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**Jamaican Adaptive Agriculture Program
Cooperative Agreement AID-532-A-11-00004**

**Final Program Report
for the period of
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Submitted by:

INMED Partnerships for Children
21630 Ridgetop Circle, Suite 130
Sterling, Virginia 20166 USA

INMED Caribbean
Shop #9 Ken's Plaza, 85 Market Street
Falmouth, Trelawny, Jamaica, W.I.

Contacts:

Linda Pfeiffer, Ph.D.
President and CEO
Telephone: 703 729-4951 ext. 208
E-mail: lpfeiffer@inmed.org

Thad M. Jackson, Ph.D.
JAAP Technical Director
Telephone: 703 930-0831
E-mail: tjackson@inmed.org

Hyacinth Symes
JAAP Operations Manager
Telephone: 876 398-7587
hsymes@inmed.org

Paul Barrett
JAAP Project Director
Telephone: 876 419-3666
pbarrett@inmed.org

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Abbreviations

CIF	Climate Investment Funds
DCFS	Department of Cooperatives and Friendly Societies
IDB	Inter-American Development Bank
INMED	INMED Partnerships for Children
JAAP	Jamaican Adaptive Agriculture Program
JAG	Jamaican Aquaponic Growers
NYS	National Youth Service
PIOJ	Planning Institute of Jamaica
RADA	Rural Agricultural Development Authority
SDC	Social Development Commission
USAID	U.S. Agency for International Development

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I. Executive Summary

In 2011, INMED Partnerships for Children introduced a revolutionary approach to the interrelated issues of poverty and food security, conservation of water and natural resources, and preparing local communities to adapt to climate change among small farmers, fisherfolk and youth in Jamaica's northwest region. Launched through a cooperative agreement with USAID's Development Grants Program, INMED's Jamaican Adaptive Agriculture Program (JAAP) focuses on climate change adaptation, introducing aquaponics—an innovative, intensive food production technique yielding both fish and plant produce—as the cornerstone of a strategy that also includes climate change education, local production for food security, and business training and links to market to achieve adaptive, sustainable livelihoods for rural Jamaicans. At the same time, climate change education and training in aquaponics among youth in vulnerable conservation corridors opens new vocational opportunities that respond to the challenges of climate change, and inspires Jamaica's next generation of agricultural producers and environmental stewards.

Over the course of the cooperative agreement, the JAAP pursued—and achieved—three strategic objectives that have direct implications for key development challenges in Jamaica:

- Strengthen the ability of rural Jamaicans and youth to understand and respond to climate change.
- Provide new and adaptive opportunities for food security and income generation through innovative agricultural practices that maximize production and respond to major threats of climate change by conserving water, preserving the natural ecology and withstanding weather variations.
- Inspire and train the next generation of farmers in innovative agricultural practices that maximize production and adapt to climate change.

Building on the initial successes and potential of the program and the areas identified for enhancement, INMED proposed a complementary expansion project to capitalize on the momentum and enthusiasm gained to date among both producers and the market. The expanded project addressed an urgent need and desire identified during the initial phase of the JAAP: to move beyond food security to production on a larger scale and much more rapidly than originally planned in order to take advantage of market forces and provide revenue-generating incentives that will further encourage and accelerate innovative climate change adaptations, and to incorporate additional complementary improvements that enhance sustainability. Specifically, the expansion of the JAAP enabled us to:

- Build on the original modular concept of our aquaponic units, focusing on implementing larger, multi-module systems, providing an important increase in scale that has provided a viable opportunity for economic self-sufficiency through sustainable agriculture in the face of climate change challenges.

- Increase the resource efficiency and sustainability of aquaponic production and complementary climate change adaptation activities by incorporating rainwater harvesting systems and solar energy to power the aquaponics systems.
- Educate and train smallholder farmers, fisherfolk, and youth in science-based climate change adaptation and mitigation, with a special focus on inspiring the next generation of farmers and creating economic opportunity for youth who would otherwise have none within their impoverished communities.

The video at the following link, produced as part of the JAAP activities, shows how the aquaponics component of the program is making an impact in the areas of climate change and the environment, water conservation, food security and income generation—and ultimately, the future for rural Jamaican farmers, fisherfolk and youth:

<https://www.youtube.com/watch?v=pjxpXbwbjuM>.

II. Major Achievements

A. Overall Program Achievements

The major achievements realized over the program period include the following:

- **Installation of 69 aquaponic modules in 13 locations.** These systems are strengthening food security, providing job skills training opportunities, and creating income generation opportunities for farmers, fisherfolk and youth, including among vulnerable groups such as the physically and mentally disabled and juvenile wards.
- **Providing learning opportunities for youth, strengthening food security and inspiring the next generation of farmers and environmental stewards** in four schools. In fact, through the JAAP, a formal aquaponics course of study has been established at Knockalva Agricultural School.
- **Strengthening climate change adaptation capabilities of the aquaponic units** through the installation of solar power and water harvesting systems in each project location.
- **Climate change vulnerability assessments** conducted at 14 locations with more than 200 participants, in addition to **climate change awareness education** for more than 12,000 individuals.
- **Business and marketing training and links to local markets** to prepare participants to take ownership and strengthen the foundation for sustainability. Market links have been established with Sandals Whitehouse Hotel, Bluefields Villa, General Foods supermarket and a private green grocer to purchase produce from the JAAP aquaponic systems.

“Five years ago, if you told me I would be a farmer, I would say ‘no,’ because I’m not the type of person who’s going to go to the bush and do all of that stuff. But when I was told about aquaponics, and I did my research, I realized it’s an innovative way of farming, and I think it’s very interesting.”

– *Monique Henry, Vice President, Youth in Action Environmental Club*

- **Formation of an association of aquaponic growers**, the Jamaican Aquaponics Group, has been formed through the JAAP, with representatives from each of the project locations. Through this group, aquaponic growers can coordinate production and marketing efforts to promote self-regulation and sustainability after the formal end of the program period.
- **Increased media attention** at local, national and international levels, leading to heightened visibility of the JAAP, USAID Jamaica’s partnership in the program, and aquaponic technology itself, which is gaining acceptance as a viable adaptive response to climate change.
- **Partnership building** with national entities such as the Ministry of Agriculture and Fisheries, the Ministry of Water, Land, Environment and Climate Change, the Ministry of Education, the Rural Agricultural Development Authority (RADA), the Social Development Commission (SDC), the Department of Cooperatives and Friendly Societies (DCFS), and the National Youth Service (NYS), among many others, which are helping to strengthen the foundation for the JAAP’s sustainability.
- **Commitments to promote aquaponics** as an innovative, evidence-based approach to sustainable agriculture—particularly among grassroots producers—for food security, nutrition and climate change adaptation through INMED’s international *Harvest the Future* symposium in June 2015. This event, with speakers from USAID Jamaica, the U.N. Food and Agriculture Organization, the Inter-American Development Bank and Jamaican government ministries, among others, will showcase the JAAP and how aquaponics can facilitate integrated, sustainable development goals.

B. Success Stories/Case Studies

In addition to the achievements highlighted in part A above, JAAP participants achieved many successes within their own groups. For example:

- Typically, aquaponic cultivation produces at least 10 times as much in the same amount of space as conventional agriculture. At the Belmont Academy project location, however, students harvested nearly *90 times more* scallions in their aquaponic unit (20 lb. per 48 sq. ft. grow bed every three weeks) than in their conventional farm plot (3 lb. per 320 sq. ft. every six weeks). The aquaponic scallions grew twice as fast, weighed more per unit, were of higher quality, and had a longer shelf life compared with the soil-grown types. All of the scallions harvested at Belmont are sold to the nearby Bluefields Villas resort.
- At the Dromilly Agricultural Cooperative project location, the group produced more, and higher quality, tomatoes in a 96 sq. ft. aquaponic grow bed than in a ¼-acre (10,890 sq. ft.) conventional plot in the same season.
- Knockalva Agricultural School reports that its aquaponic system generates more income than its other agricultural activities on campus,

“The profit margin is good, and it’s using space in a very limited way, and producing a lot of crops, a lot of good-quality crops, and I’m sure that’s what they [students] want—making money.”
– Robert Henry, Head of Agriculture,
Dinthill Technical High School

with its aquaponic crops fetching a higher price than conventionally grown produce. For example, its romaine lettuce commands a market price of \$2.00/lb., compared to \$1.00/lb. for conventionally grown romaine.

As noted above, Knockalva has instituted a formal course of study on aquaponics, in part because of student interest, which has garnered more interest than the school's other areas of farming education: 10-12% of students volunteer to work with the aquaponic system, compared to 5% of students who volunteer in all of the school's other agricultural activities combined.

Knockalva showcased a model aquaponics unit at Jamaica Day 2013, an annual event conducted as part of the Ministry of Education's Culture in Education Program. Among schools from each of the nation's regions that showcased special projects, Knockalva won the top award for Region 4 in innovation in technology.

- The Westmoreland Organic Farmer's Society has achieved great success in cultivating herbs such as basil and cilantro. The group has developed a system for drying and packaging for sale the surplus that is not sold fresh, both reducing waste and creating a value-added product.

II. Summary of Targets, Indicators and Results

A. Summary Chart of Cumulative Progress Toward Targets and Indicators

The final targets and indicators chart, along with the updated Performance Management Plan, are included as Attachments 1 and 2, respectively.

B. Report on Comprehensive Progress Toward Intermediate Results of Program

IR 1: Knowledge of climate vulnerability and adaptive measures is increased.

IR 1.1: Identify locations and target stakeholders.

The locations and stakeholders selected for participation in the JAAP are as follows:

Original Sites (Year 1)

- Bluefields Bay Fishermen's Cooperative (Westmoreland Parish)
- Belmont Academy (Westmoreland Parish)
- Westmoreland Organic Farmers Society (Westmoreland Parish)
- Cedric Titus High School (Trelawny Parish)
- Bunker's Hill community, including Unity and the Triple Eye Group in Friendship (Trelawny Parish)
- Dromilly Agricultural Cooperative (Trelawny Parish)
- Knockalva Agricultural School (Hanover Parish)
- Dinthill Technical High School (St. Catherine Parish)

Expansion Sites (Years 2-3)

- Youth In Action Environmental Group (St. Ann Parish)

- Jacob's Ladder Disabled Community (St. Ann Parish)
- Mafoota Agricultural Cooperative (St. James Parish)
- Metcalfe Street Secure Juvenile Facility (Kingston)

IR 1.2: Conduct climate change vulnerability assessments to collect baseline data and use assessments to help participants discuss and better understand climate change issues.

In total, 14 baseline climate change vulnerability assessments were conducted. The data collected was used to guide the focus group discussions that followed and subsequent training in climate change. End-of-project focus group sessions to collect comparative data on changes in vulnerability revealed that all stakeholder groups showed improvements in their ability to assess risks due to climate change. Participants were able to discuss climate change with accuracy and employ appropriate terminology. Furthermore, when compared to the baseline focus groups, at which respondents showed some interest in learning more about climate change, evident enthusiasm among the participants at the endline groups indicated their increased and genuine interest and eagerness to continue learning more.

IR 1.3: Incorporate learnings from assessments into planning and conduct climate change awareness education and training with stakeholders.

Over the years, our participants have continued to notice and discuss issues relating to climate change. For example, long periods of drought affected the Triple Eye and Youth in Action groups, the Bluefields area noted unpredictable rainfall patterns and diminishing fish stock, and Dromilly experienced soil erosion due to flooding. The JAAP training has helped all of these stakeholders respond to the effects of climate change. Common challenges and adaptive responses have been incorporated in the program's formal climate change awareness education curriculum presented to participating schools and cooperative groups.

Furthermore, the expansion phase of the JAAP also addressed learnings from the assessments by incorporating rainwater catchment and solar power systems into the aquaponic units in order to minimize climate change vulnerability and maximize production.

IR 1.4: Meet with officials, review documents and collaborate with project stakeholders, partner organizations and USAID in order to understand the current climate change scenario and help enhance adaptation policies related to climate change.

Meetings continued throughout the program period. Most meetings were conducted at the local level, but routine briefings at regional and national levels helped keep high-level officials abreast of JAAP developments. Highlights of some of these meetings follow.

- Meetings and dialogue were ongoing with the Ministry of Agriculture and Department of Fisheries, the Ministry of Education, DCFCS, PIOJ and RADA to discuss developments in climate change adaptation activities across sectors and to ensure that the JAAP parallels national plans and priorities.
- In April 2012, INMED welcomed U.S. Ambassador to Jamaica Pamela Bridgewater; Minister of Water, Land, Environment and Climate Change Robert Pickersgill; Westmoreland MP Luther Buchanan; Minister of Education Ronald Thwaites; USAID Jamaica Mission Director Denise Herbol; and INMED's international Board of Directors for a tour of the

aquaponic units at Knockalva Agriculture School and Belmont Academy and discussions on how aquaponics plays an important role in climate change adaptation and in engaging youth in developing environmental and agricultural solutions for the future. The event also marked USAID's 50th anniversary, which coincided with Jamaica's 50th year of independence.

- In 2013, INMED's regional representative was appointed to a committee of the Planning Institute of Jamaica to work on climate change issues nationally.
- JAAP staff attended a USAID Jamaica-facilitated climate change training seminar in March 2013.
- INMED hosted representatives from USAID headquarters at Knockalva Agriculture School in June 2013 to showcase the JAAP, the school's progress throughout the course of its participation, and aquaponics as a climate change adaptation.
- INMED presented a project case study on water conservation and food production at the regional USAID Agricultural Best Management Practices for Global Climate Change Adaptation Workshop in the Dominican Republic in July 2013.
- In June 2014, INMED's CEO reviewed the JAAP outcomes and discussed climate change issues in individual meetings with the Minister of the new Ministry of Land, Water, Environment and Climate Change, the Minister of Education and the Minister of Agriculture.
- Four INMED representatives attended the Climate Investment Funds forum in June 2014, where they took part in sessions on current climate change topics and trends and networked with government officials from various countries, representatives the World Bank and the Inter-American Development Bank (IDB), and top climate change experts from around the world.

IR 2: Food security and income generation potential are increased through innovative agricultural practices that adapt to climate change.

IR 2.1: Implement 66 total aquaponic modules.

A total of 69 aquaponic modules were installed over the course of the project. During Year 1, five individual aquaponic modules were implemented at Cedric Titus High School, Bluefields Bay Cooperative, Unity, Triple Eye and Belmont Academy. These units were outfitted with water pumps, backup battery systems and approximately 300 fingerlings each.

Multi-modular, commercial-scale aquaponic systems—each equivalent to eight of the basic units—were installed in eight additional locations (totaling 64 additional modules) in Years 2 and 3, and are operational at Knockalva Agricultural School, Dromilly Agricultural Group, Dinthill Technical High

"The great thing about this, they're learning something new, they're applying their knowledge, and they're growing something which eventually they will eat and love."
– Tasshei Mitchell, Agriculture Teacher,
Metcalf Street Secure Juvenile Center

School, Westmoreland Organic Farmers Society, the Youth in Action group, Metcalfe Street Secure Juvenile Facility, the Jacob's Ladder community, and the Community Centre in Mafoota.

IR 2.2 Install solar power and rainwater harvesting systems at all project locations.

Solar power and rainwater harvesting systems have been installed at all new project locations and at three of the five original family-sized basic units. As discussed in previous reports, a lack of response and commitment from administration officials at Belmont Academy and Cedric Titus—including to our most recent communications in August 2014, which referenced the concerns and requirements expressed by USAID in terms of investing additional resources in those locations—precluded the installation of solar power and rainwater catchment systems as scheduled. However, with the recent appointment of a new principal at Cedric Titus, we secured his firm commitment to the project and to providing the necessary resources for the solar power system. The materials have been purchased and installation of the solar power system is in progress, to be followed by the rainwater harvesting system. Having reached the end of the project, no further efforts will be made to secure a commitment from Belmont. (Note that the solar power and rainwater catchment materials for Belmont were not purchased in advance, and the funds originally intended for these items were reallocated within the supplies budget.) However, INMED will continue to oversee the installation and care of the solar and water harvesting systems at Cedric Titus.

“Water use is extremely efficient, so... we are conserving our water. Because the system is solar-powered, we're producing a clean source of power, which means that it's not fossil fuel, we're not emitting any gases to contribute to the greenhouse [effect], so for me that is amazing—and I would think the best way to go.”

– Robert Henry, Head of Agriculture,
Dinthill Technical High School

With the exception of Cedric Titus and Belmont, solar power systems and rainwater catchment systems have been installed and are operational at all project locations.

IR 2.3: Track amount of fish produced and crops harvested from existing units.

Refer to Attachment 1 for the amount of fish and crops harvested.

IR 2.4: Track percentage of produce used for food security and amount of income generated.

Refer to Attachment 1 for the percentage of harvests used for food security and income generation.

IR 3: Capacity of stakeholders to plan for and respond to climate change is strengthened.

IR 3.1: Trainings on climate change impacts, adaptation techniques, innovative agricultural practices and other related topics conducted.

Throughout the JAAP implementation period, INMED conducted a series of focus group discussions and training workshops on climate change impacts, mitigation techniques and adaptation strategies. These trainings also covered aspects of efficiency and production in agriculture that has better prepared stakeholders for the market. Business planning, food safety, sorting, packaging, labeling and distributing were also addressed. Beyond these formal trainings, we have given particular emphasis during informal site visitation to water conservation,

recycling, waste management practices, farm sanitation, water testing/water quality and energy efficiency.

The newer aquaponic systems implemented have been modified to incorporate fish breeding and fingerling production in order to foster sustainability and to improve training opportunities in fish culture, which will further increase participants' capacity to adapt to climate change impacts.

In 2014, through the new program management strategy adopted to reinforce necessary changes in behaviors and practices to achieve successful aquaponic production, INMED has taken a more hands-on and intensive approach to ongoing training with project stakeholders, especially at the multi-module sites.

Over the course of the program, INMED hosted a series of four training workshops for project stakeholders on climate change impacts, adaptation techniques and sustainable, climate-smart agricultural practices. A post-assessment at the final workshop in June 2014, reviewing topics from all of the previous workshops as well as general aquaponic system maintenance, showed that 77% of participants increased their knowledge.

IR 3.2: Participate in multiple awareness-raising forums to provide information to encourage project stakeholders to use and apply knowledge of climate variability and trends, as well as local techniques for adapting to change.

In partnership with our stakeholders, we participated in multiple awareness-raising forums, including the following:

- Representatives from Knockalva participated in the 2013 Montpelier Agriculture Show and the 4-H Club National Agriculture Show, displaying a model aquaponic unit and delivering education on climate change impacts and adaptation strategies to 1,200 individuals. As noted in Section II, Knockalva also showcased its model aquaponics unit at the 2013 Jamaica Day competition, winning the award for innovation in technology in Region 4.
- At the annual Denbigh Agricultural Show INMED joined the Trelawny RADA office in both 2012 and 2013 in featuring a functioning aquaponics model and highlighting the JAAP. The Westmoreland Organic Farmers Society also displayed a booth at the event featuring the JAAP and aquaponics. According to RADA and the Jamaica Agricultural Society, combined visits to these two booths amassed more than 25,000 viewings in 2013. The Youth in Action group also presented an aquaponics display at the 2014 Denbigh show.
- The annual "bird fest" at Dromilly in Trelawny, hosts more than 1,000 patrons each year. The Dromilly group appoints one member to demonstrate its aquaponic system at the event each year, highlighting how aquaponics helps protect the local environment against climate change threats.
- In multiple locations and contexts, we continue to share information with individuals interested in starting their own aquaponic systems or in changing production systems they

already have in place to accommodate aquaponics. Inquiries from interested individuals have steadily increased over the course of the program.

- The JAAP and its climate change adaptation messages gained visibility through a series of articles running from April-May 2014 in the Jamaica Gleaner—one of the most widely circulated national newspapers, with outlets extending to the U.S., Canada and the U.K.—that highlighted aquaponics as a solution to climate change threats.

IV. Partnerships and Sustainability

A. Report on Sustainability Indicators

SP 1: Identify, cultivate and involve partners who will support and promote the project to ensure sustainability.

Throughout the program period, we worked to identify and engage key partners that would have a role in ensuring sustainability not only for the JAAP but in promoting broad-based climate change awareness and action. Refer to Section IV B for a list of these partners.

In particular, SDC and DCFS have been working with JAAP participant groups to strengthen their members' leadership and management skills. The SDC and DCFS have also taken a leading role in guiding the establishment of an association of aquaponic farmers. This new umbrella association, the Jamaican Aquaponics Growers (JAG), comprises representatives from each of the JAAP locations plus a five-member executive board. The association allows the project beneficiaries to organize themselves as a legal entity so that they can coordinate production and marketing efforts among all of the project locations, contributing to ownership and sustainability once the grant period has ended.

Project stakeholders who volunteered their time in implementation of the aquaponic systems—representing a collective contribution of more than 35,000 hours—also have a vital role in ensuring project sustainability. Refer to Attachment 3 for a list of volunteers, their contributions and their time invested.

RADA and the Jamaica Gleaner newspaper have also been helpful in giving the JAAP platforms for visibility through agricultural shows and print media respectively, further supporting its sustainability.

SP 2: Link participants with markets and train participants in regional marketing coordination to develop long-term partnerships that ensure sustainability.

Over the past year, the JAAP has focused on identifying and facilitating links between participants and local markets to build sustainable partnerships for production and sales. Over the last six months, several partnerships have been forged that offer great opportunities for income generation through the sale of aquaponic produce, including the following:

- Farmers from Dromilly have attended meetings facilitated by INMED with the Culinary Federation of Jamaica, where the farmers were able to meet with chefs from local hotels and restaurants to discuss their desired crops, production levels and pricing.
- We provided JAAP participants with a database of telephone numbers and email addresses for 100 hotels/resorts and restaurants for them to begin making their own links to identify opportunities for produce sales.
- Chefs from the Sunset Beach Resort gave a presentation at the April 2014 JAAP training workshop and indicated their strong desire to purchase high-value herbs and spices locally instead rather than importing them, as is currently the case. The chefs described the quantities required and their pricing, and provided their contact information to all attendees.
- Members of the Youth in Action club have secured contracts for their produce with several local buyers, including General Foods, Rexo and Champion supermarkets and Calabash Restaurant in Ocho Rios.
- The purchasing director from Walker's Wood Caribbean Foods plant gave a presentation at the April 2014 workshop to discuss the procurement process, in-demand products, pricing, quality and the relationship building process between supplier and purchaser.
- INMED is in discussions with the Hilton Rose Hall resort to facilitate the procurement of herbs and spices from aquaponic farmers to the hotel.
- Triple Eye, Unity and Dromilly continue to coordinate their production and marketing to provide desired quantities of cilantro and other in-demand crops to Pantrepant Farms.
- Belmont Academy is a consistent supplier of scallions to Bluefields Bay Villas.
- Westmoreland Organic Farmers Society is a consistent supplier of basil to Sandals Whitehouse.
- At the stakeholders' meeting of the Cambridge Development Committee, representatives from Sandals Montego Bay in St. James expressed an interest in buying from the Mafoota aquaponic unit once it is producing (fingerlings were introduced near the end of September 2014, and the first crops are expected by mid-January 2015).
- The May 2014 JAAP workshop focused on marketing training for stakeholder farmers, including a discussion of the volume, quality and prices required by the target market. At this workshop, participants developed a marketing kit for their specific group and products that includes samples, photos, business cards, brochures and talking points.

SP 3: Develop model business plan and train participants in business management principles to ensure financial sustainability of aquaponic systems.

Over the course of the program, our attempts to involve the Jamaica Business Development Corporation in conducting business training for JAAP participants were not successful. We therefore conducted the training in-house, developing a simple yet comprehensive curriculum, including training on productivity and marketing to identify production capabilities and prices.

The April 2014 workshop included a step-by-step training of how to complete a projected income statement so participants could understand the proper way to plan for projected revenue, expenses and cash flow. The income statement is also a valuable tool when writing a business plan and applying to lending institutions.

At the June 2014 workshop, participants learned how to write the various components of a business plan. The Trelawny parish representative of the Jamaica Credit Union gave a presentation on requirements for obtaining a loan from the institution, and provided participants with a copy of the general application and business plan required. Through on-site, follow-up trainings with the individual participant groups, INMED will provide guidance and assistance to complete their business plans.

In addition to the training conducted by INMED, the SDC in St. Ann has developed a comprehensive business plan featuring the aquaponics unit at the Youth in Action location. They will work with the group to implement the plan beyond the end of the project period, and have also committed to making it available to others.

B. Role of Partners in Project Implementation and Sustainability

INMED has worked with many partners at the local, regional and national levels in the implementation of the JAAP. These alliances form the foundation for the program's long-term sustainability beyond the end of the USAID cooperative agreement period. Our most influential and involved partners—beginning with our participant groups—are highlighted below.

- **Farmer and fisherfolk cooperatives:** These groups have provided land and labor for the expansion of the aquaponic units and installation of water catchment and solar power systems, committed to their successful operation (despite the challenges described in Section V), and participated in ongoing technical and business planning training.
- **Schools:** The four participating schools have provided space for the aquaponic units, involved students in their successful implementation, and integrated aquaponics, climate change and water resource management into their curriculum.
- **Ministry of Water, Land, Environment and Climate Change:** The initial climate vulnerability locations were identified through the Ministry, and it remains important to the project in terms of promoting national climate change agendas, building awareness of our operations and sharing data.

“When I come to the aquaponics unit... some of us delve into the ponds where the fish is, and we get to deal with the plants. It's really fun. We're not being out there in the sun. We're dealing with water and new technology, and it's really cool.”

– *Shahidah Grant, Student, Dinthill Technical High School*

- **Ministry of Agriculture and Fisheries:** With oversight of the sector perhaps most directly affected by climate change, the Ministry remains supportive of the JAAP, and has provided access to tilapia fingerlings at subsidized prices.
- **Ministry of Education:** The Ministry facilitates learning opportunities for youth by contributing oversight of the JAAP within its regional jurisdictions.
- **Social Development Commission and Department of Cooperatives and Friendly Societies:** These groups provide guidelines, training and oversight for the groups and cooperatives participating in the JAAP.
- **Rural Agriculture Development Authority:** This group mobilizes beneficiary farmers and farmer cooperatives and identify accessible markets/channels through which to sell aquaponic produce. It also recommended several cooperative groups to participate in the JAAP.
- **National Youth Service:** Members from the NYS Youth in Action club have taken part in entrepreneurship training utilizing aquaponics as their business model, encouraging youth to develop personal entrepreneurship characteristics and develop business ideas that will lead to income generation and employment. The youth then serve six to 12 months with an aquaponic site to gain hands-on experience with the implementation of their business model, business administration and marketing. Upon successful completion, youth receive a certificate of completion and seed funding to support the business plan.
- **Jamaica 4-H Clubs:** Reinforcing the JAAP's focus on inspiring the next generation of farmers, 4-H encourages youth to consider agriculture as a vocation, including through the adoption of aquaponics.
- **Planning Institute of Jamaica:** INMED is working closely with PIOJ on adaptive strategies, potential future larger scale roll-out of the JAAP, and making available business development funds for aquaponic entrepreneurs of the future.

Throughout the course of the JAAP, INMED has also collaborated with a wide range of other national and international stakeholders, including the UNDP Global Environmental Facility, Meteorological Service of Jamaica, Jamaica Aquaculture Association, Jamaica Ornamental Fish Farmers Association, Jamaica Greenhouse Association, Jamaica Agriculture Society, Jamaica Tree Growers Association, Local Forest Management Committees, and Rotary Clubs.

C. Capacity Building for INMED Caribbean

With the support of the Development Grants Program, the JAAP has enabled meaningful capacity building among local staff of the INMED Caribbean affiliate and the organization itself. Above all, the broad range of partners and stakeholders we engaged in the program—including government ministries and other national entities such as the Planning Institute of Jamaica—has created a network within which we can expand existing programs and launch new initiatives.

Trainings and conferences throughout the program period helped staff develop technical and administrative skills. For example:

- A workshop on Environmental Management and Regulation delivered by USAID Jamaica in January 2012 helped guide our staff to more effectively design, implement, monitor and evaluate environmentally sound practices for sustainable development programs, and to increase awareness of environmental regulations in Jamaica and understanding of USAID's environmental Regulation 216. In particular, our project director was involved in an exchange of new strategies and technical solutions with other Jamaican NGOs, government ministries and USAID personnel, and gained new perspective on environmental links to the social, geographic and agricultural aspects of the JAAP.
- A USAID workshop on Agricultural Best Management Practices for Global Climate Change Adaptation in the Caribbean, hosted in the Dominican Republic in July 2013, helped identify and derive and document best practices for agricultural management in the region. The training strengthen the capacity of our program director to carry out an environmental analysis and incorporate sustainable and environmentally sound agricultural practices in the JAAP model, to improve collaboration with other partners, to exchange best practices and other technical solutions for regional agriculture challenges in the context of climate change adaptation, and to more effectively integrate climate change vulnerability analysis in the planning, training and evaluation phases of the program.
- Attendance at the 2014 CIF Forum in Montego Bay offered great networking opportunities and increased our staff's knowledge of critical climate change issues, including the impacts of climate change variability, climate risk detection and management, and climate resilience, as well as climate financing, all of which can be applied to strengthening the JAAP model and training.
- JAAP staff attended a USAID-facilitated workshops on global climate change training and project monitoring and evaluation in 2013.
- A workshop led by USAID Jamaica on the Importance of Communication helped our staff learn impactful ways to tell the story of the JAAP in order to gain media attention, strengthen program reports, communicate program results to donors, and build a case for additional funding.
- A Community Development Forum hosted by Digicel fostered the development of strategic partnerships with other organizations engaged in community development work, including identifying areas of synergies and potential collaboration to reduce duplication of effort, and helping NGOs build a business case for the funding of their services.

V. Challenges and Responses

As with any new project—especially one that introduces new technology and depends on behavior change among participants to ultimately achieve success—we did encounter a number

of challenges during the course of implementation. With intensive focus and commitment and a continuously evolving implementation strategy, however, we have made strong progress toward overcoming many of the challenges described below, and believe that the JAAP is well positioned for success and sustainability after the end of the formal project period.

- For a variety of logistical, weather (heavier and more frequent than normal rainfall) and other reasons, building time for the aquaponic units took longer than expected, leaving a somewhat shorter period than projected for active crop cultivation and the opportunity for income generation through the sale of harvests.
- Identification of the ideal crops to produce in the new aquaponic systems took longer than projected, with ongoing experimentation with different seed types and plant varieties for optimal growth, heat and pest resistance, etc. In addition, the slow-growing strains of fish initially procured from the Fisheries Division affected fish production and the development of adequate nutrient levels in the water. We have since identified a local private supplier who is able to provide fingerlings from a more sterile and true breeding stock, resulting in better quality and faster-growing fish. As noted in Section VI, we are also introducing fingerling production into selected aquaponic units to improve the potential for sustainability.

The poor quality of locally available fish feed also compromised production, and while better feed exists, the cost to obtain it is significantly higher because it must be imported. It also has a relatively short shelf life and must be refrigerated, making it economically impractical and unsustainable to import. However, the Ministry of Agriculture and Fisheries is promoting the reduction or elimination of taxes and duties on imported fish feed, which will ultimately reduce costs in local markets. We are also experimenting with the production of duckweed, a rapidly reproducing, high-protein aquatic plant, in some aquaponic units as a supplemental source of feed.

We have also worked to improve production by establishing seedling nurseries at project sites to allow for more uniform planting, a quicker plant-to-harvest period, and reduced time between harvest and replanting, all of which contribute to maximum production.

- The learning curve for participants to fully understand and operate the aquaponic systems took longer than anticipated, in part due to the fundamental challenges of behavior change and in accepting that aquaponic cultivation requires different practices than those that are common in conventional agriculture.

The aquaponic systems do not require intensive labor, but they do require daily maintenance and a commitment on the part of the stakeholder to maximize production. While production levels have been rising steadily, some units still are not operating at their full potential. Furthermore, despite ongoing training by program staff in practices specific to aquaponics (e.g., plant spacing, crop rotation, pest control, fish feeding), participants do not always follow the guidelines, which results in less-than-optimal productivity.

In response, we have taken an aggressive approach with the development of a revised and enhanced productivity and business plan guide, the employment of a program manager

tasked with focusing on marketing and intensive high-density planting, and hands-on daily management and monitoring of the systems to demonstrate to participants the economic payback of following proper procedures. We have also developed a weekly production plan for the participants to follow that indicates the specific tasks that must be carried out, and the human, material and financial resources necessary to reach the targeted production level. Furthermore, INMED has developed a more detailed and user-friendly maintenance manual—based in part on feedback from the stakeholders—to serve as a guide for daily implementation of the aquaponic units.

- Institutional challenges among cooperative groups, such as lack of leadership and organization and conflicts among members, compromised effective implementation and put unexpected additional responsibilities on program management and monitors to ensure that project activities continued as intended. Although the cooperatives and institutions selected to participate in the JAAP have been recommended by RADA and/or other partners, the internal weaknesses of these groups has represented a continual challenge throughout program implementation. Significant time has been invested in addressing internal group affairs and disputes and in strengthening group capacity, which detracted from actual implementation time.

Poor group organization and cohesion have resulted in incidents described in previous reports such as:

- Turnover in leadership and membership attrition, leaving the aquaponic units without adequate implementation coverage.
- Theft of all of the fish at the Dromilly project location because of lax security and failure to follow the agreed-upon monitoring schedule.
- Miscommunication about financial transparency and grievances within the Triple Eye cooperative, including between the executive director and the other members.
- Dysfunction within the Mafoota cooperative, leading to the risk of its being deregistered, and to the transfer of responsibility for the aquaponic unit to another local group.

It is important to note that INMED has addressed all of these challenges through the course of project implementation. While capacity building for cooperatives remains an ongoing area of need, activities at each project location continue to function with the close oversight of our staff.

- Schools had difficulty in achieving effective plans for a dedicated person to oversee and maintain the aquaponic systems, especially during school breaks and holidays, which detracted from the overall production success. Implementation of climate change adaptation education at school sites has been successful, and teachers are using the aquaponic units effectively as a training and demonstration tool. On the other hand, maximizing productivity at the school sites continues to be challenging. Daily maintenance is difficult for teachers who are juggling a range of other responsibilities, and units often go without maintenance during school holidays.

Project monitors have therefore been employed to help with the maintenance during holiday periods, and the Ministry of Education has been engaged to help provide oversight and ensure accountability. More frequent dialogue with the principals is also ongoing to ensure that expectations are clear and that challenges or concerns are resolved quickly.

- The collection of vital project data such as harvest volume, sales totals, etc. depends on the cooperation of beneficiaries, many of whom have been resistant to complying with our rigorous data collection standards. This represents another area of behavior change, in which we continue to work closely with participants to help them understand the importance of consistent and accurate data collection not only for the JAAP but for their own growing enterprises.
- In addition to the series of business training workshops, INMED has conducted extensive market research and provided a database of more than 100 market contacts to JAAP participants, as well as in-person opportunities for networking and connecting with market representatives. While we can provide training and tools, it is ultimately up to the stakeholders themselves to take the initiative to form relationships and secure contracts with new purchasers. We have found that for some farmers, doing so is difficult due to a lack of experience and confidence. Others have challenges with transporting products to market or are not able to handle the financial burden of being paid according to the hotels' lengthy invoicing and payment process. With the formation of the Jamaican Aquaponics Group, however, we are confident that the stakeholders can achieve self-sufficiency and sustainability after the formal close of the project.

VI. Key Lessons Learned

We learned early on that our single-module aquaponic units introduced in the first phase of the JAAP (comprising one fish tank and two grow beds), while providing a good solution for achieving food security, were too small for meaningful income generation. Participants therefore had difficulty in understanding the long-term potential of aquaponic production. We have found that the larger multi-module units offer better motivation to adopt climate change-adaptive agricultural practices because they provide significant income generation potential.

We also learned that it is more difficult for fisherfolk to adapt to agriculture, even an innovative form such as aquaponics, which includes fish production. Therefore, at the Bluefields Bay Fishermen's Friendly Society, we added a fish breeding/fish fingerling production system that could provide fingerlings to a ready-made market at the other aquaponic systems in that region. The members are happy with this change, but they do continue to grow vegetables for consumption by the caretakers of the system as payment for their work.

The importance of fish fingerling production, in order to have a consistent supply of quality fingerlings, is another key learning, and led to a further innovation in our aquaponic systems. In addition to the stand-alone test model at the fishing cooperative, at the newer sites in the eastern part of the region, including Jacob's Ladder and Metcalfe, we have incorporated fingerling production into the design of the aquaponic systems themselves. This operation will reduce the cost of transporting fingerlings from the new supplier (quite some distance away) and reduce fish mortality associated with lengthy transportation time.

“As an institution of agriculture, we are moving toward new agriculture, and we are trying to give students that frame of mind to accept change. Aquaponics is one of those changes that will push agriculture to the next step, the next step wherein we will be utilizing limited resources.”

– *Deno Daley, Agriculture Teacher,
Knockalva Agricultural School*

As noted in the Challenges section above, the most significant lesson we have learned is that the most difficult aspect of any program is changing behavior and practices—it requires intensive training and constant support in the initial and medium-term stages, as well as immediate incentives. Aquaponics provides a strong economic incentive for behavior change, but we have found that it requires both longer-term and more intensive training than initially anticipated and strong emphasis on maximizing productivity as a means to increase income generation.

VII. Opportunities and Next Steps

We have committed to retain key JAAP personnel beyond the September 30, 2014 project close-out date, at INMED's expense, to ensure continued mentoring, technical and general support for a significant period of time. In addition to continuing to build participants' capacity to implement the aquaponics systems effectively and to strengthen their business and marketing activities, we will also pursue a variety of other project enhancements and expansions including the following:

- We are exploring the opportunity to test a new breed of fish in one or more of our aquaponic systems. While tilapia, the fish currently produced in the aquaponic units, is hardy and favored by consumers, pangasius, a member of the catfish family, is faster growing and able to thrive in even harsher conditions. The pangasius has a modified bladder that allows it to breathe atmospheric oxygen, allowing intensive stocking densities. Furthermore, the pangasius can also consume a variety of plant matter, reducing input costs for commercial feed, while still providing high-quality protein.

The Ministry of Agriculture and Fisheries has breeding stock of pangasius, with which it intends to induce breeding in October 2014 as part of its ongoing research leading to commercial introduction in 2015. As fish prices are soaring in Jamaica, such an alternative source of fast-growing fish that are less expensive to produce than other species, is expected to be welcomed by consumers. We also are exploring the production of ornamental fish, which have proven to be very well suited to aquaponics in other settings.

- We will add fingerling production capabilities to selected aquaponic units to increase income generation opportunities through the sale of the young fish to other aquaponics/aquaculture practitioners or for bait.

- We will explore the opportunity to offer paid tours and demonstrations of the aquaponic units for tourists to open another avenue for income generation.
- We are working with a public school teacher in the U.S. who has implemented an aquaponic system at his school and who is interested in developing a project through which U.S. and Jamaican students can exchange their ideas and experiences in working with aquaponics, inspiring a new generation of climate-smart food producers.

Having reached the end of the project period, the JAAP has clearly demonstrated that aquaponic technology works, that it meaningfully addresses climate change challenges, and that participants have greatly increased their knowledge and skills in implementing the new technology, making decisions based on climate change information, and establishing productive links to consistent markets for their harvests. Although we encountered challenges in building motivation among the groups working with the smaller aquaponic units and with fragile cooperatives, the commitment of individual farmers allowed us to advance the project despite these barriers. In addition, while overall production and income generation did not reach projected targets by the end of the project period, the potential and momentum remain for stakeholders to achieve true economic self-sufficiency as they continue to refine their skills and behaviors.

Furthermore, the successes and lessons learned from the JAAP have led to replication of the project in suburban and remote rural areas of South Africa, and in an urban slum and the Amazon jungle of Peru, with immediate plans to launch in Brazil as well. In South Africa, for example, INMED works with a group of disabled farmers who earned more money from the sale of their first harvest of tomatoes and green peppers than they were able to earn from traditional crop production in the entire previous year—and since the aquaponic system supports multiple crop cycles per year, the group can vastly multiply its previous annual earnings through continuous cultivation. The aquaponic system also remained unscathed when devastating floods destroyed conventionally cultivated crops in the area, positioning the group as the only local source of fresh vegetables in the aftermath.

As the group leader explained, “This project will help a lot of local people. People rely on us for fresh vegetables because they cannot get it elsewhere. We will be able to employ people as our business grows. INMED has given us our hope and confidence back and we now see ourselves becoming commercial farmers.” Success stories like these achieved through USAID’s Development Grants Program—which extend beyond Jamaica—highlight the enormous potential of aquaponics to provide sustainable, climate change-adaptive solutions to improving food security, nutrition and income generation potential among vulnerable populations.

In addition, with the encouragement of USAID Jamaica’s Environment and Health Specialist, INMED will be applying for funding to take the aquaponics innovations made possible through the JAAP to the next level of expansion and sustainability through USAID’s Development Innovation Ventures grant program, Stage 2. INMED also has been approved for funding from PIOJ to implement the JAAP in the Clarendon watershed area, pending final government approval. Finally, INMED also has recently been awarded a Bill and Melinda Gates Foundation

grant for implementation of aquaponics in Peru, has expanded the program with private sector funding in South Africa, and has pending projects in Brazil and Zambia.

INMED also will be hosting its *Harvest the Future* symposium in Montego Bay in June 2015, with speaker sponsorship from USAID Jamaica and speakers including the USAID Jamaica Mission Director, an FAO urban agriculture consultant for Gaza and northern Africa, IDB's country representative and head of its small-scale farmer lending program, with other participants from around the world.

INMED looks forward to continuing to expand the JAAP program within Jamaica and to other parts of the world, and to ongoing collaboration with USAID.

VIII. Financial Report

A detailed final financial report, to be submitted separately from this narrative, shows that as of September 30, 2014, INMED had met the matching requirement as required by the cooperative agreement along with 22 CFR 226.

Jamaican Adaptive Agriculture Program Final Target Update

Note: The USAID fiscal year, which runs from October 1 – September 30, differs from the project implementation cycle, which runs from March 1 – February 28. Targets reported below correspond with the program year. Year Three represents an extended year from March 1, 2013 – September 30, 2014.

Previous Update: 15 July 2014			Current Update: 15 October 2014				
Indicators	Performance Indicator Values 2010-2011		Performance Indicator Values 2011-2012		Performance Indicator Values 2013-2014		
	Target Y1	Actual Y1	Target Y2	Actual Y2	Target Y3	Actual Y3	Comments (focus on results in final quarter)
Intermediate Result 1: Knowledge of climate vulnerability and adaptive measures is increased.							
Number of climate vulnerability assessments conducted	4	4 (Bluefields, Belmont Academy, Bunker's Hill and Cedric Titus)	9 cumulative	9 cumulative (5 in Y2 - Triple Eye, Dromilly, Knockalva, Cave and Westwood High School)	12 cumulative	14 cumulative (5 in Y3 – Mafoota, Youth In Action, Jacob's Ladder, Dinthill and Metcalfe)	All scheduled focus group vulnerability assessments have been conducted. Twelve focus group surveys were conducted in the last quarter of the project.

Previous Update: 15 July 2014			Current Update: 15 October 2014				
Indicators	Performance Indicator Values 2010-2011		Performance Indicator Values 2011-2012		Performance Indicator Values 2013-2014		
	Target Y1	Actual Y1	Target Y2	Actual Y2	Target Y3	Actual Y3	Comments (focus on results in final quarter)
Number of stakeholders using climate change information in their decision-making as a result of USG assistance.	50 individuals	83 individuals 14 farmers 7 fisherfolk 54 students/youth 8 other occupations Male: 37 Female: 46	100 individuals cumulative	172 individuals cumulative (89 in Y2) 40 farmers 42 students/youth 7 other Male: 46 Female: 43	200 individuals cumulative	225 individuals cumulative (53 in Y3) 16 farmers 27 students/youth 9 other Male: 23 Female: 30	Through focus groups, training sessions and workshops, stakeholders report that they are using awareness of climate change to modify their behavior. Based on ongoing interaction and conversations, stakeholders have continued to use the information learned about climate change to make decisions in their everyday practices. The workshops and surveys have been key in reinforcing adaptation to climate change. Although the cumulative target was exceeded, attendance at trainings and focus groups in Year 3 was less than projected due to more focused effort being invested in reinforcement and sustainability among existing stakeholders.
	Cumulative total: 225 individuals – 106 males, 119 females						
Intermediate Result 2: Food security and income generation potential are increased through innovative agricultural practices that adapt to climate change.							
Product value based on amount of produce and fish harvested	N/A	N/A	N/A	N/A	J\$9,000,000	J\$722,313	Sites continue to strengthen their production levels and links with local markets. The Youth in Action (YIA)

Previous Update: 15 July 2014			Current Update: 15 October 2014				
Indicators	Performance Indicator Values 2010-2011		Performance Indicator Values 2011-2012		Performance Indicator Values 2013-2014		
	Target Y1	Actual Y1	Target Y2	Actual Y2	Target Y3	Actual Y3	Comments (focus on results in final quarter)
(weight x market value of crop)							group and Westmoreland Organic Farmers Society (WOFS) have established contracts with supermarkets and reliable purchasers. The units completed most recently (in the past quarter) are too new to have recorded production, but training and monitoring will continue beyond the original project period at INMED's expense to ensure that all locations are adequately prepared for successful implementation and income generation.
Percent of produce used for food security	N/A	N/A	70%	80%	30% or less	35%	The percentage of produce used for food security remained unchanged for the quarter.
Amount of income generated	N/A	N/A	J\$144,600	J\$127,485	J\$6,300,000 cumulative	J\$422,757 cumulative	J\$56,201 in income was generated during the final project quarter. WOFS, Knockalva, YIA and Triple Eye account for the most sales and have secured good markets. In the last quarter, WOFS recorded sales for all products harvested. The overall income targets, however, were

Previous Update: 15 July 2014			Current Update: 15 October 2014				
Indicators	Performance Indicator Values 2010-2011		Performance Indicator Values 2011-2012		Performance Indicator Values 2013-2014		
	Target Y1	Actual Y1	Target Y2	Actual Y2	Target Y3	Actual Y3	Comments (focus on results in final quarter)
							significantly affected by delays in completing the units (refer to report narrative for details), a steep learning curve in adapting to the new agricultural methods, and time/effort needed to help strengthen local cooperatives and resolve internal disputes.
Intermediate Result 3: Capacity of stakeholders to plan for and respond to climate change is strengthened.							
Number of people receiving training in global climate change as a result of USG assistance	350 individuals	345 individuals	1,675 individuals cumulative	6,116 individuals cumulative (5,771 in Y2)	12,250 individuals cumulative	12,399 individuals cumulative (6,283 in Y3)	A total of 362 persons took part in training this quarter. These include 157 students from schools in project communities, 110 students from Knockalva Agricultural School, and 95 individuals through a series of workshops and focus group sessions/surveys, other project stakeholders and visitors. Larger training opportunities were realized in Year 2 rather than in Year 3 as projected, still resulting in exceeding the cumulative target.
	30 farmers 20 fisherfolk 300 youth	35 farmers 25 fisherfolk 285 youth Male: 119 Female: 226	95 farmers 30 fisherfolk 1,200 youth	1,771 stakeholder youth, fisherfolk, farmers 4,000 Others Male: 2,433 Female: 3,338		1,811 stakeholder youth, fisherfolk, farmers 4,472 others Male: 2,661 Female: 3,622	
Cumulative total: 12,399 individuals – 5,213 male, 7,186 female							

Attachment 1
Jamaican Adaptive Agriculture Program Final Target Update

Previous Update: 15 July 2014			Current Update: 15 October 2014				
Indicators	Performance Indicator Values 2010-2011		Performance Indicator Values 2011-2012		Performance Indicator Values 2013-2014		
	Target Y1	Actual Y1	Target Y2	Actual Y2	Target Y3	Actual Y3	Comments (focus on results in final quarter)
Number of people with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance	N/A	N/A	1,000 individuals	2,456 individuals 45 farmers 10 fisherfolk 1,701 youth 700 others Male: 1,021 Female: 1,435	4,000 individuals cumulative	3,678 individuals cumulative (1,222 in Y3) 16 farmers 960 youth 246 others Male: 502 Female: 720	95 individuals were engaged directly through workshops and focus group training this quarter, creating increased capacity to adapt to climate change.
	Cumulative total: 3,678 individuals – 1,523 males, 2,155 females						

INMED Partnerships for Children – Jamaican Adaptive Agriculture Program Performance Management Plan

Organization of the Performance Management Plan

The Performance Management Plan (PMP) has been developed through extensive review of documents and discussions with the project team and partner organizations. The PMP is an important tool which enables timely and consistent collection of comparable performance data in order to make informed program management decisions. The PMP has been developed to systematically assess its contribution to USAID/Jamaica's program results and take corrective action when necessary. The PMP supports timely collection of data by documenting the frequency and schedule of data collection as well as by assigning responsibilities.

The PMP document is organized as follows:

- Section I provides background information on the project
- Section II presents the logical consistency of the Results Framework
- Section III presents the Performance Indicator Reference Sheets for all results-level indicators

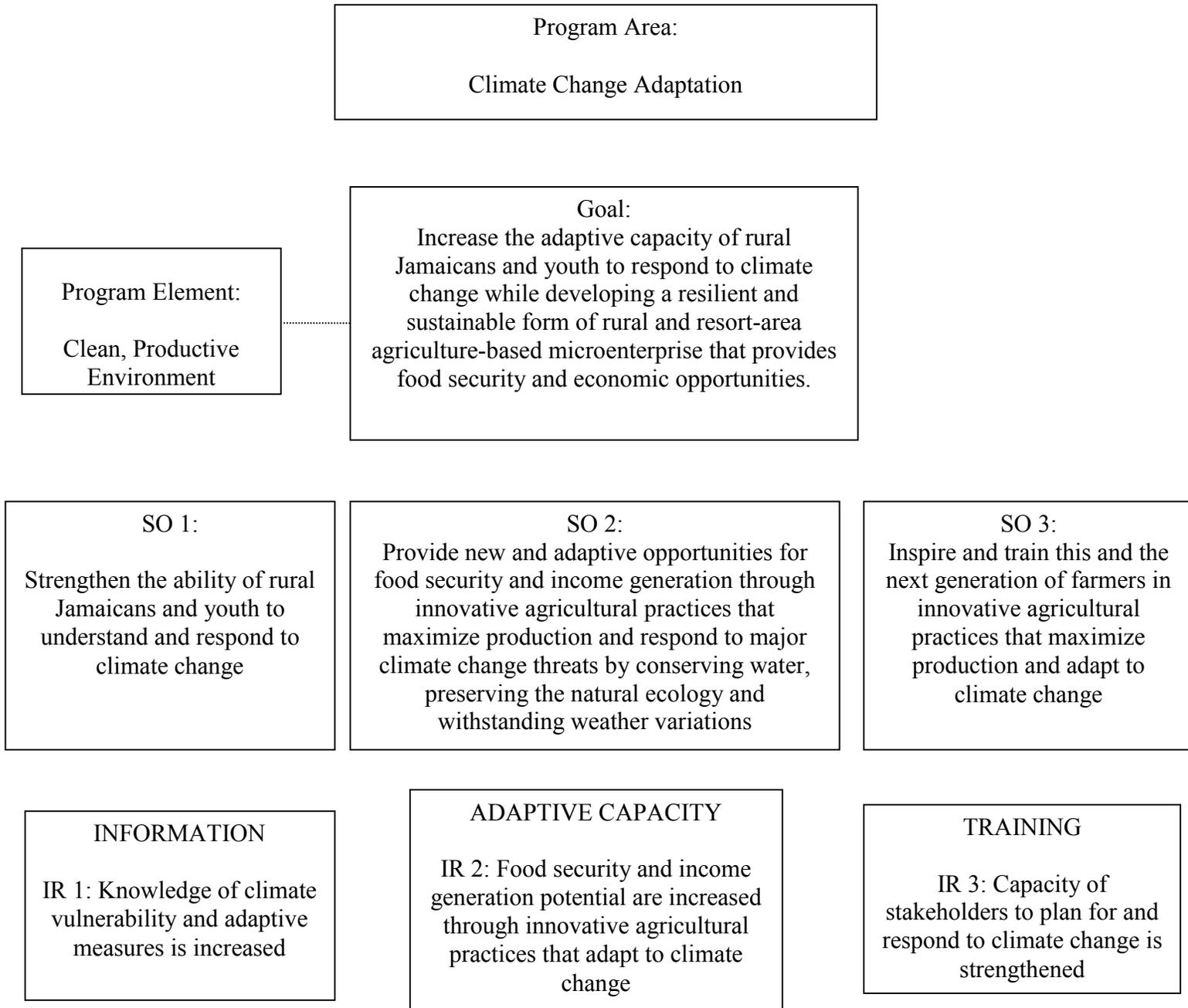
Section I: Background Information

The Jamaican Adaptive Agriculture Project (JAAP) implemented by INMED Partnerships for Children will address the threats posed by climate change, particularly the interrelated issues of water, food security, and income generation, boosting agricultural production while conserving and protecting water resources and providing income generation potential. The goal is to increase the adaptive capacity of rural Jamaicans and youth to respond to climate change while developing a resilient and sustainable form of rural and resort-area agriculture-based microenterprise that provides food security and economic opportunities.

The JAAP has three Strategic Objectives:

1. Strengthen the ability of rural Jamaicans and youth to understand and respond to climate change.
2. Provide new and adaptive opportunities for food security and income generation through innovative agricultural practices that maximize production and respond to major climate change threats by conserving water, preserving the natural ecology and withstanding weather variations.
3. Inspire and train this and the next generation of farmers in innovative agricultural practices that maximize production and adapt to climate change.

Section II: Results Framework



**USAID/Jamaica Climate Change Adaptation Results Framework
List of Performance Indicators**

Program Objective	Investing in People
Program Area	Climate Change Adaptation
Program Element	Clean Productive Environment

Intermediate Result 1 (IR 1): Knowledge of climate vulnerability and adaptive measures is increased.

Indicators:

- Number of climate vulnerability assessments conducted (#1)
- Number of stakeholders using climate change information in their decision-making (#2)

Intermediate Result 2 (IR 2): Food security and income generation potential are increased through innovative agricultural practices that adapt to climate change.

Indicators:

- Product value (weight x market value of crop) (#3)
- Percent of produce used for food security (#4)
- Amount of income generated (#5)

Intermediate Result 3 (IR 3): Capacity of stakeholders to plan for and respond to climate change is strengthened.

Indicators:

- Number of people receiving training in global climate change as a result of USG assistance (#6)
- Number of people with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance (#7)

Section III: Performance Indicator Reference Sheets for all results-level indicators

Indicator #1

Performance Indicator Reference Sheet		
Program Area: Climate Change Adaptation		
Program Element: Clean Productive Environment		
Intermediate Result 1: Knowledge of climate vulnerability and adaptive measures is increased.		
Indicator #1: Number of climate vulnerability assessments (focus groups) conducted as a result of USG assistance		
Type of Indicator: Output - Standard 4.8.2-11		
DESCRIPTION		
Precise Definition(s): Climate vulnerability assessments conducted on an ongoing basis to gather, review and synthesize current knowledge about climate change risk, and vulnerability and current adaptation measures.		
Unit of Measure: Number		
Disaggregated by: Target types of stakeholders (e.g., farmers, fisherfolk, students), region, gender		
Justification: A vulnerability assessment will help to better design an education and adaptation program targeting perceived and actual needs and level of knowledge and current adaptations to climate change, and at the same time is used as an educational/information-sharing opportunity.		
PLAN FOR DATA ACQUISITION BY USAID		
Data Collection Method: Data will be gathered through stakeholder analysis by deploying participatory focus group techniques and incorporating questions from existing tools, including CRiSTAL and CARE assessment tools. Contextual data on the current scenario (vulnerabilities) will be gathered to analyze the external risk factors that may affect the achievement of project objectives. Baseline data against which to measure progress will be gathered.		
Method of Acquisition by USAID: Report from USAID grantee (INMED Partnerships for Children)		
Data Source(s): Individuals participating in focus groups.		
Frequency/Timing of Data Acquisition: Vulnerability assessments will be conducted at project start and completion to compare the baseline scenario with the results of the intervention. Quarterly reports to USAID.		
Estimated Cost of Data Acquisition:		
Responsible Individual(s) at USAID:		
DATA QUALITY ISSUES		
Date of Initial Data Quality Assessment: 2011		
Known Data Limitations and Significance (if any): The data collected is qualitative, subject to individual participation and inclinations to reveal level of knowledge.		
Actions Taken or Planned to Address Data Limitations: The introduction of aquaponic units locally will be an incentive for participation in focus groups. Focus groups and interviews will be conducted by staff experienced in qualitative data collection, putting people at ease, asking questions in multiple ways, etc.		
Date of Future Data Quality Assessments:		
Procedures for Future Data Quality Assessments:		
PLAN FOR DATA ANALYSIS, REVIEW & REPORTING		
Data Analysis: Information from focus groups will be entered into spreadsheets, analyzed and summarized.		
Presentation of Data: Reports		
Review of Data: None		
Reporting of Data: USAID grantee's annual reports		
OTHER NOTES		
Notes on Baseline/Targets: -		
Location of Data Storage: USAID grantee's office computers and backed up on the cloud.		
Other Notes: -		
PERFORMANCE INDICATOR VALUES		
YEAR	Target	Actual
2011	4	4
2012	9 (cumulative)	9
2013-14	13 (cumulative)	14
THIS SHEET LAST UPDATED ON 10/15/14		

Indicator #2

Performance Indicator Reference Sheet		
Program Area: Climate Change Adaptation		
Program Element: Clean Productive Environment		
Intermediate Result 1: Knowledge of climate vulnerability and adaptive measures is increased.		
Indicator #2: Number of stakeholders using climate change information in their decision-making as a result of USG assistance.		
Type of Indicator: Output / Standard 4.8.2-12		
DESCRIPTION		
Precise Definition(s): Climate change risks and management strategies will be identified and assessed with stakeholders in the local context, and changes in decisions (economic, environmental, career) based on climate change knowledge identified.		
Unit of Measure: Number		
Disaggregated by: Target stakeholders, region		
Justification: Access to climate change information is an essential prerequisite to successful outreach, training, collaboration and implementation of adaptive strategies.		
PLAN FOR DATA ACQUISITION BY USAID		
Data Collection Method: Farmers, fisherfolk and youth will participate in focus groups and interviews.		
Method of Acquisition by USAID: Report from USAID grantee (INMED Partnerships for Children)		
Data Source(s): Focus group reports and data sheets.		
Frequency/Timing of Data Acquisition: Data collected and reported to USAID on quarterly basis.		
Estimated Cost of Data Acquisition:		
Responsible Individual(s) at USAID:		
DATA QUALITY ISSUES		
Date of Initial Data Quality Assessment: 2011		
Known Data Limitations and Significance (if any): Given the time period of the project, it is difficult to measure the sustainability of their decision making using climate change information, especially if weather is mild and water plentiful for a period.		
Actions Taken or Planned to Address Data Limitations: Trainings based on results of initial focus groups will emphasize long-term trends.		
Date of Future Data Quality Assessments:		
Procedures for Future Data Quality Assessments:		
PLAN FOR DATA ANALYSIS, REVIEW & REPORTING		
Data Analysis: Information from focus groups will be entered into spreadsheets, analyzed and summarized. Follow-up interviews will be conducted along with final assessment to validate changes		
Presentation of Data: Reports		
Review of Data: None		
Reporting of Data: USAID annual reports		
OTHER NOTES		
Notes on Baseline/Targets: -		
Location of Data Storage: USAID grantee's office computers and backed up on the cloud		
Other Notes: -		
PERFORMANCE INDICATOR VALUES		
YEAR	Target	Actual
2011	50	83
2012	100 (cumulative)	172
2013-14	210 (cumulative)	230
THIS SHEET LAST UPDATED ON 10/15/14		

Indicator #3

Performance Indicator Reference Sheet		
Program Area: Climate Change Adaptation		
Program Element: Clean Productive Environment		
Intermediate Result 2: Food security and income generation potential are increased through innovative agricultural practices that adapt to climate change.		
Indicator #3: Product value based on amount of produce and fish harvested		
Type of Indicator: Output / Custom		
DESCRIPTION		
Precise Definition(s): Amount of produce harvested from aquaponic units		
Unit of Measure: Jamaican Dollar		
Disaggregated by: Target region, target stakeholders		
Justification: The amount of produce that can be harvested is important to determine the contribution of aquaponics to food security and income generation. Since crops vary significantly in weight, and often the crops that garner premium prices are the lightest, and much of what is produced is consumed or donated rather than sold, a market-based dollar amount equivalent will be valued depending upon the variety of crop and weight of the harvest. Data will be disaggregated by the size and purpose of the aquaponics units (i.e. individual module vs. multi-module; school location vs. farmer/fisherfolk cooperative location; food security purpose vs. income generating purpose, etc.).		
PLAN FOR DATA ACQUISITION BY USAID		
Data Collection Method: Farmers, fisherfolk and students will be trained to keep records on the weight and types of plants and fish that are harvested. Data collection will be monitored regularly, and records will be collated by project staff.		
Method of Acquisition by USAID: Report from USAID grantee (INMED Partnerships for Children)		
Data Source(s) Consolidated project records, original participant records		
Frequency/Timing of Data Acquisition: Data collected and reported to USAID on a quarterly basis		
Estimated Cost of Data Acquisition:		
Responsible Individual(s) at USAID:		
DATA QUALITY ISSUES		
Date of Initial Data Quality Assessment: 2013		
Known Data Limitations and Significance (if any): Depending upon the market and type of produce, market value could vary.		
Actions Taken or Planned to Address Data Limitations: The product value indicator replaces the originally-defined weight indicator to address data limitations regarding crop weight in relation to market price. Market values will be assessed regionally.		
Date of Future Data Quality Assessments:		
Procedures for Future Data Quality Assessments: Participant records, regular monitoring, staff project records		
PLAN FOR DATA ANALYSIS, REVIEW & REPORTING		
Data Analysis:		
Presentation of Data: Table		
Review of Data: None		
Reporting of Data: USAID grantee's annual reports		
OTHER NOTES		
Notes on Baseline/Targets: Baseline = 0		
Location of Data Storage: USAID grantee's office computers and backed up on the cloud		
Other Notes:		
PERFORMANCE INDICATOR VALUES		
YEAR	Target	Actual
2011	Baseline = 0	–
2012	N/A	–
2013-14	J\$9,000,000	J\$722,313
THIS SHEET LAST UPDATED ON 10/15/14		

Indicator #4

Performance Indicator Reference Sheet		
Program Area: Climate Change Adaptation		
Program Element: Clean Productive Environment		
Intermediate Result 2: Food security and income generation potential are increased through innovative agricultural practices that adapt to climate change.		
Indicator #4: Percent of produce used for food security		
Type of Indicator: Output / Custom		
DESCRIPTION		
Precise Definition(s): Amount of produce from aquaponics consumed by beneficiaries rather than sold.		
Unit of Measure: Percent		
Disaggregated by: Target region, target stakeholders, gender		
Justification: This demonstrates how much of the harvest from an individual aquaponic unit is used for food security. Data will be disaggregated by the size and purpose of the aquaponics units (i.e. individual module vs. multi-module; school location vs. farmer/fisherfolk cooperative location; food security purpose vs. income generating purpose, etc.).		
PLAN FOR DATA ACQUISITION BY USAID		
Data Collection Method: In addition to recording the number of fish and plants harvested, participants will be trained to keep records on how much of each harvest is used for family/school consumption. Project staff will monitor data collection and consolidate into project data records.		
Method of Acquisition by USAID: Report from USAID grantee (INMED Partnerships for Children)		
Data Source(s): Project data records, original participant records		
Frequency/Timing of Data Acquisition: Data collected and reported to USAID on a quarterly basis.		
Estimated Cost of Data Acquisition:		
Responsible Individual(s) at USAID:		
DATA QUALITY ISSUES		
Date of Initial Data Quality Assessment: 2011		
Known Data Limitations and Significance (if any): Keeping records will be unfamiliar for many participants, and literacy levels vary.		
Actions Taken or Planned to Address Data Limitations: In addition to training in very simple recordkeeping, project staff will monitor recordkeeping closely and verify through frequent visits.		
Date of Future Data Quality Assessments:		
Procedures for Future Data Quality Assessments:		
PLAN FOR DATA ANALYSIS, REVIEW & REPORTING		
Data Analysis: Records from participants will be entered on the computer, collated and summarized.		
Presentation of Data: Tables		
Review of Data: None		
Reporting of Data: USAID grantee's quarterly and annual reports		
OTHER NOTES		
Notes on Baseline/Targets: Baseline = 0		
Location of Data Storage: USAID grantee's office computers and backed up on the cloud.		
Other Notes:		
PERFORMANCE INDICATOR VALUES		
YEAR	Target	Actual
2011	Baseline = 0	–
2012	70%	80%
2013-14	30% or less	35%
THIS SHEET LAST UPDATED ON 10/15/14		

Indicator #5

Performance Indicator Reference Sheet		
Program Area: Climate Change Adaptation		
Program Element: Clean Productive Environment		
Intermediate Result 2: Food security and income generation potential are increased through innovative agricultural practices that adapt to climate change.		
Indicator #5: Amount of income generated		
Type of Indicator: Output / Custom		
DESCRIPTION		
Precise Definition(s): Amount of revenue generated from sale of produce from aquaponics		
Unit of Measure: Total Jamaican dollars		
Disaggregated by: Target region, target stakeholders		
Justification: This demonstrates how much income can be generated from the aquaponics systems. Data will be disaggregated by the size and purpose of the aquaponics units (i.e. individual module vs. multi-module; school location vs. farmer/fisherfolk cooperative location; food security purpose vs. income generating purpose, etc.).		
PLAN FOR DATA ACQUISITION BY USAID		
Data Collection Method: In addition to recording the number of fish and plants harvested, participants will be trained to keep records on how much of each harvest is sold and for how much. Project staff will monitor data collection and consolidate into project data records.		
Method of Acquisition by USAID: Report from USAID grantee (INMED Partnerships for Children)		
Data Source(s): Project data records, original participant records		
Frequency/Timing of Data Acquisition: Data collected and reported to USAID on a quarterly basis.		
Estimated Cost of Data Acquisition:		
Responsible Individual(s) at USAID:		
DATA QUALITY ISSUES		
Date of Initial Data Quality Assessment: 2011		
Known Data Limitations and Significance (if any): Keeping financial records will be unfamiliar for many participants, and literacy levels vary. Participants may be reluctant to share financial information.		
Actions Taken or Planned to Address Data Limitations: In addition to training in very simple financial recordkeeping, project staff will monitor recordkeeping closely and verify through frequent visits. Total transparency will be emphasized as a prerequisite for participation.		
Date of Future Data Quality Assessments:		
Procedures for Future Data Quality Assessments:		
PLAN FOR DATA ANALYSIS, REVIEW & REPORTING		
Data Analysis: Records from participants will be entered on the computer, collated and summarized.		
Presentation of Data: Tables		
Review of Data: None		
Reporting of Data: USAID grantee's quarterly and annual reports		
OTHER NOTES		
Notes on Baseline/Targets: Baseline = 0		
Location of Data Storage: USAID grantee's office computers and backed up on the cloud.		
Other Notes:		
PERFORMANCE INDICATOR VALUES		
YEAR	Target	Actual
2011	Baseline = 0	–
2012	J\$144,600	J\$127,485
2013-14	J\$6,300,000	J\$422,757
THIS SHEET LAST UPDATED ON 10/15/14		

Indicator #6

Performance Indicator Reference Sheet		
Program Area: Climate Change Adaptation		
Program Element: Clean Productive Environment		
Intermediate Result 3: Capacity of stakeholders to plan for and respond to climate change is strengthened.		
Indicator #6: Number of people receiving training in global climate change as a result of USG assistance.		
Type of Indicator: Output / Standard Global Climate Change 4.8.2-6		
DESCRIPTION		
Precise Definition(s): People participating in trainings and public demonstrations of climate change-related issues, adaptive capacity activities and innovative agricultural practices.		
Unit of Measure: Number		
Disaggregated by: Target stakeholders, gender		
Justification: Trainings and demonstrations are designed to improve the adaptive capacity, and reduce the vulnerability, of the target population and environment to climate change and its impacts. The trainings encourage active participation of stakeholders and transfer skills and know-how to trainees.		
PLAN FOR DATA ACQUISITION BY USAID		
Data Collection Method: Initially, project staff will count and maintain records on the number of stakeholders attending trainings. Through the course of the project, local trainers/teachers will be trained to lead the sessions and keep attendance records.		
Method of Acquisition by USAID: Report from USAID grantee (INMED Partnerships for Children)		
Data Source(s): Attendance records at trainings		
Frequency/Timing of Data Acquisition: Data collected and reported to USAID on a quarterly basis.		
Estimated Cost of Data Acquisition:		
Responsible Individual(s) at USAID:		
DATA QUALITY ISSUES		
Date of Initial Data Quality Assessment: 2011		
Known Data Limitations and Significance (if any): Trainings and forums counted in this indicator may differ in methodology. Counting the number of trainees does not show how much they have learned or how committed they are to adapt adaptive practices.		
Actions Taken or Planned to Address Data Limitations: Interesting training forums highlighting local participants currently implementing their knowledge and engaging in adaptive practices in the project will help to bring the messages to life for attendees of the trainings/seminars. It is beyond the scope of this project to measure actual changes in knowledge levels in this larger population.		
Date of Future Data Quality Assessments:		
Procedures for Future Data Quality Assessments:		
PLAN FOR DATA ANALYSIS, REVIEW & REPORTING		
Data Analysis: Training sessions/seminars will be documented, including attendance records, presentations and feedback from participants.		
Presentation of Data: Reports		
Review of Data: None		
Reporting of Data: USAID grantee's quarterly and annual reports		
OTHER NOTES		
Notes on Baseline/Targets:		
Location of Data Storage: USAID contractor's office		
Other Notes:		
PERFORMANCE INDICATOR VALUES		
YEAR	Target	Actual
2011	350	345
2012	1,675 (cumulative)	5,771
2013-14	12,250 (cumulative)	12,399
THIS SHEET LAST UPDATED ON 10/15/14		

Indicator #7

Performance Indicator Reference Sheet		
Program Area: Climate Change Adaptation		
Program Element: Clean Productive Environment		
Intermediate Result 3: Capacity of stakeholders to plan for and respond to climate change is strengthened.		
Indicator #7: Number of people with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance		
Type of Indicator: Output / Standard Global Climate Change Indicator 4.8.2-7		
DESCRIPTION		
Precise Definition(s): Number of people (farmers, fisherfolk, youth) who increase their capacity to adapt to the impacts of climate variability and change		
Unit of Measure: Number		
Disaggregated by: Target stakeholders, gender		
Justification: This data gives an indication of how much participants learn and increase their ability to respond to climate vulnerability and change, in order to reduce adverse impacts.		
PLAN FOR DATA ACQUISITION BY USAID		
Data Collection Method: A simple survey will be conducted to determine the change in people's capacity to adapt to the impacts of climate change vulnerability. The survey will be conducted through interviews in informal settings among a representative sample of participants.		
Method of Acquisition by USAID: Report from USAID grantee (INMED Partnerships for Children)		
Data Source(s): Survey results, project records		
Frequency/Timing of Data Acquisition: Data collected and reported to USAID on a quarterly basis.		
Estimated Cost of Data Acquisition:		
Responsible Individual(s) at USAID:		
DATA QUALITY ISSUES		
Date of Initial Data Quality Assessment: 2011		
Known Data Limitations and Significance (if any): Measuring capacity is subjective. High capacity levels may not necessarily translate into successful adaptation and action.		
Actions Taken or Planned to Address Data Limitations: Repeated trainings and public awareness forums will improve people's understanding, and capacity to respond to climate change and adaptation.		
Date of Future Data Quality Assessments:		
Procedures for Future Data Quality Assessments:		
PLAN FOR DATA ANALYSIS, REVIEW & REPORTING		
Data Analysis: Personal interviews and surveys will be entered into the computer, collated and summarized.		
Presentation of Data: Table		
Review of Data: None		
Reporting of Data: USAID grantee's final report		
OTHER NOTES		
Notes on Baseline/Targets:		
Location of Data Storage: USAID grantee's office computers and backed up on the cloud		
Other Notes:		
PERFORMANCE INDICATOR VALUES		
YEAR	Target	Actual
2011	N/A	–
2012	1,000	2,456
2013	4,000 (cumulative)	6,134
THIS SHEET LAST UPDATED ON 10/15/14		

**Jamaican Adaptive Agriculture Program
2013-2014 Volunteer Contribution Tracking Form**

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Belmont Academy	Clinton Thompson	Bluefields	Teacher	Male	30	Oct 2013-Sep 2014	280	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Alreta Sonlin	Black River	Teacher	Female	Over 40	Oct 2013-Sep 2014	280	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Omar Lutin	Bluefields	Teacher	Male	31	Oct 2013-Sep 2014	280	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Ewan Anderson	Negril	Teacher	Male	41	Oct 2013-Sep 2014	280	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Richard Bushay		Teacher	Male		Oct 2013-Sep 2014	280	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
TOTAL HOURS							1,400	
Bluefields Bay Fishermen's Friendly Society	Cavin Lattibudere	Bluefields	Boat Captain	Male	43	Oct 2013-Sep 2014 for 3 hrs weekly for 52 weeks	156	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Desieta	Bluefields	Administration	Female	41	Oct 2013 Sep 2014 for 2 hrs wkly for 52weeks	104	Fish feeding, assist with transplants cleaning tank and reporting problems
TOTAL HOURS							260	
Triple Eye Cooperative	"Doc" Stephen McDonald	Bunkers Hill	Farmer and Coop Leader	Male	70	Oct 2013-Sep 2014	308	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting and catching water
	Ms Yvette Walker	Bunkers Hill	JusticeFarmer	Female	over 60	Oct 2013-Sep 2014	91	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Jean Robinson	Bunlers Hill	Farmer	Female	47	Oct 2013-Sep 2014	31	Assist with water and transplanting and feeding fish
	Karlene Anderson	Friendship	Businesswoman	Female	over 30	Oct 2013-Sep 2014	52	Assist with water and transplanting and feeding fish
TOTAL HOURS							482	
Bunker's Hill (Unity - formerly Reshma Jagon's Farm)	Karlene Anderson	Friendship	Business	Female	over 30	Oct 2013-Sep 2014	156	Erected tank and topped up tank
	Keith Phillips"Ninja"	Bunker's Hill	Farmer	Male	over 40	Oct 2013-Sep 2014 for 6 hrs weekly for 52 weeks	312	Fish feeding and water top up and assisted in set up of tank
TOTAL HOURS							468	
Cedric Titus High School	Kenroy Troupe	Clarks Town	Teacher	M	over 40	Oct 2013-June 2014 for 10 hrs weekly for 44 weeks	440	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
TOTAL HOURS							440	

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Dromilly	Rothney Scott	Dromilly	Farmer	M	over 60	Jan- May 2014 (6 hrs weekly for 20 weeks)	120	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Lloyd	Dromilly	Farmer	M	over 30	Jan- May 2014 (6 hrs weekly for 20 weeks)	120	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Natalee Leslie	Dromilly	House wife	F	over 25	Jan- May 2014 (6 hrs weekly for 20 weeks)	120	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Lola Ramsay	Dromilly	House wife	F	over 25	Jan- May 2014 (6 hrs weekly for 20 weeks)	120	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Andre Jack	Dromilly	Farmer	F	over 40	Aug-14	6	Planting and system repairs
	Richard Hanson	Dromilly	Farmer	M	over 50	Aug-14	6	Planting and system maintenance
	Donald Kindness	Dromilly	Farmer	M	over 55	Aug-Sep 2014	16	Sowing, Construction, Feeding Fish, Maintenance.
	Heuton Hanson	Dromilly	Farmer	M	over 50	Aug-14	6	Sowing, Transplanting,
	Hassel Moncrief	Dromilly	Farmer	F	over 60	Aug-14	6	System Maintenance
	Clint Foster	Dromilly	Farmer	M	over 55	Aug-14	6	Sowing, Transplanting, General Maintenance.
TOTAL HOURS							614	

Knockalva Agricultural School	Javid Barclay	Portland	Students	M	17	January – June 2014	60	Unit maintenance
	Ragife Brown	Portland	Students	M	17	January – June 2014	50	Transplant seedlings
	Shay-moy Brown	St. James	Students	F	16	January – June 2014	30	Reap fish
	Theresa Brown	Westmoreland	Students	F	17	January – June 2014	6	Transplant seedlings
	Tiny Brown	St James	Students	F	18	January – June 2014	10	Transplant seedlings
	Greg Boothe	Westmoreland	Students	M	18	January – June 2014	25	Unit maintenance
	Cleon Campbell	Trelawny	Students	M	18	January – June 2014	20	Unit maintenance
	Montel Dean	St Mary	Students	M	18	January – June 2014	60	Unit maintenance
	Mario Jackson	Kingston	Students	M	18	January – June 2014	60	Transplant seedlings
	Shanice Smalling	Portland	Students	F	17	January – June 2014	15	Transplant seedlings
	Diedra Brown	Hanover	Students	F	19	January – June 2014	35	Reap fish
	Nicello Thomas	St James	Students	M	17	January – June 2014	40	Unit maintenance
	Russell Brown	Westmoreland	Students	M	19	January – June 2014	45	Transplant seedlings
	Simone Watson	St Elizabeth	Students	F	18	January – June 2014	50	Reap fish
	Jehvanie Parkinson	Westmoreland	Students	M	19	January – June 2014	60	Transplant seedlings
	Henry Folks	Clarendon	Students	M	18	January – June 2014	15	Unit maintenance
TOTAL HOURS							581	

	Alando Kelly	Hadden	Unemployed	Male	20	February 6-12,2014	25	Wash Gravel, help with plumbing
	Kimani Fudail	Hadden	Martial art Instructor/promoter	Male	20	February 7-12,2014	40	Build a table to wash the gravel Also help in Washing of the gravel, help with plumbing
	Nicordo Prince	Hadden	Student	Male	14	February 7-12,2014	18	Wash Gravel help with plumbing
	Joshua Marshall	Hadden	Student	Male	14	February 7-12,2014	11	Wash Gravel
	Victor Sinclair	Hadden	Farmer	Male	50	February 5-13,2014	31	Wash fish Tank and gravel, help with plumbing Wash gravel , help with plumbing,

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Youth in Action	Steve	Hadden	Farmer	Male	36	February 11,14,2014	30.5	Place covering over fish tank and place mesh around the upper side
	Leopole Russell	Bamboo	SDC Officer	Male	34	February 10-14,2014	1.5	Wash Gravel
	Rupert Brown	Hadden	Farmer/Gas Pump Attendant	Male	52	February	8	Wash gravel , help with plumbing
	Thomas Benjamin	Hadden	Farmer	Male	51	February 5 2014	2	Transport water to the site to wash gravel
	Baulin Bullock	Moneague	Welder	Male	60	February 28 2014	5	Build cage to secure Battery from Theft
	Kelleto	Walkers wood	Contractor	Male	45	February 4-7,2014	21	Rendering , and plumbing
	Cory	Walkers Wood	Peace Corp Volunteer	Male	28	February 4,10,11,2014	20.5	Wash gravel, Dig Drain
	Gary	Hadden	Student	Male	13	February 8,2014	3	Wash Gravel
	Andrew Anderson	Hadden	Unemployed	Male	35	February 4,2014	8	Dig Drain
	Taibika Fudial	Hadden	Business man	Male	64	February 13,2014	6	Wash Gravel
	Monique Henry	Hadden	Part-time Student	Female	23	February -14,2014	60	Clear debris from bed, wash gravel, help with plumbing
	Tendai Fudial	Hadden	Famer	Female	56	February 2-14,2014	65	help with plumbing, Wash Gravel, Dig Drain, Clear debris from bed
	Ebonique Henry	Hadden	Student	Female	18	February 9,2014	3	Wash Gravel
	Avril Sinclair	Hadden	Farmer	Female	42	Feb-05	15.5	Cooked, Wash Gravel
	Felicia Campbell	Hadden	Student	Female	21	February 10,2014	7	Clear debris and Wash gravel
	Sherina Campbell	Hadden	Unemployed	Female	24	February 10,2014	7	Clear debris and Wash gravel
	Marshanna Moore	Walkers wood	Peace Corp Volunteer	Female	57	February 8,11,13,2014	17.5	Clear debris and Wash gravel
	Monique	Hadden	Student	Female	20	February 8,2014	4	Wash Gravel
	Andrew Anderson	Hadden	Unemployed	Male	35	March6,12,2014	20	Dig holes for the post,
	Victor Sinclair	Hadden	Farmer	Male	50	March5-13,2014	3	Fill Tank with water when necessary, Sow seeds
	Steve	Hadden	Farmer	Male	36	March 6-9,11,12,16,19,27-29,2014	40	Dig holes and put up the posts, Create a step for each tank, Set up the cage for the battery, Any other handy work.
	Tendai Fudial	Hadden		Female	56	March 1-30,2014	25	Beautification, feeding fishes, cleaning, planting
	Andrew Anderson	Hadden	Unemployed	Male	35	April1,3 2014	10	Dig holes for the post and help to put the post in the ground
Victor Sinclair	Hadden	Farmer	Male	50	April 20,2014	3	Fill tank with water when necessary Sow seeds and remove dry plant leafs from the bed	
Steve	Hadden	Farmer	Male	36	April 2,3 2014	15	Dig the holes and place the posts in the ground.	
Tendai Fudial	Hadden	Farmer/ President Herbal Renaissance	Female	56	April 3,18, 19,2014	17	Dig holes for the post, De-bushing and sow seeds in the bed	

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
	Bangy	Walkerswood	Farmer	Male	38	3-May-14	7	Help erect the mesh for the shade over the system and de-bushing
	Bryan	Walkerswood	Student	Male	12	May 3,2014	4	Help putting up the mesh for shade house
	Steve	Hadden	Farmer	Male	36	May 3,2014	20	Run the cable through the posts, and putting up the mesh for shade Construction of the nursery
	Victor Sinclair	Hadden	Farmer	Male	51	May 3,2014	5	Help in the erection of the shade house, Clean drain pipes
	Thomas Benjamin	Hadden	Farmer	Male	52	May 3,2014	1 1/2	Help in the erection of the shade house
	Steve's brother	Walkerswood	Unemployed	Male	33	May 3,2014	6	Help in the erection of the nursery and the shade house
	Avril Sinclair	Hadden	Unemployed	Female	42	May 19,2014	2 1/2	Sow seeds in the bed and remove dry leaves.
	Tendai Fudial	Hadden	Farmer/ President Herbal Renaissance	Female	56	May 3,5,9,27, 2014	20	Help in the erection of the shade house and nursery
	Mario	Montego Bay	Student	Male	19	July 4, 12, 2014	7	Washing gravel for beds that's were short and help in reaping of crops
	Hushane Campbell	Walkerswood	Waiter	Male	22	4-Jul-14	1	Reaping of crops
	Keisha Lue	New York, USA	Secretary	Female	42	18-Jul-14	3	Help planting seeds and clean spray nozzles
	Tendai Fudial	Walkerswood	Farmer/ President Herbal Renaissance	Female	56	June 19,2014	2	Plant Seeds and cleaning of nozzles
TOTAL HOURS							621.5	

Mafoota Community	Winston Dehaney	Mafoota	Mason	Male	43	Feb-July 2014	160	Skilled Work on unit
	Janoy Barrett	Mafoota	Labourer	Male	18	Feb-July 2015	16	Unit Construction Labour
	Olando Moodie	Mount Horeb	Labourer	Male	21	Feb-July 2016	64	Unskilled labour on Mafoota Unit
	Rajay Moodie	Mount Horeb	Labourer	Male	18	Feb-July 2017	36	Unskilled labour on Mafoota Unit
	Obrien Moodie	Mount Horeb	Labourer	Male	24	Feb-July 2018	108	Unskilled labour on Mafoota Unit
	Siana Moodie	Mount Horeb	ITC instructor	Female	26	Feb-July 2019	24	Unskilled labour on Mafoota Unit
	Hartley Johnson	Mafoota	Labourer	Male	41	Feb-July 2020	49	Unskilled labour on Mafoota Unit
	Michael Srewart	Mafoota	Labourer	Male	26	Feb-July 2021	85	Unskilled labour on Mafoota Unit
	Ryan Cameron	Mafoota	Labourer	Male	24	Feb-July 2022	56	Unskilled labour on Mafoota Unit
Chad Bailey	Mafoota	Labourer	Male	23	Feb-July 2023	12	Unskilled labour on Mafoota Unit	
TOTAL HOURS							610	

Jacob's Ladder	Courtney Perkins	Hadden	Retired Farmer/ JPS	Male	69	01 Jan - Sep	600	Supervision of Activities
	Wilcox (Brown man)	Kgn	Mason/Carpenter	Male	60	Jan - Mar	384	General construction
	Rasta	Kgn	Mason/Carpenter	Male	60	Jan - Mar	384	General construction
	Richard Henry	Hadden	Supervisor Maintenace	Male	24	Feb-Apr	192	Mason work and construction
	Nicholas Harrison	Hadden	Driver/ tractor	Male	24	Feb-Apr	192	Mason work and construction
	George Thomas	Hadden	maintenance	Male	45	Feb-Apr	192	Mason work and construction
	Jamala McHaye	Hadden	maintenance	Male	21	Feb-Apr	192	Mason work and construction
	Elton Foreman	Hadden	groundsman	Male	21	Feb-Apr	192	Mason work and construction
	Dwayne green	Hadden	Farmer	Male	35	Feb-Apr	96	Mixed Cement
	Rohan Gilmore	Hadden	Farmer	Male	22	Feb-Apr	96	Mixed Cement
	Elijah Burke	Hadden	Farmer	Male	60	Feb-Apr	96	Mixed Cement

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
	L. Smith	Hadden	Farmer	Male	30	Feb-Apr	96	Mixed Cement
	Avion McHaye	Hadden	Farmer	Male	22	Feb-Apr	96	Mixed Cement
TOTAL HOURS							2,808	

Westmoreland Organic Farmer's Society	Kirk Clarke	Cave	Farmer	M	44	March -Sep 2014	759	General management
	Patricia Parchment	Cave	Farmer	F	55	March - Sep 2014	108.5	Keeping records, marketing and sales
	Llewellyn Rodney	Aldey	Farmer	F	40-45	March -Sep 2014	36	Generals duties, plant seedlings and transplant crops
	Brian Wedderburn	Belmont	Farmer	M	45-50	March -Sep 2014	180.5	General duties
	Joseph Wray	Cave	Farmer	M	40-47	March -Sep 2014	97	General duites incl feeding fish
	Melvin Buchanan	Cave	Farmer	M	30-35	March -Sep 2014	21	spraying crops
	Sonia Maxum	Cave	Farmer	F	50-55	March -Sep 2014	31	Reaping and preparing for market
	Opton Lawrence	Cave	Farmer	M	35-40	March -Sep 2014	8	Work on growbed
	P Wedderburn	Belmont	Farmer	F	40-55	April-Sep 2014	9.5	Prepared lunch for workers
	St Clare Brown	Belmont	Farmer	M	35-40	April-Sep 2014	4	Work on growbed
	A Stephenson	Cave	Farmer	F	40-45	June-Sep 2014	13.5	General Duties
	S Stephens	Cave	Farmer	F	50-55	Aug-Sep 2014	3.5	Weeding
TOTAL HOURS							1,271.5	

GRAND TOTAL VOLUNTEER HOURS CONTRIBUTED 9,556

**Jamaican Adaptive Agriculture Program
2012-2013 Volunteer Contribution Report**

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Belmont Academy	Clinton Thompson	Bluefields	Teacher	Male	29	Oct 2012- Sep 2013	400	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Alreta Sonlin	Black River	Teacher	Female	Over 40	Oct 2012- Sep 2013	22	Clean tank
	Omar Lutin	Bluefields	Teacher	Male	30	Oct 2012- Sep 2013	200	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Ewan Anderson	Negril	Teacher	Male	40	Oct 2012- Sep 2013	6	Construct model unit
TOTAL HOURS							628	
Bluefields Bay Fishermen's Friendly Society	Cavin Lattibudere	Bluefields	Boat Captain	Male	42	Oct 2012-Sep 2013 for 10 hrs weekly for 52 weeks	520	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Livingston "Blue"	Bluefields	Fisherman	Male	45	Oct 2012-Sep 2013 for 2 hrs 15 mins wkly for 52weeks	117	Fish feeding, cleaning tank and reporting problems
	Desieta	Bluefields	Administration	Female	40	Oct 2012 Sep 2013 for 2 hrs wkly for 52weeks	104	Fish feeding, assist with transplants cleaning tank and reporting problems
	Owen Turner	Bluefields	Warden/ fisherman	Male	over 40	Oct 2012-Sep 2013 for 2 hrs 15 mins wkly for 52weeks	117	Fish feeding, assist with transplants cleaning tank and reporting problems
	Jannoy Wilson	Bluefields	Warden/ fisherman	Male	About 25	Oct 2012-Sep 2013 for 1 hrs 15 mins wkly for 52weeks	65	Fish feeding, assist with transplants cleaning tank and reporting problems
	Venice Bryan	Bluefields	Warden	Female	over 40	Oct 2011-Sep 2012 for 2 hrs 15 mins wkly for 52weeks	117	Fish feeding, assist with transplants cleaning tank and reporting problems
TOTAL HOURS							1,040	
Triple Eye Cooperative	"Doc" Stephen McDonald	Bunkers Hill	Farmer and Coop Leader	Male	68	Oct 2012-Sep 2013	308	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting and catching water.
	Maree	Bunkers Hill	Farmer	Female	25	Oct 2012-Sep 2013	29	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting and catching water.
	Ms Yvette Walker	Bunkers Hill	JusticeFarmer	Female	over 60	Oct 2012-Sep 2013	91	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Jean Robinson	Bunlers Hill	Farmer	Female	47	Oct 2012-Sep 2013	31	Assist with water and transplanting and feeding fish
	Jamaree	Friendship	Mason	Male	mid 20's	Oct 2012-Sep 2013	2	Assist with water and construction repair work
Triple Eye Cooperative	Opal Anderson	Friendship	Businesswoma n	Female	over 50	Oct 2012-Sep 2013	28	Assist with water and transplanting and feeding fish
	Roland Anderson	Friendship	Farmer	Male	over 60	Oct 2012-Sep 2013	27	Transport water to fill unit
TOTAL HOURS							516	

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Bunker's Hill (Unity (formerly Reshma Jagon's Farm))	Roland Anderson	Friendship	Farmer	Male	over 60	Jul-13	1	Erected tank and topped up tank
	Keith Phillips"Ninja"	Bunkers Hill	Farmer	Male	over 40	Oct 2012-Sep 2013 for 6 hrs weekly for 52 weeks	312	Fish feeding and water top up and assisted in set up of tank
TOTAL HOURS							313	
Cedric Titus High School	Kenroy Troupe	Clarks Town	Teacher	M	over 40	Oct 2012-June 2013 for 10 hrs weekly for 44 weeks	440	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Lisa Peters	Falmouth	Teacher	F	over 30	Jan 2013- Jun 2013 for 6 hrs weekly for 26 weeks	156	General Maintainance of the Unit ie:Fish feeding, sowing seed, transplanting, crop spraying, harvesting.
	Nordia Simms	Stewart Town	Security guard	F	over 40	Oct 2012-Sep 2013 for 1 hr/ weekend for 52 weeks	52	Feed fish and report on emergencies
	Security Guard 1		Security guard	M		Oct 2012-Sep 2013 for 1 hr/ weekend for 52 weeks	52	Feed fish and report on emergencies
	Security Guard 2		Security guard	M		Oct 2012-Sep 2013 for 1 hr/ weekend for 52 weeks	52	Feed fish and report on emergencies
	Eli Watson	Spicy Hill	Gardener	M	over 40	Oct 2012- Sep 2013 for 1 hr/ fortnight for 26 weeks	13	Feed fish and grass removal around area
	Wayne Fieldings	Clarks Town	Gardener	M	40 plus	Oct 2012- Sep 2013 for 1 hr/ fortnight for 26 weeks	13	Feed fish and grass removal around area
TOTAL HOURS							778	
Dromilly	Hines	Dromilly	Farmer	M		November	2	Sowing
	Anderson	Dromilly	Farmer	F		November	2	Sowing
	Simpson	Dromilly	Farmer	M		November	2	Planting
	Donald Kindness	Dromilly	Farmer	M		July 2013 – September 2013	108	Sowing, Construction, Feeding Fish, Maintenance.
	Heroy Hanson	Dromilly	Farmer	M		November2012-september2013	88	Planting , Sowing
	Heuton Hanson	Dromilly	Farmer	M		November2012-september2013	52	Sowing, Transplanting,
	Florence Bruce	Dromilly	Farmer	F		July 2013 –September2013	48	Sowing , Watering
	Desmond Chambers	Dromilly	Farmer	M		November2012-september2013	180	Building , Sowing, Maintenance , Feeding Fish
	Hassel Moncrief	Dromilly	Farmer	F		November 2012-September 2013	102	Sowing
Dromilly	Oral Barnett	Dromilly	Farmer	M		November 2012 – July 213	378	Sowing, Transplanting, General Maintenance.
	Clint Foster	Dromilly	Farmer	M		November 2012 – July 213	378	Sowing, Transplanting, General Maintenance.
TOTAL HOURS							1,340	
	Trevor Henry	Cave	Farmer	M	40-45	April-June at 13 hrs monthly	39	Land clearing for construction, digging and general construction labour
	St Claire Brown	Beeson Springs	Farmer	M	40-46	Apr -Sep 2013 18 hrs weekly	468	Keeping records, land clearing and digging
	Joseph Wray	Bluefields	Farmer	M	40-47	Apr -Sep 2013 18 hrs weekly	468	Land clearing for construction, digging and general construction labour
	Esther Ramsey	Cave	Farmer	F	55-60	Apr-Sep 2013 5 hrs weekly	130	Cooking, digging and dirt clearing
	Sonia Maxum	Sav-lamar	Farmer	F	50-55	Apr -Sep 2013 18 hrs weekly	468	Cooking, digging and dirt clearing
	Opton Lawrence	Mount Airy	Farmer	M	35-40	Apr -Sep 2013 18 hrs weekly	468	Land clearing for construction, digging and general construction labour
	Brian Wedderburn	Belmont	Farmer	M	45-50	Apr -Sep 2013 18 hrs weekly	468	Land clearing for construction, digging and general construction labour
	Kevin Fath	Belmont	Peace Corps	M	35-40	Apr -Sep 2013 18 hrs weekly	468	Land clearing for construction, digging and general construction labour
	Llewellyn Rodney	Aldey	Farmer	F	40-45	Apr-May (5 hrs weekly)	30	Cooking, digging and dirt clearing
	Kirk Clarke	Cave	Farmer	M	40-45	Apr -Sep 2013 18 hrs weekly	468	Land clearing for construction, digging and general construction labour

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Westmoreland Organic Farmers Society	Barbara Stewart	Robins River	Farmer	F	30-35	Apr -Sep 2013 18 hrs weekly	468	Cooking, digging and dirt clearing
	Kenvil Dawes	Belmont	Farmer	M	50-55	Apr, May , July 2013	35	Land clearing for construction, digging and general construction labour
	Janet Richards	Belmont	Farmer	F	45-50	Apr-13	15	Cooking, digging and dirt clearing
	Petrona Gooden	Cave	Farmer	F	50-55	Apr-Sep 2013, 5 hrs weekly	130	Cooking, digging and dirt clearing
	Asra Brown	Cave	Farmer	F	65-70	Apr, May , July 2013	40	Cooking, digging and dirt clearing
	George Coke	Cave	Farmer	M	60-65	Apr -Sep 2013, 7 hrs weekly	182	Land clearing for construction, digging and general construction labour
	Anita Stephenson	Belmont	Farmer	F	40-45	Apr -Sep 2013 18 hrs weekly	468	Cooking, digging and dirt clearing
	Patricia Parchment	Bluefields	Farmer	F	50-55	Apr -Sep 2013 18 hrs weekly	468	Cooking, digging and dirt clearing
	Owen Parchment (Bobo)	Cave	Farmer	M	55-60	Apr -Sep 2013 18 hrs weekly	468	Land clearing for construction, digging and general construction labour
	Oniel Beckford	Cave	Farmer	M	30-35	Sep-13	28	Land clearing for construction, digging and general construction labour
	Zera James	Cave	Farmer	F	60-65	Apr-Sep 2013 5 hrs weekly	130	Land clearing for construction, digging and general construction labour
	Barbara Watson	Belmont	Farmer	F	50-55	Jun-13	12	Cooking, digging and dirt clearing
	Barbara Blithe	Belmont	Farmer	F	50-50	Jun-13	12	Land clearing for construction, digging and general construction labour
	Sharon Stephens	Cave	Farmer	F	50-55	Apr-Sep 2013, 5 hrs weekly	130	Cooking, digging and dirt clearing
Melvin Buchanan	Belmont	Farmer	M	30-35	Jun-Sep 2013, 7 hs fortnightly	50	Land clearing for construction, digging and general construction labour	
Lynette Russell	Cave	Farmer	F	50-55	Apr-Sep 2013 5 hrs weekly	130	Land clearing for construction, digging and general construction labour	
TOTAL HOURS							6,241	

Knockalva Agricultural School	Britney BRISCOE	St THOMAS	Student	F	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Diedra BROWN	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Micashime PORTER	Westmoreland	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Carla WALDRON	St CATHERINE	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Jemol AMBERERSLEY	Hanover	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Daniel DAVIS	St ANN	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Henry FOLKS	St ANN	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 120 days	280	General operational Duties
	Kensel MCFARLANE	Hanover	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Rushed KERR	Westmoreland	Student	M	17	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
	Jhevaughn SIMMS	St ANN	Student	M	16	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 120 days	280	General operational Duties
	Micheal STEVENS	Westmoreland	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Kevion WILLIAMS	Westmoreland	Student	M	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
Knockalva Agricultural School	Kevon ROWE	St ELIZABETH	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Pearlene ATLAN	Westmoreland	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Camille KELLY	Hanover	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Indera MCINTYRE	St James	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Kerrisha PINNOCK	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Christina HINES	St JAMES	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Deniesha WILLIAMS	Hanover	Student	F	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Randene WOOD	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Rennado ALLEN	Westmoreland	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Shantauna ANDERSON	St JAMES	Student	F	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Neil BRISSETT	Hanover	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Nashorna CAMPBELL	Westmoreland	Student	F	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Knockalva Agricultural School	Latoya DARLINGTON	Kingston	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Roshane HALL	Westmoreland	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Nashema HAMILTON	Hanover	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 120 days	280	General operational Duties
	Vashtee JAMES	St JAMES	Student	F	17	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Shantel KING	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Shauna-KAYE PLUMMER	Portland	Student	F	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Olivia RICHARDS	Clarendon	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Kelia-KAY SMITH	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Nashemma THOMAS	Westmoreland	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Romaine THOMPSON	Hanover	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Ejoven WAITE	St JAMES	Student	M	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Aldrane DALEY	St JAMES	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Evern EVANS	St ELIZEBETH	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 120 days	280	General operational Duties
	Crystal FRUE	Westmoreland	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 120 days	280	General operational Duties
Lameka GIBBS	Westmoreland	Student	M	17	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties	

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Knockalva Agricultural School	Hank HERRON	Westmoreland	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Sharine HYMAN	St ELIZABETH	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Jahdine MITCHELL	Westmoreland	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Ashtone PORTEOUS	Clarendon	Student	M	16	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Condell SMART	St JAMES	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 120 days	280	General operational Duties
	Christina THOMPSON	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Layton WILLIAMS	Trewaleny	Student	F	15	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Ornella WILLIAMS	St ELIZABETH	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Nicholas BROWN	St ELIZABETH	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Adrian DENNIE	Kingston	Student	M	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Lashawna BENNETT	St THOMAS	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Rushell CAMPBELL	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Nickola RUMBLE	St THOMAS	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
Knockalva	Kadene MORRIS	Trewaleny	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Davian EDWARDS	Portland	Student	M	15	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Agricultural School	Kavar FERGUSON	St JAMES	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Kevin MARTIN	St ELIZABETH	Student	M	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 120 days	280	General operational Duties
	Shane BURTON	Hanover	Student	M	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Shanique JOSEPH	St ELIZABETH	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Shanice RUSSELL	St JAMES	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Lamone WALTERS	St THOMAS	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Sheguel FORSYTHE	St THOMAS	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Andrew WILLIAMS	Portland	Student	M	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Aldwayne MORRIS	Hanover	Student	M	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Julian JONES	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Kerisha SIMPSON	St ELIZABETH	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
Knockalva Agricultural School	Ricardo FRAME	Westmoreland	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Jerome HINDS	St ANN	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Trevor SCARLETT	St JAMES	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Alston LOPEZ	St CATHERINE	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Knockalva Agricultural School	Berrington PERRY	St ELIZABETH	Student	M	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Shantena FRANCIS	St JAMES	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Audranna WILLIAMS	St ELIZABETH	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Amoy BERNARD	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Xavior CARTY	St ELIZABETH	Student	M	21	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Creig BRYAN	Trewaleny	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Trica SAMULES	Hanover	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Kimarni SEARCHWELL	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Sylbert NELSON	Clarendon	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Kamarley ALLEN	St ELIZABETH	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Shemar ROBERTSON	Hanover	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Alliston JENNINGS	St JAMES	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Kimberly CAMPBELL	St JAMES	Student	F	17	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Khadine FLETCHER	Hanover	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
Jervis ANGLIN	Hanover	Student	M	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties	

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Knockalva Agricultural School	Obrian RAMSAY	Clarendon	Student	M	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Tevin PATTERSON	Hanover	Student	M	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Daviann MILLER	Hanover	Student	F	20	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 120 days	280	General operational Duties
	Celia FREW	St ELIZABETH	Student	F	19	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
	Pillip WILLIAMS	St CATHERINE	Student	M	18	Academic Yr Oct 2012-Sep 2013 2.5 hrs daily for 30 days	70	General operational Duties
TOTAL HOURS							7,910	

Dinthill Technical High School	Robert Henry	Linstead	Teacher	Male	50	April 2013 to September 2013 15 hours weekly for 24 weeks	360	Supervision and actual construction activities
	Daneil Sterling	Linstead	Teacher	Male	50	April 2013 to August 2013 7 hours weekly for 20 weeks	140	Construction activities
	Charmaine Wright	Linstead	Teacher	Female	43	June 2013 - Sept 2013 4 hours weekly for 12 weeks	48	Supervision and actual construction activities
	Odayne Taylor	Spanish Town	Students	Male	18	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Kevaughn Clarke	Spanish Town	Students	Male	18	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Fabian Morrison	Spanish Town	Students	Male	18	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	James Hamilton	Linstead	Students	Male	18	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Mark Longmore	Spanish Town	Male	Female	18	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Javanie Edwards	Spanish Town	Students	Male	18	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Jabari Dunn	Spanish Town	Students	Male	18	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Shadane Harrison	Spanish Town	Students	Male	17	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Geoffrey Forrest	Spanish Town	Student	Male	18	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Davian clarke	Spanish Town	Student	Male	17	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Dishaun Terrelonge	Spanish Town	Student	Male	18	August 2013 3 hours weekly for 4 weeks	12	Construction activities
Kemo Wright	Linstead	Student	Male	18	August 2013 3 hours weekly for 4 weeks	12	Construction activities	

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Dinthill Technical High School	Oshane Brown	Linstead	Student	Male	17	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Rajhni Brown	Linstead	Student	Male	17	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Chadwick Cole	Time & Patience	Student	Male	17	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Wayne Wright	Linstead	Student	Male	17	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Aljermaine Henry	Linstead	Student		17	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Akeeno Walden	Linstead	Student		17	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Akeem Hanson	Linstead	Student	Male	17	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Sharno Mundle	Linstead	Student	Female	17	August 2013 3 hours weekly for 4 weeks	12	Construction activities
	Giovanni Mc Donald	Linstead	Students	Male	17	September 2013 1 hour weekly for 2 weeks	2	Construction activities
	Nicholas Pusey	Linstead	Students	Male	15	September 2013 1 hour weekly for 2 weeks	2	Construction activities
	Trevor Brown	Linstead	Students	Male	16	September 2013 1 hour weekly for 2 weeks	2	Construction activities
	Micheal Campbell	Linstead	Students	Male	17	September 2013 1 hour weekly for 2 weeks	2	Construction activities
TOTAL HOURS							796	

GRAND TOTAL VOLUNTEER HOURS CONTRIBUTED 19,562

**Jamaican Adaptive Agriculture Program
2011-2012 Volunteer Contribution Report**

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Belmont Academy	Clinton Thompson	Bluefields	Teacher	Male	28	Dec 2011-July and Sep 2012 for 10 hrs weekly for 40 weeks	400	General Maintenance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Jerome Brooks	Bluefields	Teacher	Male	30	July and August	4	Clean tank
	Omar Lutin	Bluefields	Teacher	Male	29	Dec 2011-July and Sep 2012 for 5 hrs weekly for 40 weeks	200	General Maintenance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Ewan Anderson	Negril	Teacher	Male	39	Apr/ Jul	6	Construct model unit
Bluefields Bay Fishermen's Friendly Society	Cavin Lattitudere	Bluefields	Boat Captain	Male	41	Oct 2011-Sep 2012 for 10 hrs weekly for 52 weeks	520	General Maintenance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Livingston "Blue"	Bluefields	Fisherman	Male	44	Oct 2011-Sep 2012 for 2 hrs 15 mins wkly for 52 weeks	117	Fish feeding, cleaning tank and reporting problems
	Desieta	Bluefields	Administration	Female	40	Oct 2011-Sep 2012 for 2 hrs wkly for 52 weeks	104	Fish feeding, assist with transplants cleaning tank and reporting problems
	Owen Turner	Bluefields	Warden/ fisherman	Male	over 40	Oct 2011-Sep 2012 for 2 hrs 15 mins wkly for 52 weeks	117	Fish feeding, assist with transplants cleaning tank and reporting problems
	Howard Stevenson	Bluefields	Warden/ fisherman	Male	over 40	Oct 2011-Sep 2012 for 2 hrs 15 mins wkly for 52 weeks	117	Fish feeding, assist with transplants cleaning tank and reporting problems
	Venice Bryan	Bluefields	Warden	Female	over 40	Oct 2011-Sep 2012 for 2 hrs 15 mins wkly for 52 weeks	117	Fish feeding, assist with transplants cleaning tank and reporting problems
Triple Eye Cooperative	"Doc" Stephen McDonald	Bunkers Hill	Farmer and Coop Leader	Male	67	Jan 2012-Sep 2012 for 10 hrs weekly for 38 weeks	380	General Maintenance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting and catching water.
	Maree	Bunkers Hill	Farmer	Male	51	Jan 2012-Sep 2012 for 5 hrs weekly for 36 weeks	180	General Maintenance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting and catching water.
	Ms Yvette Robinson	Bunkers Hill	JusticeFarmer	Female	over 60	Jan 2012-Sep 2012 for 5 hrs weekly for 38 weeks	190	General Maintenance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Jean Robinson	Bunlers Hill	Farmer	Female	46	Jan 2012-Sep 2012 for 2 hrs fortnightly for 20 fortnights	40	Assist with water and transplanting and feeding fish
	Jamaree	Friendship	Mason	Male	mid 20's	Dec-11	3	Assist with water and construction repair work
	Karlene Anderson	Friendship	Farmer/ Business woman	Female	30	July-Sep 2011 (2 hrs weekly for 12 weeks)	24	Assist with water and transplanting and feeding fish
	Opal Anderson	Friendship	Businesswoma n	Female	over 50	Jan 2011-Sep 2012 for 2hrs weekly for 14 weeks	28	Assist with water and transplanting and feeding fish
	Roland Anderson	Friendship	Farmer	Male	over 60	3hrs Monthly (9 months)	27	Transport water to fill unit

**Jamaican Adaptive Agriculture Program
2011-2012 Volunteer Contribution Report**

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Unity (formerly Reshma Jagon's Farm)	Marcus Stewart	Bunkers Hill	Farmer	Male	25	Oct 2011-Dec 2011 for 10 hrs weekly for 10 weeks	100	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	"Ninja"	Bunkers Hill	Farmer	Male		Jan 2012-Sep 2012 for	210	Fish feeding and water top up
Cedric Titus High School	Kenroy Troupe	Clarks Town	Teacher	M	over 40	Oct 2011-Sep 2012 for 10 hrs weekly for 52 weeks	520	General Maintainance of the Unit ie: Fish feeding, sowing seed, pipe cleaning, transplanting, crop spraying, harvesting.
	Lisa Peters	Falmouth	Teacher	F	over 30	Oct 2011- Sep 2012 for 6 hrs weekly for 26 weeks	156	General Maintainance of the Unit ie:Fish feeding, sowing seed, transplanting, crop spraying, harvesting.
	Nordia Simms	Stewart Town	Security guard	F	over 40	Oct 2011-Sep 2012 for 1 hr/ weekend for 52 weeks	52	Feed fish and report on emergencies
	"Sickie 1"		Security guard	M		Oct 2011-Sep 2012 for 1 hr/ weekend for 52 weeks	52	Feed fish and report on emergencies
	"Sickie 2"		Security guard	M		Oct 2011-Sep 2012 for 1 hr/ weekend for 52 weeks	52	Feed fish and report on emergencies
	Eli Watson	Spicy Hill	Gardener	M	over 40	Oct 2011- Sep 2012 for 1 hr/ fortnight for 26 weeks	26	Feed fish and grass removal around area
	Robert Williams	Barnstaple	Teacher	M	over 40	23-Jan-12	6	Supervised construction of frame for shade cloth over unit
	30 Students	Trelawny communities	Students	25M:5F	15-17	Approx 2 hrs/student on 23 January 2012	60	Dug Post holes, Nailed frame together for unit shade structure
	Robert Williams	Spicy Hill	Teacher	M	over 40	14 September, 2012	4	Supervised construction of frame Structural Support for Unit enclosure with mesh wire
	20 Students	Trelawny communities	Students	20 Males	15-17	Approx 1 hr/student on 14 September 2012	20	Cut lumber and nailed board together, cut and nailed mesh etc.
Knockalva Agricultural School	Sheldon Poyser	Hanover	Teacher	M	24	01June- 30 September 2012. App 20 hrs weely for 18 weeks	360	General Maintainance of the Unit ie:Fish feeding, sowing seed, transplanting, crop spraying, harvesting.
	Alston Lopez	Knockalva Agricultural School	Student	M	17	May 16-17, 2012	22	Site preparation, wash gravel
	Condell Smart	Knockalva	Student	M	17	May 16-17, 2012	22	Site preparation, wash gravel
	Keresha Simpson	Knockalva	Student	F	15	May 16-17, 2012	22	Site preparation, wash gravel
	Suzanna Samules	Knockalva	Student	F	17	May 16-17, 2012	22	Site preparation, wash gravel
	Crystal Frue	Knockalva	Student	F	20	May 16-17, 2012	22	Site preparation, wash gravel
	Latoya Darlinton	Knockalva	Student	F	18	May 16-17, 2012	22	Site preparation, wash gravel
	Oshin Williams	Knockalva	Student	F	19	May 16-17, 2012	22	Site preparation, wash gravel
	Andre Reid	Knockalva	Student	M	18	May 16-17, 2012	22	Site preparation, wash gravel
	Trica Samules	Knockalva	Student	M	20	May 16-17, 2012	22	Site preparation, wash gravel

**Jamaican Adaptive Agriculture Program
2011-2012 Volunteer Contribution Report**

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
	Shamar Robertson	Knockalva	Student	M	16	May 16-17, 2012	22	Site preparation, wash gravel
	Julian Jones	Knockalva	Student	F	17	May 16-17, 2012	22	Site preparation, wash gravel
	Jean-tee James	Knockalva	Student	M	19	May 16-17, 2012	22	Site preparation, wash gravel
	Romario Brown	Knockalva	Student	M	17	May 16-17, 2012	22	Site preparation, wash gravel
	Sylbert Nelson	Knockalva	Student	M	18	May 16-17, 2012	22	Site preparation, wash gravel
	Shantena Francis	Knockalva	Student	F	17	May 16-17, 2012	22	Site preparation, wash gravel
Dromilly	Charlette Moncriste	Dromilly	Farmer	F	Over 50	Jun 4-15, 2012	24	Site preparation - Digging holes, footings, moving dirt
	Clint Foster	Dromilly	Farmer	M	Over 45	Jun 4-15, 2012	44	Site preparation - Digging holes, footings, moving dirt
	Winston Ritchie	Deeside	Farmer	M	Over 60	Jun 4-15, 2012	24	Site preparation - Digging holes, footings, moving dirt
	June Carter	Dromilly	Teacher	F	Over 50	Jun 4-15, 2012	8	Site preparation - Digging holes, footings, moving dirt
	Uton Hanson	Dromilly	Farmer	M	Over 45	Jun 4-15, 2012	12	Site preparation - Digging holes, footings, moving dirt
	Richard Hanson	Dromilly	Farmer	M	Over 45	Jun 4-15, 2012	12	Site preparation - Digging holes, footings, moving dirt
	Lenroy Barrett	Dromilly	Farmer	M	Over 50	Jun 4-15, 2012	12	Site preparation - Digging holes, footings, moving dirt
	Dawn Anderson	Dromilly	Farmer	F	Over 50	Jun 4-15, 2012	12	Site preparation - Digging holes, footings, moving dirt
	Dabe Hines	Dromilly	Farmer	M	Over 50	Jun 4-15, 2012	16	Site preparation - Digging holes, footings, moving dirt
	Donald Kindness	Dromilly	Farmer	M	Over 50	Jun 4-15, 2012	22	Site preparation - Digging holes, footings, moving dirt
	Dwayne Simpson	Dromilly	Farmer	M	Under 35	Jun 4-15, 2012	44	Site preparation - Digging holes, footings, moving dirt
	Cecil Ramsay	Dromilly	Farmer	M	Under 35	Jun 4-15, 2012	44	Site preparation - Digging holes, footings, moving dirt
	Lena Moncriste	Dromilly	Farmer	F	Under 35	Jun 4-15, 2012	9	Site preparation - moving dirt
	Briden Walker	Dromilly	Farmer	M	Over 50	Jun 4-15, 2012	12	Site preparation - Digging holes, footings, moving dirt
	Gary Leslie	Dromilly	Farmer	M	Under 35	Jun 4-15, 2012	44	Site preparation - Digging holes, footings, moving dirt
Pantrepant Event	Guy Symes	Kingston	Former Forest Conservatore	M	Over 50	September 27-29, 2012	15	Pantrepant event preparations and transportation
TOTAL VOLUNTEER HOURS								4,877

**Jamaican Adaptive Agriculture Program
2011 Volunteer Contribution Report**

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
Belmont Academy	Clinton Sampson	Bluefields	Teacher	Male	27	Aug-Sep 2011	50	Site preparation, unit construction
	Derrick Walton	Bluefields	Teacher	Male	31		50	Site preparation, unit construction
	Jerome Brooks	Bluefields	Teacher	Male	29		50	Site preparation, unit construction
	Omar Lutin	Bluefields	Teacher	Male	28		50	Site preparation, unit construction
	Robert Campbell	Bluefields	Teacher	Male	48		50	Site preparation, unit construction
	Ewan Anderson	Negril	Teacher	Male	38		65	Supervision, site preparation, training
	Alreta Sonlin	St. Elizabeth	Teacher	Female	39		65	Supervision, site preparation, training
Bluefields Bay Fishermen's Friendly Society	Kevin	Bluefields	Boat Captain	Male	40	Mar-Apr 2011	65	Site preparation, unit construction
	Walde Kristos	Bluefields	Bird Tour Operator	Male	41		50	Supervision, site preparation, training
	Livingston "Blue"	Bluefields	Fisherman	Male	43		65	Site preparation, unit construction
	Barbara Blythe	Bluefields	Craft Producer	Female	37		40	Site preparation, unit construction
	Kristin Callahan	USA	Env.Health Spec.	Female	38		65	Unit construction, training
	Desieta	Bluefields	Administration	Female	39		25	Office support for materials procurement
Triple Eye Cooperative	"Doc" Stephen McDonald	Bunkers Hill	Farmer and Coop Leader	Male	66	Sep-Oct 2011	40	Supervision, mobilization
	Ra Shimba	Bunkers Hill	Farmer	Male	50		40	Site preparation, unit construction
	Ackee	Bunkers Hill	Farmer	Male	45		40	Site preparation, unit construction
	Yvette Walker	Bunkers Hill	Farmer	Female	50		40	Site preparation, unit construction
	Cherry # 1	Bunkers Hill	Farmer	Female	45		40	Site preparation, unit construction
	Cherry # 2	Bunkers Hill	Farmer	Female	38		40	Site preparation, unit construction
	Patrick Mati	USA	Peace Corps	Male	35		10	Site preparation, unit construction
Cedric Titus High School	<u>Boys</u> Dante Avaranga Rushane Cadian Lamar Codling Linval Green Brenton Williams Keno Lewis Duggan McKay	Trelawny	Students	Male	15-16	Mar-Apr 2011	20	Site preparation, gravel washing

Location	Name	From	Occupation	Gender	Age	When	# of Hours	Activities
	<u>Girls</u> Anna-Kay Anderson Benecia Blagrove Aneika Edwards Yanique Edwards Shemekia Fairclough Ronique Foster Stacy-ann Grizzle Jizel Hilton Christina Jennison Kadesha Johnson Tamara Johnson Arika Keldo Innifer Livingston Shantel Mindley Tauna-shae Mullings Danielle Murray Marshalee Sawyers Tana-lee Vincent Tashoy Wright Natonia Nunes Moya-Gaye Jones Gerigia Anglin	Trelawny	Students	Female	15-16	Mar-Apr 2011	30	Site preparation, gravel washing
	Kristin Callahan	USA	Environmental Health Specialist	Female	38		30	Focus group, unit construction, training

Reshma Jagon's Farm	Kristin Callahan	USA	Environmental Health Specialist	Female	38	Mar-Apr 2011	65	Unit construction, training
	Marcus Stewart	Bunkers Hill	Farmer	Male	25		60	Site preparation, unit construction
	"Ninja"	Bunkers Hill	Farmer	Male			60	Site preparation, unit construction
	Reshma	Bunkers Hill	Hotel Manager & Farmer	Female			20	Supervision and site preparation

TOTAL VOLUNTEER HOURS 1,225



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Jamaican Adaptive Agriculture Program Photo Highlights



Aquaponic System Installation



Building underway at Mafoota

Aquaponic System Installation



The new aquaponic system design incorporating fingerling production (center tank) at Jacob's Ladder. This design is also being implemented at Metcalfe.



Disabled residents at Jacob's Ladder assist with washing the gravel that will fill the aquaponic units, the final step for completing the system.

Aquaponic System Installation



Students assist in completing the aquaponic unit at Dinthill.

Aquaponic System Installation



Westmoreland Organic Farmers Society aquaponic system, including solar power (panel at left)



Commercial-scale aquaponic system at Dromilly

Aquaponic System Enhancements



Left: Hoophouse being installed for a seedling nursery.

Below: Solar power systems installed with aquaponic units save energy and enable further adaptation to climate change.



Aquaponic Systems in Production



Above: Seedlings are cultivated for transplant into aquaponic grow beds.
Left: Seedling trays plus duckweed production tank (background) to provide supplemental feed for fish

Aquaponic Systems in Production



Left: Cabbage
Below:
Cauliflower



Leafy greens flourish
in aquaponic systems.
Top left: Lettuce,
bottom left: Cilantro.



Aquaponic Systems in Production



Intensive production of watercress (left) and basil (below)



Harvests



Above: A student at Knockalva Agricultural School displays freshly packaged harvests of basil and okra from the school's aquaponic unit. Top right: Crops and fish harvested and ready for transport.

Bottom right: From farm to table – fish and crops from aquaponics unit provide nutritious and appealing meals in school canteens.



Harvests



Above left and right: Fish were harvested at a weight of approximately 180 grams each.



Left: Students and staff at Knockalva Agriculture School proudly show off their first fish harvest.

Business and Marketing Training

Below: A representative from the Trelawny branch of the Jamaican Credit Union presents lending requirements and business planning guidelines.



Above: The purchasing director from the Walker's Wood production factory discusses the company's procurement process and quality standards.

Business and Marketing Training



Above: JAAP marketing workshop presentation

Below: Youth participants present skits as interactive lessons on how to effectively market their products.



Business and Marketing Training



Project participants learned how to develop aquaponic marketing kits. They created labels and brochures for their products and business cards for their group members, and practiced their sales pitch in small groups.



Adding Value

Members of the Youth in Action and Triple Eye groups worked together to add value to their aquaponic produce by drying and packaging their products. Triple Eye provided the cilantro and kale, and Youth in Action dried and packaged the produce.



Links to Market

Project stakeholders network with representatives from the hotel industry who are interested in purchasing locally produced aquaponic crops to replace more expensive imports, thus gaining fresher products and reducing food miles.



Special Events



Left: Ambassador Pamela Bridgewater addresses dignitaries, students and press at Knockalva Agricultural School, emphasizing the role of youth in addressing climate change.

Right: USAID Mission Director Denise Herbol launches the 50-year USAID anniversary celebration, coinciding with Jamaica's 50 years of independence, with a forward-looking approach, citing projects such as the Jamaica Adaptive Agriculture Project as the future.



Special Events



Ambassador Bridgewater tastes lettuce from one of the JAAP aquaponic units. From left to right: Linda Pfeiffer, INMED President; Robert Pickersgill, Minister of Water, Land, Environment and Climate Change; Ambassador Bridgewater; Westmoreland MP Luther Buchanan; Belmont Academy school girls and teacher; USAID Mission Director Herbol; and Ronald Thwaites, Minister of Education.

Special Events



Aquaponic displays at the acclaimed Denbigh Agricultural Show

Special Events

Right: Fresh fish and produce harvested from JAAP aquaponic units were served at a farm-to-table event at Pantrepant Farm in 2012.



Left: Harvesting of fish from Bluefields Bay to be served at the event.

Right: Guests enjoy fresh food from aquaponic units at the luncheon.

