schedule classes primarily on weekend afternoons and evenings, as these students will need to continue working while studying.

6. ANNEX

The farmer questionnaire

- Surveyor name
- Hello, I am conducting a survey for a program called LEVE. It is carried out under the auspices of the Ministry of Agriculture and USAID. The objective is to help people get more useful training in agriculture. May I ask you a couple questions about farming and the skills people need in agriculture?

FARM

- Are you a farmer?
- Gender
- How much land do you have?
- In how many gardens?
- What is your one most important crop?
- Your second most important crop?
- Third?
- Do you or your spouse do anything else to make money?
    - Commerce
    - Livestock
    - A trade (tailor, mason, woodworker, etc.)… which?
    - Fishing
    - Salaried work
    - Other, ki lot?
- Have you ever had a salaried job?
- If yes … What job?

SCHOOL

- Have you ever attended an agricultural/technical school?
- Have you received other agricultural training?
- (if yes…) From where (agribusiness/boutik entran, government (ODVA, etc., NGO, agronomist/extension agent, other?)
- What did you study (maybe just for those who studied in a school)?
- For how long?
- Did the training help you produce more in your gardens, or with your livestock?
- Would you like to attend agricultural school (again)?
- What would you like to study?
- What four skills do farmers need that are best learned in a school?

- What could you study that would help you find a job with a company in agriculture?
- What day and time would you be able to go to school?

SKILLS IN DEMAND

- What agricultural professionals are most needed? Agronomists/ag techs, veterinarians, tractor operators, other motorized equipment operators, mechanics, electricians, other?
- Have you ever used motorized farm equipment?
- If yes, what kind? Tractor, motokilti (motorized cultivator), transplanter, irrigation pump, other (which?)
- Have you ever hired someone to use motorized equipment for you?
- What type of extension agent would be most useful to you,
    - expert in insects
    - expert in soils...
    - expert in irrigation/water management
    - expert in poultry
    - expert in goats
    - other expert (which?)
- Would you pay for the agent's services?
- Do you have livestock?
- How many…
    - cows
    - pigs
    - goats
    - chickens
    - lot (ki lot)
- With livestock, what tasks are hardest to do?
    - branding
    - castrating
    - birth
    - health/treating illness
    - proper feeding
    - other (ki lot)
- Would you pay someone to do that for you?
- Age
- Confirm name
- Other telephone numbers?
- Department
- Commune

The worker questionnaire

- survey_length
- survey_minutes
- 1) Surveyor: what's your name
- 4) Department,
- 5) Commune
- Hello, I am conducting a survey for a program called LEVE. It is carried out under the auspices of the Ministry of Agriculture and USAID. The objective is to help people get more useful training in the construction industry and to help companies find people who are trained well. May I ask you a couple questions about your business and needs of the industry?
- Age
- Surveyor: Enter department
- What commune?
- How long they have been in the area
- Type of area
- Education
- whether they're already a boss or not,
- what kind,
- How long have you been a bos
- How long have you been in the construction business?
- how they learned: tech school, apprentice, on-the-job, other
- Time spent in school
- Total cost of school
- Time working before became a boss
- Did you get any training/school in this profession
- Would you like to go to technical school (again)?
- What would you study?
- Are striving to become a boss?
- what kind,
- How long have you been working to become a craftsman?
- How much time do you think remains before you are qualified for be a skilled craftsman?
- How long have you worked in constructions
- Have you ever attended technical school (again)?
- What did you study?
- Would you like to go to technical school (again)?
- What would you study?
- Would you want to continue to work?
- If you went to school, what time of day would be best for you?
- What time of day would be best for classes
- In what four trades is formal training in a school necessary?
- In what two trades is school most helpful in finding a job?

- How many friends do you have that are ${Ques_4_1}
- How many friends do you have that are ${Ques_5_2_1}
- How many of these went to technical school?
- And you, have you ever worked in the Dominican Republic?
- Have you ever worked in Port-au-Prince?
- Are any of your close family member's skilled laborers?
- what kind,
- Did you ever work with them?
- Is there something else you would prefer to study?
- Tel #1
- Tel #2
- Tel #3
- May I take a photo of you on the building site?
- instance ID

Employer survey

- survey_length
- survey_minutes
- Surveyor: select your name
- Which type of business are you asking about?
- Hello, I am conducting a survey for a program called LEVE. It is carried out under the auspices of the Ministry of Agriculture and USAID. The objective is to help people get more useful training in the construction industry and to help companies find people who are trained well. May I ask you a couple questions about your business and needs of the industry?
- Hello, I am conducting a survey for a program called LEVE. It is carried out under the auspices of the Ministry of Agriculture and USAID. The objective is to help people get more useful training in the area of agricultural production and to help companies find people who are trained well. May I ask you a couple questions about your business and needs of the industry?
- Respondent's type of business
- Tip de biznes kote repondan an ye?
- How many steady employees does the business have?
- (a) full time
- (b) part time?
- Do you have a contract at the moment?
- How much time has passed since your last contract?
- I am going to ask you a series of questions about your last contract
- Masons
- Carpenters
- Woodworkers
- Metalworkers (rebar for reinforced concrete, etc.)
- Welder/ironworker (metal doors, security grills, etc.)

- Electricians
- Plumbers
- Ceramic tile
- Painters
- Mechanics
- Operator heavy equipment
- Operator other
- Laborers
- Other
- Mason
- Carpenter
- Woodworker
- Metalworker
- Welder/ironworker
- Electrician
- Plumber
- Tile
- Painter
- Mechanic
- Operator heavy equipment
- Operator other
- Laborer
- Other
- Of all the skilled laborers and apprentices that work with you, how many have formal training from a technical school
- In which categories?
- What type of tradesman or specialist is hardest to find?
- What is the next hardest to find?
- In what four trades is formal training in a school necessary?
- In the sense of work and jobs that you think will come, do you think the next six months will be,
- Eske w ap chechemoun pou travay avek ou kounyea?
- Mason
- Carpenter
- Woodworker
- Metalworker
- Welder
- Electrician
- Plumber
- Tile
- Painter
- Mechanic

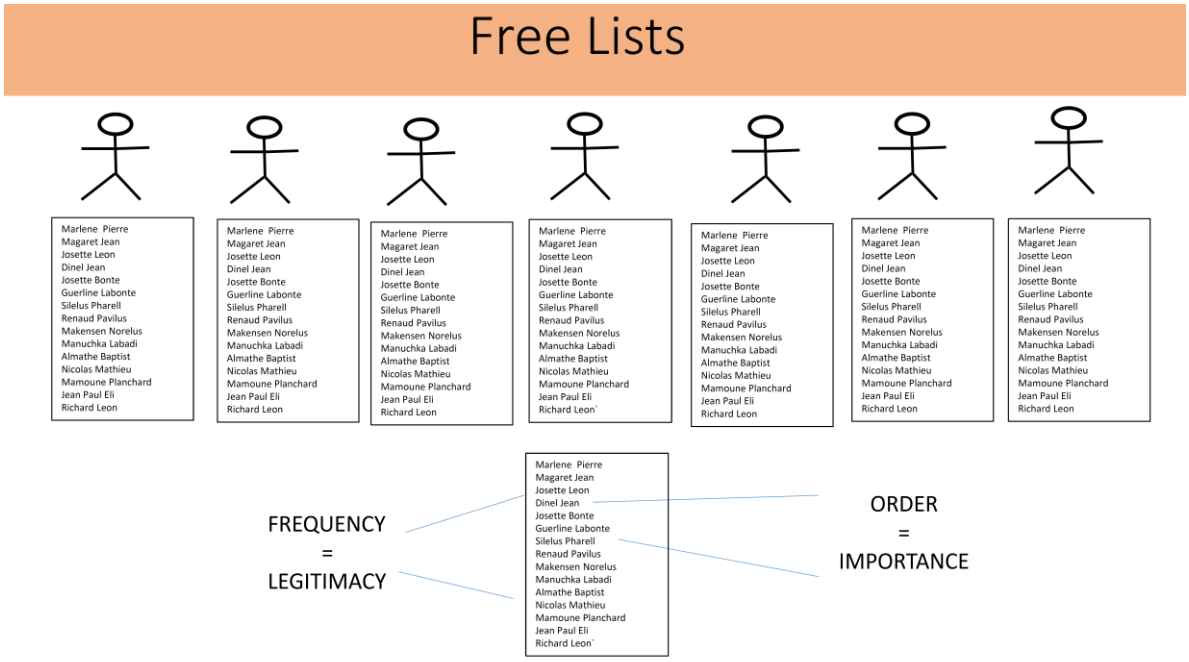
- Operator heavy equipment
- Operator other
- Laborer
- Are there other trades not mentioned on the list?
- In the sense of work and jobs that you think will come, do you think the next 3 years will be,
- Mason
- Carpenter
- Woodworker
- Metalworker
- Welder
- Electrician
- Plumber
- Tile
- Painter
- Mechanic
- Operator heavy equipment
- Operator other
- Laborer
- Are there other trades not mentioned on the list?
- How many other trades are there?
- A question about how contractors procure laborers or assistants
- Are most of your jobs in this commune or outside?
- Are most of your tradesmen/workers from this commune or outside?
- In the last three years, when you had the most work, how many workers did you have?
- In the last three years, what was the minimum number of workers you had?
- ag technician
- animal
- mechanic
- operator
- Other
- How many ${Ques69_1}
- How many ${Ques69_2} work with him/her right now?
- ag technician
- animal
- mechanic
- operator
- ${Ques69_1}
- Has anyone working with you gone to technical school?
- ag technician
- animal
- mechanic

- operator
- In the sense of work and jobs that you think will come, do you think the next 6 months will be,
- Are you hiring now?
- ag technician
- animal
- mechanic
- operator
- Other
- In the sense of work and jobs that you think will come, do you think the next 3 years will be,
- ag technician
- animal
- mechanic
- operator
- Other
- Most of the people who work for you are,
- And if you need new employees, where do you think you will find them?
- And most of the clients you have are,
- And where do you think you will most likely find new clients?
- SURVEYOR: You are finished and may thank the respondent. If you have all of the respondent's personal information, including name, location, etc., you may enter the data in the questions that follow. But if you do not yet have the information you must ask the respondent before closing the survey.
- Surveyor: Enter department
- What commune?
- First telephone #
- Second telephone #
- Third telephone #
- Sex
- instance ID

Frequency Listing

The idea of Frequency Lists comes from the use of the Freelisting technique used in Cultural Consensus Analysis (Romney et. al. 1986; Borgatti 1992). The technique is designed to document categorical knowledge, usually among non-literate people whose folkways are little known outside their living group. For example, a researcher may wish to learn about the types of local foliage rural Haitian leaf doctors use to concoct herbal remedies. The researcher would ask a sample of leaf doctors to give the names of plants they use. The questions are typically asked of 20 to 30 respondents. Responses from the sample of respondents are then correlated. Those plants mentioned often, for example, by more than 5 respondents, are accepted as part of the semantic category of 'plants Haitian leaf doctors use to make herbal remedies.' Although the technique is

simple in its conception and application, statistical analysis yields a depth of information. The more frequently an herb is mentioned the more commonly we can assume Leaf Doctors use it. A correlation in order of responses—mention first, second, fifth-- suggests the importance of that particular item, in this case a plant or leaf. Further analysis can be done with the results to uncover relationships between different herbs.



Working with World Food Program and Haiti's CNSA, the consultants modified the Freelisting technique to identify vulnerable households in what we subsequently termed "Frequency Listing." The consultants used a massive number freelists (1,800) to identify low level community leaders (notab) who would then identify the most vulnerable individuals in their area. The advantages of the strategy is that it circumvents that aid entrepreneurism encountered in area where high levels of aid, indiscriminately distributed in the past has given way to a type of aid entrepreneurism where many individuals attempt to qualify for aid when they otherwise are not in dire need. It taps local knowledge and avoids a host of complications that come with traditional survey strategies and Proxy Means Tests. In the present case, the same strategy is being used to identify "*kontramet*" (construction foremen). Multiple mentions of a foremen indicate legitimacy; the more frequent and higher on the list that the individual is mentioned suggests great importance and recognition.

Figure 38: Respondents with Immediate Family and If they Have Worked with Them

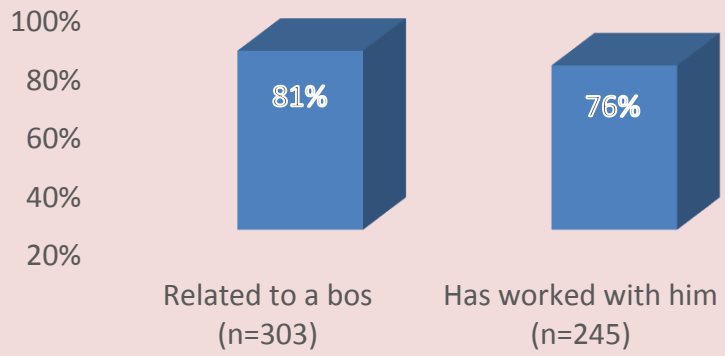


Figure 39: Proportion of Resondents with Experience in DR and Port-au-Prince

