PIONEERING NEW OPERATING MODELS AND MEASUREMENT TECHNIQUES FOR PRIVATE SECTOR-LED DEVELOPMENT

ASSESSING IMPACT IN NIGERIA'S NIGER DELTA

Adrienne Gifford | Anna DeVries | Amelia Knott | Helen Mant

IGD INITIATIVE *for* GLOBAL DEVELOPMENT

FOREWORD

In the lead up to the publishing of this report, IGD hosted two Expert Roundtables and separately engaged several outside peer reviewers. In an effort to obtain a well-rounded and diverse set of both international and local perspectives, the first Roundtable was hosted in Washington, D.C. on April 11th and the second Roundtable was hosted on May 4th in Abuja, Nigeria.

In addition to obtaining feedback about the report and the approaches used in the assessment, the Roundtables were intended to engage thought leaders in meaningful dialogue about private sector-led development initiatives, market systems-based development approaches, and the state of impact measurement of such initiatives. IGD facilitated the discussions, guiding participants through a series of questions centered on: 1) re-thinking development impact, 2) re-orienting evaluations to capture evolving concepts of impact, and 3) re-tooling evaluation methodologies.

This foreword shares the key themes that emerged from the Roundtables and other feedback sessions and brings to light many of the inherent challenges faced by organizations, regardless of size and sector, in implementing and measuring sustainable, market-systems based development interventions. It is our hope that these findings, and the assessment, contribute to creating wider awareness for the importance of market-systems based approaches, promoting the leadership of the private sector in sustainable development, and advancing the field of impact measurement.

We are extremely grateful for the time and effort dedicated by each of the following individuals and the support of their organizations:

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We welcome continued questions and comments on the assessment as well as opportunities to partner and collaborate on future initiatives. For more information please contact us.

Sincerely,

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1. Understanding and Challenging Theory of Change and Program Logic

A starting point for impact evaluation is to understand and test the theory of change, which is the hypothesis underlying the design of program interventions. One opinion shared was that a good evaluation involves "critically challenging the evidence upon which a program logic is based and the assumptions which are not documented" in order to test whether the program is doing what it is supposed to do. From this perspective, it can be noted that while the impact assessment does clarify NDPI and PIND's program logic, a more in depth study could identify weaknesses in the program logic, as opposed to describing whether or not the initiatives are accomplishing the objectives it has laid out.

2. Defining Market Systems and Bounding Analysis

The complexity in measuring market systems is primarily a function of the wide range of stakeholders involved as well as their unpredictable behavior. Participants acknowledged that it is not possible to be exhaustive in identification and analysis of all market players while retaining the central focus of a study. Rather, a best practice includes leveraging social network analysis to create network maps. However, these maps should be bounded and not attempt to include every entity in a given network. The key is to include enough detail to group networks together and find the elements that create causality, identifying how change is being transmitted through them. In more detailed analyses, establishing control groups is recommended to enable comparison of behavior changes over time for these key nodes of information transfer and the individuals they affect.

3. Collecting Quality Data Consistently

Participants highlighted that impact measurement is both "an art and a science" requiring a fine balance of quantitative and qualitative approaches. Generally, participants felt the report went a long ways towards explaining the story and narrative of changes occurring in the Niger Delta as a result of NDPI, PIND, and partner interventions. However, participants also identified how further studies could strengthen the data and findings by:

- addressing negative feelings and behaviors that could impede adoption rates (e.g. jealousy experienced by members of a population experiencing less favorable results or success than their peers);
- building baseline data established in this study (e.g. data used to support rate of adoption calculations) to enable more robust historical data regressions, reduce assumptions, and establish consistent measurement methods;
- utilizing randomized control trials (RCTs), and survey data to support increasingly robust rate of adoption calculations.

4. Measuring Systemic Change

Participants provided feedback that the assessment's use of rate of adoption, and development of a maturity model, are good methods that offer robust quantitative evidence that helps to answer important questions such as: 1) "Are people re-telling the story?" 2) "How accurately are they re-telling it?" and, 3) "Do people rely on the systems and believe they will work?" However, the methods should continue to be developed to better evaluate the often "non-linear" progression of innovations that occur as a result of changing realities on the ground. These dynamics can include abrupt fall-off of adoption or leapfrogging that may occur through the activation of informal systems or new unexpected innovations. It was also suggested that including geographical overlays of the spread of innovations using maps would be beneficial in understanding the reach of innovation diffusion and may help uncover why some innovations could take off in one area and not in others to bolster intervention approaches.

5. Addressing Macro-economic Factors

Participants highlighted that macro-economic factors such as urbanization, industrialization, and environmental degradation in the Niger Delta region may have serious causal effects on the adoption and diffusion of specific innovations, and even the growth and sustainability of entire markets. While it was not within the scope of this impact assessment to determine the effects that macro-economic factors might have on the success of NDPI and PIND's interventions, IGD agrees that such factors could have major implications and should be monitored and considered in future studies.

6. Monitoring and Evaluation (M&E) Governance in Partnership-Based Models

Experts at the Roundtables highlighted some of the specific challenges of implementing and measuring partnership-based models of development – or collective impact. Aggregating and analyzing data across vast numbers of implementing partners is a challenge. Participants highlighted the need to invest significant effort and resources to develop common approaches and systems for data collection and sharing and extend measurement methodologies used in the assessment to be applied consistently across the entire portfolio of interventions. In addition, the results must be discussed and decisions made amongst a broader set of stakeholders, increasing complexity. In addition, many donors are keen to understand the impact of their specific investment. While attribution, contribution, and value for money are commonly measured elements, they may be misplaced in partnership models, which should be focused not on the achievements of any single implementing partner, but rather on the collective impact created by the whole. Balancing this with the needs of individual donor reporting requirements can create challenges for impact evaluators and merits further exploration by practitioners in the field.

7. Assessing Sustainability

Sustainability was a focal point of discussion, with participants emphasizing the need for NDPI, PIND and its partners to pay considerable attention to the sustainability strategies of their market-based development interventions. Generally, the discussion encompassed four primary topic areas: 1) participatory methods, 2) developing benchmarks, 3) additional measurement considerations, and 4) the importance of political will.

Participatory Approaches

The experts noted the use of participatory approaches throughout the design and implementation of NDPI and PIND interventions as well as the impact assessment, and stressed that this is a critical factor to long-term sustainability. Participatory approaches must be used from the outset and organizations must embrace positive psychology by "placing a higher value on local ownership of data versus the accuracy of every aspect of the data." It was suggested that the approaches used in the assessment could be enhanced by asking beneficiaries, "If not this, what else would you like to do?" and finding ways to integrate these requests into market development activities.

Developing Benchmarks
Participants highlighted the need to continue to develop the methods in the assessment to develop clear benchmarks that will:
1) provide clarity for the end-state vision of an intervention;
2) appropriately sequence interventions given the inter-dependent nature of market systems, and,
3) assist decision-makers in determining which interventions can be exited and which require additional investment.

Additional Measurement Considerations
NDPI, PIND, and IGD could use several approaches to accomplish this including following the stories of entrepreneurs highlighted in the assessment's case studies over time. While these individuals have experienced early successes, participants stressed that it is their resilience over time that will serve as one of the best indicators of the sustainability of the interventions. Similarly, one participant also noted that within market systems-based approaches, the ultimate indicator of sustainability is the eventual ability of a business to pay dividends to shareholders. As interventions mature, this should be considered as a unit of measurement to determine local business success and sustainability and may indicate an exit opportunity.

The Importance of Political Will
Finally, participants also emphasized the importance of identifying and gaining support of local political champions in ensuring the sustainability of interventions. Sustainable market-systems based interventions eventually result in the establishment of new policies and regulations that create a favorable investment climate that will support business growth and allow market systems to take over, eventually phasing out the need for on-going intervention.

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About the authors

The preparation of this report was led by Adrienne Gifford, Senior Advisor at the Initiative for Global Development (IGD). Authors also include Anna DeVries, IGD Manager; Amelia Knott, Director of Consulting at twentyfifty Ltd.; and Helen Mant, Senior Advisor at IGD. Analysis and additional report preparation support was conducted by Baily Jones, independent consultant; Shanta Bryant Gyan, IGD Communications Consultant; and Thuy Dinh, who served as IGD Communications Manager.

About IGD

IGD is a United States-based organization that engages an influential network of African and global business leaders in creating sustainable growth and poverty alleviation through strategic business investment in Africa. The IGD Advisory team works with private sector partners and foundations like NDPI and PIND to measure the socioeconomic impact of core operations, using an in-house business-oriented approach to assessment. Learn more at www.igdleaders.org.

About the cover photos

The Partners for Peace (P4P) network of local state chapters holds Peace Camps, carries out local peace building activities, and conducts media campaigns to create a peaceful society where healthy market systems can flourish.

Justina Okocha a member of a cassava farmers association in Ubulu is tilling the land along with others for planting at the cassava demo plots in Ubulu - Uku, Delta state.

Ideal Women's Advancement Initiative partners with PIND to facilitate gender mainstreaming throughout PIND programming and build the capacity of associated NGOs and CSOs.

CONTENTS

ACRONYMS

ADVANCE	Advocacy, Awareness and Civic Empowerment
ANDE	Aspen Network of Development Entrepreneurs
ATED	Appropriate Technology Enabled Development
ATF	African Technology Foundation
BSF	Bio-Sand Filter
CAFAN	Catfish Farmers Association of Nigeria
CAPABLE	Capacity Building for Local Empowerment
CMADI	Coastal and Marine Areas Development Initiative
COPA	Coalition of Peace Advocates
CSO	Civil Society Organization
CSPO	Certified Sustainable Palm Oil
DAI	Development Alternatives Inc.
DFID	United Kingdom Department for International Development
EDC	Economic Development Center
ENABLE	Enhancing Nigerian Advocacy for a Better Business Environment
FFP	The Fund for Peace
GBF	Grassroots Business Fund
GIZ	German International Cooperation
ICT	Information and Communications Technology
IGD	Initiative for Global Development
IPDU	Integrated Peace and Development Unit
LAPO	Lift Above Poverty Organization
LCBP	Local Capacity Building Project
LEAD	Leadership, Empowerment and Development Project
LGA	Local Government Area
LITE	Leadership Initiative for Transformation and Empowerment
LSD	African Centre for Leadership, Strategy and Development (Centre LSD)
M&E	Monitoring and Evaluation
MAH	Mechanized Adjustable Harvester
MARKETS	Maximizing Agricultural Revenue and Key Enterprises in Targeted States
MFI	Microfinance Institution
MSDF	Morgan Smart Development Foundation
NDPI	Niger Delta Partnership Initiative
NDDF	Niger Delta Development Forum
NGO	Non-Governmental Organization
NIFOR	National Institute for Oil Palm Research
NGN	Nigerian Naira
P4P	Partners for Peace
PIND	Foundation for Partnership Initiatives in the Niger Delta
PLACE	Peaceable Livelihoods and Community Empowerment

PMO	Project Management Office
PSR	Participatory Strategic Review
PSWG	Peace and Security Working Group
RSPO	Roundtable on Sustainable Palm Oil
SACE	Strengthening Advocacy and Civil Engagement
SHERDA	Self-Help Rural Development Association
SME	Small and Medium Enterprises
SSPE	Small-Scale Processing Equipment
UNICEF	United Nations Children's Fund
US	United States
USAID	United States Agency for International Development
UUFFA	United Ufuoma Fish Farmers Association
WASH	Water, Sanitation, and Hygiene
$	Dollar (United States)

DEFINITIONS

Adopter

Individuals or organizations that practice one or more ideas/techniques or use promoted technology.

Adoption Rate

The "multiplier effect" calculated by the Bass Diffusion equation whereby variables include the effect of individuals changing behavior based on the imitation of near peers and/or the influence of advertising and promotion of new behaviors or technologies.

Coordinated Strategy / Implementation Plan

Key criteria of IGD Maturity Model measuring progress achieved by organizations supporting market systems development in implementing a comprehensive strategy to coordinate market actors and activities, but this eventually scaling back and giving way to self-sufficiency of the market.

Ecosystem

Network of interconnected systems to support sustainable development.

Empowerment

Capacity building efforts (with or without funding support) that function to increase the degree of autonomy and self-determination in the lives of people and communities in order to enable them to represent their interests in a responsible, and self-determined way, acting on their own authority. Characterized by a move away from a deficit-oriented towards a more strength-oriented perception.

Human Capital Alignment

Key criteria of IGD Maturity Model measuring progress achieved toward behavioral and societal norms change.

Impact

The long-term changes observed in a population as a result of a program, intervention, or adoption of an innovation.

Impact Statement

Used as a proper noun to refer to the long-term desired and/or demonstrated change in behavior of a given group of stakeholders that NDPI and PIND innovations are targeting, and the resulting decrease in poverty and improvement in well-being experienced as a result of this change of behavior.

Innovation

Definition 1: Used as a common noun generally throughout the report to broadly refer to any new ideas, practices, approaches, and technologies.These may be stand-alone innovations or packages of innovations (e.g. a single technology versus a package of standard approaches and practices disseminated to smallholder farmers).

Definition 2: Used as a proper noun when specifically referencing one of the 13 Innovations in the Summary Findings Framework as identified by IGD to group together the 49 discrete Impact Statements.

Innovation Area

Used as a proper noun to specifically reference one of the seven Innovation Areas (Aquaculture, Cassava, Palm Oil, Peace Building, Civil Society, Policies and Institutions, Infrastructure), which comprise the 13 Innovations in the Assessment Findings Framework.

Maturity model

IGD-developed scoring model for assessment of the progress the Impact Statements, Innovations, Innovation Areas, and Program Areas have made towards a systemic level of change. The model breaks out five stages of maturity: Ad Hoc, Pilot, Stickiness, Scale, and Systemic Change.

These stages are defined as follows:

1. **Ad Hoc:** Stage of a preliminary activity occurring on an experimental or uncoordinated basis without clear plan for program activities, stakeholders and participants, funding, and/or monitoring.
2. **Pilot:** Stage of program activity when experimentation becomes controlled as plans begin to take shape around specific activities, actors come together and engage, funding is identified, and/or monitoring methods are identified and tested.
3. **Stickiness:** Stage of activity when experimentation ceases and plan becomes clearly defined or "sticky," leading to the buy-in, consistency, and strategy related to stakeholders, funding, and/or monitoring, which helps programs reach the "tipping point" required to take off and build to large numbers quickly.
4. **Scale:** Stage of activity when widespread, internally driven involvement leads programming and scope of the project expands significantly.
5. **Systemic Change:** Stage of activity when new practices and ideas spread independently and sustainably without further need for intervention.

Minimum Viable Product

The innovation with the highest return on investment versus risk. In other words, the innovation is developed in a manner that leads to higher rates of adoption in the communities in the region.

Network Development Relationships

Key criteria of IGD Maturity Model measuring progress achieved toward collective networks reaching critical mass across the region.

Core Program Area

The three primary areas encompassing all of NDPI and PIND programming interventions. The three core areas include: 1) Economic Development, 2) Peace Building, and 3) Enabling Environment.

Resources

Key criteria of IGD Maturity Model measuring progress achieved toward effective and efficient flows of capital to enable market systems development and eventually reaching a state where the market is so large and efficient it may contribute to increasing GDP.

Systemic Change

New practices and ideas spread independently and sustainably without further need for intervention.

EXECUTIVE SUMMARY

INTRODUCTION

The Niger Delta region of Nigeria is a land of extremes. It is a region wealthy in resources, yet devoid of local prosperity. It produces nearly 75% of Nigeria's foreign exchange earnings, yet more than 70% of its roughly 32 million inhabitants live on an average of less than United States (US) Dollars ($) 2 a day. It is one of the world's richest sources of oil, but its people lack economic opportunities. The resultant inequalities have, in turn, led to extreme forms of conflict, including militancy and the rise of cults, which have functioned to further erode the region and increase poverty levels.

Recognizing the risks posed by the lack of peace and stability in the region, Chevron invested $50 million to establish two independent, sister foundations in 2010: The Niger Delta Partnership Initiative Foundation (NDPI) based in Washington, D.C., and the Foundation for Partnership Initiatives in the Niger Delta (PIND), based in Abuja, Nigeria, with the mission of relieving poverty and promoting development across the Niger Delta. NDPI and PIND aim to reduce poverty by acting as catalysts for systemic change in the Niger Delta in three core program areas: Economic Development, Peace Building, and Enabling Environment Development. The organizations are founded on a strong theory of change, which recognizes the interrelatedness between conflict and poverty and they have thoughtfully designed market-based economic development and peace building interventions that are mutually reinforcing and address the root causes of conflict and poverty in a localized and sustainable manner.

In addition, NDPI and PIND's success to date in the region can be credited to their development of a unique operating model and governance structure – a "secret sauce" that deserves close examination and consideration for replication by other organizations, including development agencies and private sector institutions. Through a strong partnership-based approach, the organizations have developed strong local and international alliances and leveraged these to build extensive social networks in the region. NDPI and PIND then diffuse new best practices, ideas, and technologies (i.e. innovations) throughout these networks by demonstrating that their projects work. In doing so, NDPI and PIND empower existing stakeholders, and, as a result, encourage new stakeholders that begin to "crowd in," resulting in new resources being catalyzed into the region. Eventually, these changes in behavior by regional market actors will reach a point of critical mass or "tipping point" when they will become self-sustaining, thus resulting in systemic change.

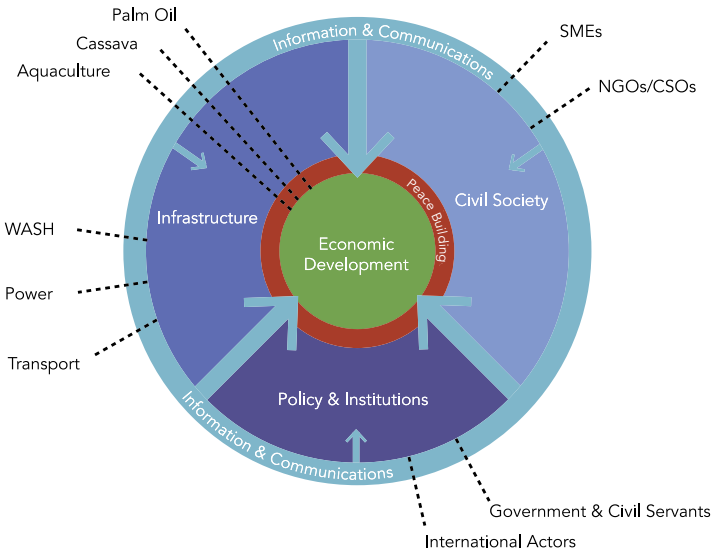


Figure 1: Simplified Model Forming the Basis of the Analysis Framework

IGD'S ASSESSMENT OF NDPI AND KEY OBJECTIVES

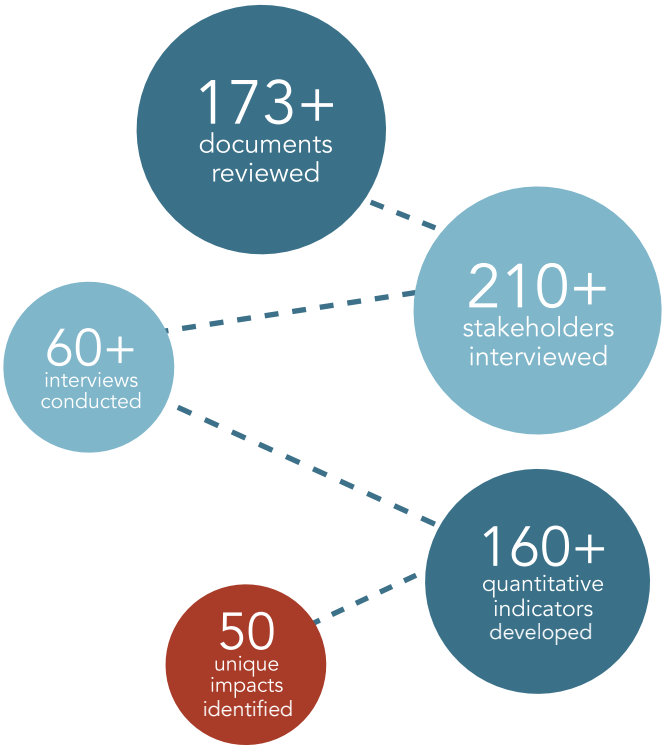
But when will systemic change be achieved and how much impact has been created to date? These were the fundamental questions NDPI posed when the organization met with the Initiative for Global Development (IGD) in late 2014. In March 2015, IGD and NDPI entered into agreement to conduct an assessment of progress in the first five years of NDPI's work with the following objectives:

- Develop and implement a robust, innovative approach towards achieving systemic change.
- Identify NDPI and PIND's impacts in the Niger Delta (and beyond) towards achieving systemic change.
- Identify critical success factors of the NDPI model.
- Identify opportunities for NDPI to enhance impact going forward and recommendations for how to do so.
- Serve as a call to action by sharing key lessons.

IGD'S INNOVATIVE APPROACH TO ASSESSING IMPACT AND PROGRESS TOWARDS ACHIEVING SYSTEMIC CHANGE

The broad scope of conducting an institutional-level assessment of NDPI and PIND necessitated a highly tailored approach, as well as the use of methodologies and practices that go beyond traditional evaluation metrics (like the number of jobs created or beneficiaries reached). IGD developed a more holistic evaluation of impact leveraging a multi-disciplinary approach that combined traditional evaluation methods with emerging best practices to design and implement innovative methodologies and tools, including qualitative and quantitative outcomes metrics, "proof

Note: When the term NDPI is used alone in the report, it refers to both organizations. PIND is used when referring to activities specifically in Nigeria.



points," and case studies.

To address the complexity of assessing market systems and the NDPI and PIND goals of achieving systemic change in the Niger Delta, IGD leveraged the theories of Diffusion of Innovation and Tipping Point as the theoretical underpinnings for the assessment. IGD supported this with the introduction of two new methodologies:

1. **Rates of Adoption** – Provides an estimated number of stakeholders who have changed their behavior, specifically with regards to adopting a new idea, practice, or technology introduced by NDPI and PIND or their partners in an area of innovation.

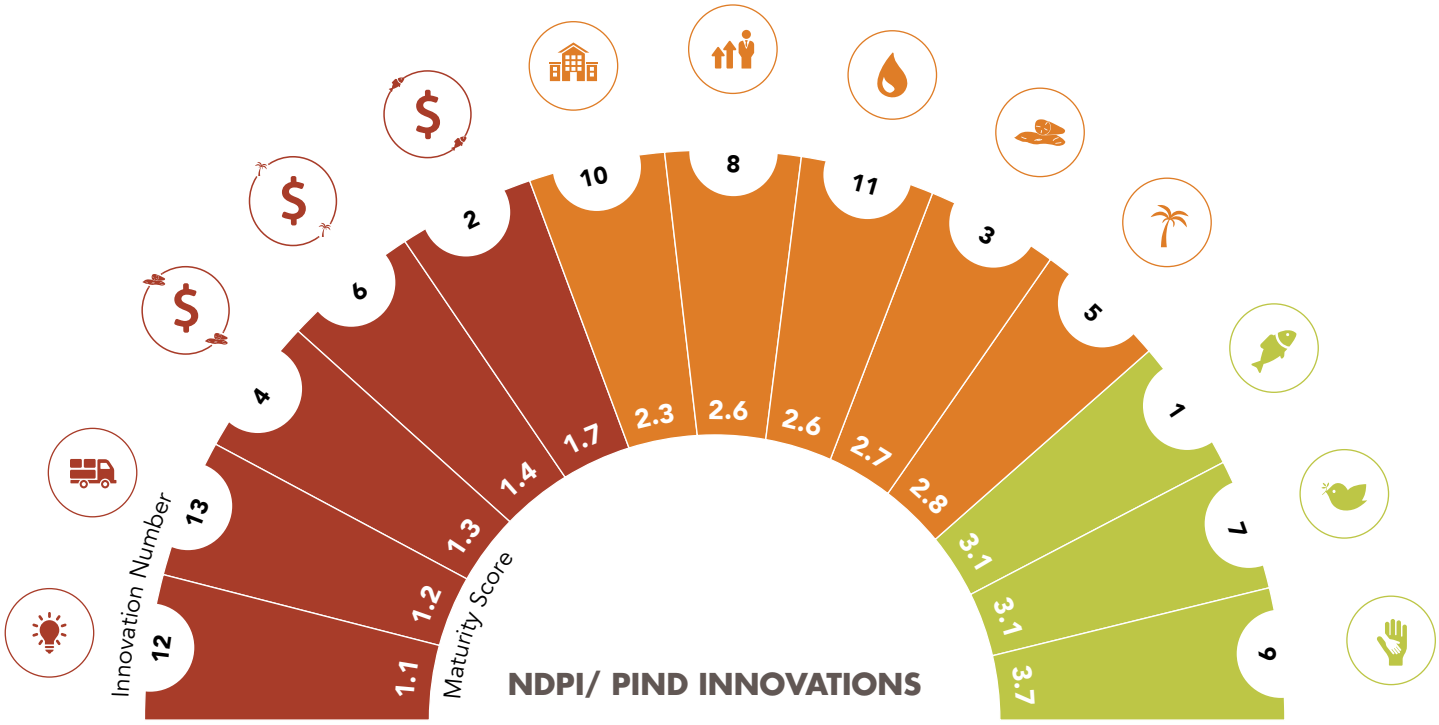
2. **Maturity Model** – Assesses the progress of each of the identified impacts towards reaching a systemic level of change using a tailor-made maturity model developed by IGD that defines criteria in four different categories – Coordinated Strategy/Implementation Plan, Network Development/Relationships, Human Capital Alignment/ Resources, and M&E – for each of the five stages that an innovation must progress through in order to reach systemic change: Ad Hoc, Pilot, Stickiness, Scale, and Systemic Change. Impacts were assessed and scored to give an overall position on the scale of systemic change.

	Level 1	Level 2	Level 3	Level 4	Level 5
	Ad Hoc	Pilot	Stickiness	Scale	Systemic Change
Coordinated Strategy/ Implementation Plan	No service portfolio or investment	Service portfolio strategy & plan emerges	All actors buy in & agree to play a role in service portfolio	Service portfolio executed & reviewed across all 9 Niger Delta states	Market systems begin to take over and development institutions scale back
Network Development Relationships	Stakeholders are not connected	Small loosely connected networks form around activities	More tightly connected networks gain recognition	Networks expand (geographically, more stakeholders, industries) & internally driven	Collective networks have reached critical mass across the region
Human Capital Alignment	Raising stakeholder knowledge & awareness	Stakeholders' attitudes change	Stakeholders capacity is built	Stakeholders adopt & operationalize actions	Behavioral/societal norms change
Resources	No planned budget or investment	Funding & investment identified for specific activities	Consistent, committed funding & investment	More funders & investors crowd-in	Effective & efficient flows of capital to Niger Delta contribute to GDP increase
M&E	No measurement or easy measurement for the sake of measurement	New, more appropriate measurement methods & tools identified & tested	Development of a strategic M&E plan	Evidence collected & measured consistently within all initiatives & innovations	Investor & policy-makers make decisions based on appropriate, timely & accurate information

Figure 2: IGD Innovation and Systemic Change Maturity Model

KEY FINDINGS OF IGD'S ASSESSMENT

IGD applied the Theory of Diffusion of Innovation to develop an assessment framework that articulates the NDPI model in terms of what are referred to throughout the assessment as 13 Innovations. Underlying the 13 Innovations are 49 Impact Statements that describe the long term, systemic effect the organization is hoping to achieve for each group of stakeholders (grouped by "existing market actors" and "new market entrants" consistent with the operating model). The Impact Statements were developed using NDPI and PIND's existing results chains, as well as through direct observations and other primary data IGD gathered in the field. The maturity of each of the 13 Innovations is shown in the gauge below and corresponding Table on page 5.



Innovation 1:	Aquaculture Value Chain Development
Innovation 2:	Aquaculture Access To Finance And Financial Services
Innovation 3:	Cassava Value Chain Development
Innovation 4:	Cassava Access To Finance And Financial Services
Innovation 5:	Palm Oil Value Chain Development
Innovation 6:	Palm Oil Access To Finance And Financial Services
Innovation 7:	Peace Building Network Development
Innovation 8:	SME Network Development
Innovation 9:	NGO/CSO Network Development
Innovation 10:	Institutional Network Development
Innovation 11:	Water, Sanitation, And Hygiene (WASH) Infrastructure Development
Innovation 12:	Power Infrastructure Development
Innovation 13:	Transport Systems (Roads / Waterways / Public Transit) Infrastructure Development

Based on IGD's assessment, the top six Impact Statements, all of which have started to reach a level of Scale in the region, and are listed in order from most mature to least mature, are as follows:

1. Donors and other actors work effectively with Niger Delta non-governmental organizations (NGOs) / civil society organizations (CSOs).
2. International development actors better contribute to economic development and peace building in the region.
3. Existing NGOs / CSOs better serve their constituents/stakeholders.
4. Partners for Peace (P4P) network members are responsive and mitigate conflict.
5. New and more accurate information, resources, and strategies about peace are available and enable more effective engagement.
6. Existing fish farmers improve practices and increase yield from their ponds.

In addition to the scoring and ranking of the Impact Statements and Innovations, IGD summarized the following as key achievements of the organizations in their first five years of operation:

1. **NDPI, PIND, and their partners have brought the entire institutional portfolio to a full-fledged Pilot stage with significant momentum driving each of the innovations and their underlying impacts towards Stickiness and Scale, and eventually towards Systemic Change. In particular:**
   - Successful pilots of more than 20 distinct best practice or technological innovations within 13 broader areas of innovation completed.
   - Establishment of a self-sustaining, rapidly growing movement of peace actors of nearly 4,000 individuals.
   - Development of an expansive network of more than 400 organizations creating change in the region through interventions to shift cultural norms.
2. **They have enhanced the attractiveness of the Niger Delta by reducing risk, which has paved the way for other development investment in the region.** By demonstrating the ability to create change in the region, NDPI and PIND have been able to catalyze new investment of more than $92 million into the region and more than $730,000 in new loans from local financial institutions into the market.
3. **They have set the benchmark by creating a blueprint for a new type of development model across Africa and beyond**, which includes:
   - Successful establishment of a physical presence and hiring of top local talent in three locations in Nigeria, including a world-class economic development center in Warri. (See Page 8: Key Lessons Learned.)

Ejiro Eshareturi (far right), Ideal Women Advancement Initiative partners with PIND to build the capacity of women to be leaders and agents of peace within their communities.

Core Program Area	Maturity Score	Innovation Area (7)	Maturity Score	Innovations (13)	Maturity Score	Impact Statements (49)	Maturity Score
Economic Development	2.5	Aquaculture	2.7	1: Aquaculture Value Chain Development	3.1	1	3.4
						2	3.4
						3	2.9
						4	3.0
						5	3.8
				2: Aquaculture: Access to Finance / Financial Services	1.7	6	2.4
						7	1.0
		Cassava	2.2	3: Cassava Value Chain Development	2.7	8	2.9
						9	3.0
						10	3.0
						11	2.0
						12	2.4
				4: Cassava: Access to Finance / Financial Services	1.3	13	1.5
						14	1.0
		Palm Oil	2.4	5: Palm Oil Value Chain Development	2.8	15	2.8
						16	3.0
						17	3.1
						18	2.5
						19	2.6
				6: Palm Oil: Access to Finance/ Financial Services	1.4	20	1.9
						21	1.0
Peace Building	3.1	Peace Building	3.1	7: Peace Building Network Development	3.1	22	3.4
						23	2.0
						24	4.0
						25	2.5
						26	3.7
Enabling Environment	2.2	Civil Society	3.2	8: Small & Medium Enterprise (SME) Network Development	2.6	27	3.1
						28	2.0
				9: Local NGO / CSO Network Development	3.7	29	4.0
						30	4.1
						31	2.9
		Policy & Institutions	2.4	10: Institutional Network Development	2.3	32	2.5
						33	2.3
						34	1.6
						35	1.9
						36	4.0
						37	1.6
		Infrastructure	1.7	11: Water, Sanitation, & Hygiene (WASH)	2.6	38	3.1
						39	1.8
						40	3.3
						41	2.4
				12: Power	1.1	42	1.1
						43	1.1
						44	1.1
						45	1.1
				13: Transport (Roads / Waterways/ Public Transportation)	1.2	46	1.1
						47	1.3
						48	1.1
						49	1.1

Caption: Summary table of Maturity Scores assigned to each level of IGD's institutional-level assessment of NDPI. Detailed Maturity Scores can be found in Appendix A.

CRITICAL SUCCESS FACTORS FOR CREATING AND SUSTAINING SYSTEMIC CHANGE

IGD identified a 50th impact that in essence encompasses all of the other 49 discrete impacts identified within the various areas of innovation. Equally important to what NDPI is doing, is how they are doing it. The NDPI model is an impact or innovation in itself. The following are the six critical success factors identified by IGD demonstrating how NDPI and PIND have achieved and continue to achieve impact and progress towards systemic change.

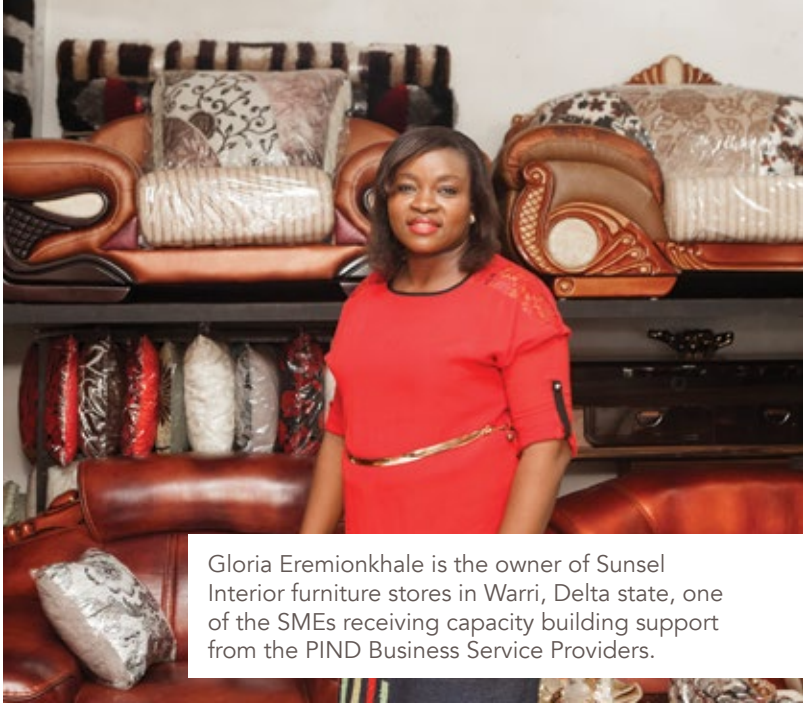
1. Build strong foundational networks among all stakeholders. These strong relationships create the critical **trust and credibility** that enables change. NDPI and PIND play an active role in linking groups and individuals. This **connecting function** encourages collaboration and cooperation among different actors, enabling them to identify and access more opportunities. NDPI and PIND also act as a **bridge** between the private sector, government, development actors, and local organizations and individuals. This is an important space that few organizations are able to navigate successfully as a result of the mistrust between the different sectors.

2. Develop and support critical cross-sector relationships, partnerships, and alliances, which are stronger than the sum of their individual parts. Inherent to the NDPI and PIND approach is the humility and acknowledgement that one organization cannot address these challenges alone. NDPI and PIND identify partners who are committed to the same principles and approaches and work with them and through them **to catalyze new resources** into the region to create systemic change.

3. Identify, inspire, and empower local change agents. NDPI and PIND have demonstrated an ability to identify **change agents** – the innovators and early adopters of a population. NDPI and PIND inspire change-makers and show and encourage them how to make change happen on their own. NDPI and PIND support change agents with technical assistance and knowledge – offering platforms, advice, networks, and information. Where NDPI and PIND do provide direct funding, it is at a pilot scale to find projects that work and to demonstrate the viability of particular models.

4. Commit to a sustainable and holistic market-led approach. The market-based approach effectively drives sustainable change in the Niger Delta and develops widespread economic opportunity for the people of the region. NDPI and PIND **facilitate and catalyze**, rather than create dependency on donor funding. NDPI and PIND not only focus on the development of sustainable market systems to create economic opportunities for the poor, they recognize and address the complexity involved and actively work to tackle barriers to efficient markets including: conflict and violence, a weak civil society, lack of government participation and transparency, and poor infrastructure. NDPI and PIND do this by developing and implementing solutions in three core and interrelated focus areas: Economic Development, Peace Building, and Enabling Environment Development.

5. Embrace lean principles to diffuse innovation. NDPI and PIND are masters at embracing and exemplifying the core principles of lean innovation. They rapidly develop a prototype and test it with stakeholders, usually in a real-world competitive situation, and repeat the process until the core product is competitive or they pivot to explore a new approach. NDPI leverages their partnerships and networks to communicate critical information about new innovations and they and their partners diffuse innovations through capacity building, advocacy, and communications mechanisms throughout the Niger Delta. Beyond this, NDPI embraces lean innovation throughout the organization in the way in which they embrace collaboration, feedback, and continuous learning.



Gloria Eremionkhale is the owner of Sunsel Interior furniture stores in Warri, Delta state, one of the SMEs receiving capacity building support from the PIND Business Service Providers.

6. Possess a rare and strong organizational DNA. NDPI and PIND possess a rare and strong organizational DNA that functions to make both organizations agile and high-performing. NDPI and PIND staff are extremely passionate and committed. NDPI and PIND are unrelenting on their principles – they walk the talk. Within PIND, the majority of staff is locally hired and they remain committed to embedding sustainable, participatory, market-based approaches in all initiatives.

SUMMARY RECOMMENDATIONS

Recommendations to Increase the Impact of NDPI and PIND's Innovations and Progress towards Systemic Change

To maximize the impact NDPI and PIND create going forward, IGD suggests that the organizations follow the recommendations outlined below. These recommendations are based on findings, observations, and feedback from stakeholders interviewed in the field, in combination with data analysis of NDPI and PIND documents and reports, and IGD subject matter expertise in impact measurement and sustainable development approaches in the sector. These recommendations represent consistent themes that were identified throughout the assessment.

1. Intensify focus on developing the Enabling Environment and supporting ecosystem.
Increase engagements with policymakers at all levels and catalyze cross-sector resources to address challenges in access to power and transport to alleviate constraints to the current value chains.

2. Explore partnerships with technology-focused organizations to integrate and apply information communication technology (ICT) to support actors and increase rates of adoption.
Bring expertise from technology-focused organizations to support NDPI and PIND in identifying additional technological innovations

to support value chain actors, particularly smallholder farmers, to help drive rates of adoption, and move value chain innovations to scale. (Rate of adoption of innovation, particularly technological innovation, is driven by its relative advantage, compatibility, complexity, trialability, and observability.)

3. Enhance partnerships with media institutions to intensify the focus on changing the overall narrative of the region, catalyze social campaigns, and create wide awareness of innovations to increase rate of adoption.
Partnerships with local and international media institutions could help create new headlines for the Niger Delta, including partnering with the PIND Media Hub to develop social campaigns around peace building and value chains, including helping to change the perceptions of youth around the viability of agriculture as a career of choice. Media and technology partner institutions could also work with the Appropriate Technology Enabled Development (ATED) Center and Media Hub to create new platforms and advertising for increasing stakeholder awareness about technologies and best practices such as the mechanical adjustable harvester (MAH) and water, sanitation, and hygiene (WASH) technologies, leveraging existing NDPI and PIND networks and SMS capabilities. Such activities will create a new image that recasts the Niger Delta as a region of economic opportunity and peaceable livelihoods, directly supporting NDPI and PIND's overall objectives of achieving systemic change in the region

4. Bolster the demand side of value chain development by focusing efforts on creating more linkages into larger markets, including facilitating off-take agreements and deals.
Enhance efforts to create viable linkages with demand-side actors including processors and large off-takers, who can guarantee off-take to match supply side value chain development undertaken to date to avoid oversupply resulting in local price collapse. NDPI could consider partnering with organizations that have the relationships and experience brokering deals with large multinationals to develop outgrower schemes and finance local and regional processing plants and storage facilities.

5. Continue to explore opportunities to apply market systems-based approaches to WASH.
The NDPI theory of change is predicated upon sustainable market-based approaches to development. IGD observed that some of the WASH technologies, such as the BioSand Filters (BSF), are being advanced through such approaches. However, the market-based approach is not being leveraged as significantly within this innovation area. NDPI can bolster this approach, working to identify additional social entrepreneurs who can take the technologies forward into communities to ensure the sustainability of WASH innovations and use them as an opportunity to generate more income for local individuals.

6. Increase access to finance across all value chains.
Create wider access to finance throughout all levels of the value chains by working with microfinance institutions (MFIs) to encourage market entry and product innovation to meet the needs of supply side actors and engage with impact investors to encourage the growth of the market and further stimulate growth of local small and growing businesses. Identify additional sources of funding such as that from angel investors, venture capitalists, and commercial banks to support investment in larger enterprises such as warehousing, distribution outfits, and processing plants so that the markets can proportionately grow and support the supply side actors. Such activities will unlock potential because access to finance was cited as a barrier to business success and growth by nearly all actors.

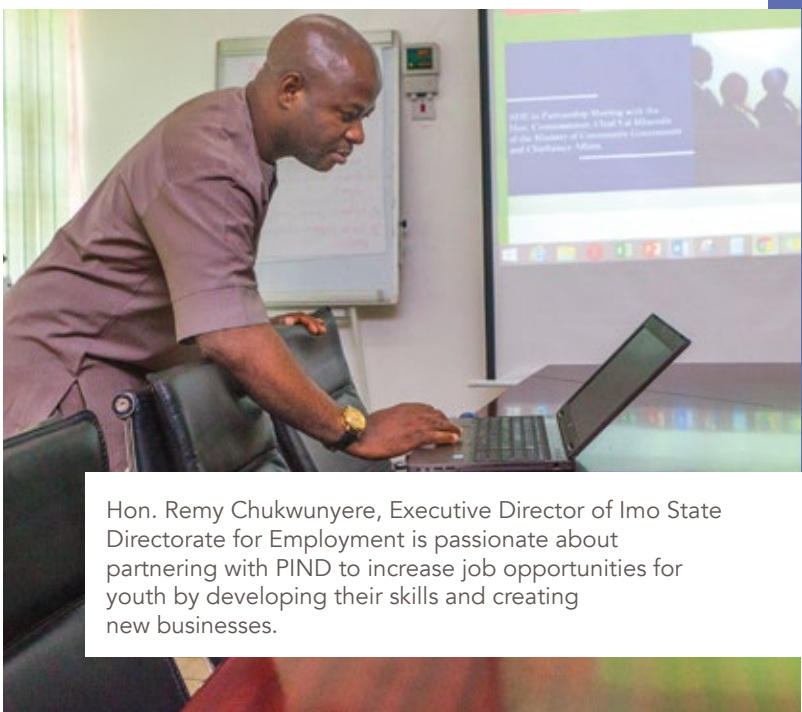
Recommendations to Enhance PIND's Operational Capacity

1. Institutionalize the criteria for identifying innovators and early adopters to speed the rate of adoption and achieve systemic change.
To effectively channel critical resources to those individuals who will most quickly adopt and spread new innovations (best practices, ideas, mindsets, and technologies) - and therefore ultimately maximize the organizations' social return on investment and progress towards systemic change - NDPI, PIND, and their partners must review and adapt existing criteria for identifying change agents to seek out and influence the innovators and early adopters within the stakeholder populations of its various innovations.

2. Continue to evolve the M&E system to incorporate market-based measurement methods and collect and aggregate necessary data to support consistent measurement of innovations.
New targets, metrics, indicators, and particularly methods must be developed and leveraged to adequately measure and assess what is occurring through market-based interventions. Within this assessment IGD has identified the top quantitative indicators for measuring each of the Impact Statements and their parent Innovations. NDPI and PIND should work to consistently gather data that will support measurement and reporting of changes in these metrics at regular intervals. Some additional baseline assessments and future studies may be needed to support this.

Recommendations to Share Learnings with Other Development Actors

1. Work with other organizations to replicate the NDPI and PIND model to create impact around the globe.
The PIND model is unique and an example of best practice in private sector-led development. Chevron, NDPI, and PIND can continue to increase their impact by identifying platforms and opportunities to share the findings of the assessment, with emphasis on the critical success factors and operational model of the organizations to inspire more private sector organizations and development institutions to establish similar initiatives in other conflict-affected regions around the globe. This could potentially even be leveraged as an opportunity to identify sustainable means of revenue generation for the organizations to channel back into their own work in the Niger Delta.



Hon. Remy Chukwunyere, Executive Director of Imo State Directorate for Employment is passionate about partnering with PIND to increase job opportunities for youth by developing their skills and creating new businesses.

KEY LESSONS LEARNED FOR OTHER ORGANIZATIONS SEEKING TO CREATE SYSTEMIC CHANGE

A key objective of this assessment is to share key lessons learned both in terms of the NDPI model and approaches to measuring impact.

1. **Set clear objectives for what you want to achieve, but learn by doing.** Actively testing creates opportunities for learning from previous development efforts and building on that learning. Though this iterative and learning process takes time, receiving initial buy-in and commitments from key supporters to learn together is a significant step, even if that means making a long-term investment and possibly changing the scope along the way.

2. **Take a long-term perspective.** Assess where efforts can best be directed to achieve systemic change. Recognize the need to make trade-offs between spending in different areas to achieve greater impact.

3. **Find common goals.** Embrace areas of alignment with partners. Sharing resources and learning can help networks of partners achieve more together than they could separately.

4. **Cherish cultural differences.** Models of development are not universally applicable or appropriate. Individual needs, challenges, and cultural context are key factors in making a project successful.

5. **Contribute more than money.** Show a willingness to be open and learn. Flexibility, adaptability, and evolution may lead to scope creep, but casting the role of the foundation to identify common objectives, as opposed to dictating results, can lead to the creation of shared value.

"Investing in communities is investment."

"NDPI is unique in that it doesn't hand out benefits to people. It's really about catalyzing change that can be sustainable beyond our intervention."

- Heather Kulp

6. **Localize faster.** Create an upfront local presence once a partnership or joint initiative has been agreed. Relocate staff, hire locally, and set up an office. Demonstrating commitment to local stakeholders and creating deep understanding of the context is paramount to success. Localization is critical to the longevity of results.

7. **Break away from traditional methods of measuring impact.** Re-examine and challenge traditional measurement methods. Test new methods and tools to better tell the story of impact. These adapted approaches can serve as useful aides for discussion, consideration, and evolution of measurement techniques. Pushing the boundaries can encourage more effective approaches to evaluate impact, determine effective resource allocation, and continue to develop and improve the field of international development, especially in the context of the increasingly important role that the private sector and market-based approaches play in achieving development goals.

"…the key to success is not so much in developing the right model, but building the capacity to develop and sustain an effective one, thereby bringing together the right mixture of people and partnerships that can learn how to make a difference together."

- Dennis Flemming

"We wanted to do an impact study to see how our investments have really been impactful… to see how private companies can really look at this social investment and link it to their business objectives."

- Mamadou Beye

CONCLUSION

Achieving sustainable, systemic change is a process and one that is not accomplished quickly, nor by a single institution or sector. It requires acknowledgement of the complexity involved in fundamentally changing human behavior and the fabric of a society. It requires significant time, and sustained commitment and investment to establish and maintain trust and credibility among a large group of stakeholders.

NDPI, PIND, and Chevron have "moved the needle" on corporate social responsibility, shared value, and development, to a new level by creating awareness, building knowledge, and changing attitudes, beliefs, capacity, and actions in ways that permanently re-orient the hopes, aspirations, and visions of the people of a society. NDPI and PIND together function as a "lighthouse in the Niger Delta," beckoning to other institutions – local, national, and global – to come together in the region. NDPI and PIND shed light on the array of opportunities that exist in the Niger Delta for peaceable and sustainable livelihoods. This light has revealed a new vision for the region that many can now see and together this vast network of organizations brings resources to initiate market-based systems and create an enabling environment in which many industries can thrive…a concept that until now has eluded the Niger Delta. These catalytic resources bring hope and are captivating and empowering people of the Niger Delta.

IGD would like to use this opportunity to call to action other members of the private sector and development institutions alike to closely examine the NDPI model and seek every opportunity to replicate it around the world. NDPI's comprehensive, market-based approach is unique and a significant departure from traditional development approaches. As such, it requires a **different lens** through which the organizations and their **impacts are viewed**. Perhaps more importantly, **it calls for new and more appropriate measurement methods**. The **approach to interventions and measurement** alike must be **multi-disciplinary**, taking into account not just the economic aspects of market development, but more importantly, the sociological, anthropological, and psychological factors as well. Fundamentally, developing sustainable market-based systems and **creating systemic change is about influencing human behavioral change**. This report should be viewed as a step towards developing those new approaches. In the future, additional studies and analysis will be needed to capture the necessary data to enable robust, defensible analysis, and approaches that will need to be refined and evolve over time.

NDPI and PIND build connections with government leaders during the Niger Delta Development Forums (NDDFs). (L-R) Ayebaesin Beredugo, Executive Assistant, Rivers State Government; Ambassador Joe Keshi, Director, BRACED Commission and Ambassador Robert Perry, Vice President, Corporate Council on Africa led discussions during the first session of NDDF Washington, DC on Oct. 28, 2015.

(Above and Left) The Economic Development Center (EDC) in Egbokodo, Warri is one example of NDPI and PIND's commitment to localizing faster by creating a local physical presence and coordinating hub for regional development activity of the PIND partner network.

1

INTRODUCTION

BACKGROUND

The Niger Delta region of Nigeria is one of the world's largest sources of oil and plays a critical role in meeting global energy demands, providing the country with approximately 75% of its foreign exchange earnings. Yet, 70% of the population in the Niger Delta region lives below the global poverty line of United States (US) Dollar ($) 2 per day. The communities in the region face a wide range of environmental threats, including those posed by overfishing, pollution, invasive species, and the construction of dams. In addition, the region is plagued by ongoing turmoil and conflict stemming from the inequitable distribution of wealth the region produces.

The Niger Delta Partnership Initiative and the Foundation for Partnership Initiatives in the Niger Delta

In 2010, recognizing the risks posed by the instability in the region, Chevron established the Niger Delta Partnership Initiative (NDPI), based in Washington, D.C., and the Foundation for Partnership Initiatives in the Niger Delta (PIND), based in Abuja, Nigeria. Together, these sister foundations formed an ambitious five-year plan to relieve poverty and promote development in one of Chevron's key business regions – the Niger Delta. Through the establishment of a $50 million fund, NDPI and PIND embarked on a journey to achieve sustainable prosperity throughout the Niger Delta region.

The goal of PIND is to act as a catalyst for the establishment of an enabling environment for socioeconomic growth in the Niger Delta region of Nigeria through forging and supporting sustainable multi-stakeholder partnerships. The objective of these partnerships is to reduce poverty and increase socioeconomic benefits by implementing interventions that result in stability and equitable increases in employment and incomes of individuals in nine target states: Rivers, Bayelsa, Delta, Abia, Akwa Ibom, Cross River, Ondo, Edo, and Imo. In order to deliver on this mission and after conducting a number of comprehensive market assessments and studies, NDPI and PIND established a portfolio comprising four interrelated and interdependent program areas. They are:

a. Economic Development
b. Capacity Building
c. Peace Building
d. Analysis and Advocacy

NDPI and PIND grasp that poverty is multi-dimensional and must be addressed by comprehensive interventions that support the development of sustainable, systemic change. The organizations work with a wide range of partners to tackle the myriad of complex and interrelated impediments to sustainable development through a wide variety of activities, with a focus on the development of robust, dynamic market systems. This includes the development of various value chains, specifically aquaculture, cassava, and palm oil, with emphasis on the critical business linkages between them; peace building efforts, including the development of a network of peace actors in the region; and the development of the enabling environment, including strengthening local infrastructure development, civil society, and policy institutions.

The Funding Model

Provides annual funding grants to

NDPI Foundation, with an office in Washington D.C., focuses on strategy development and raising interest/support for Niger Delta issues among the international donor community

Provides operating grants and individual project grants to

PIND Foundation, based in Nigeria with offices in Abuja, Warri and Port Harcourt, focuses on program planning, management and coordination with development partners.

Figure 3: NDPI Funding Model

Note: When the term NDPI is used alone in the report, it refers to both organizations. PIND is used when referring to activities specifically in Nigeria.

MAP OF PIND'S CORE ACTIVITY

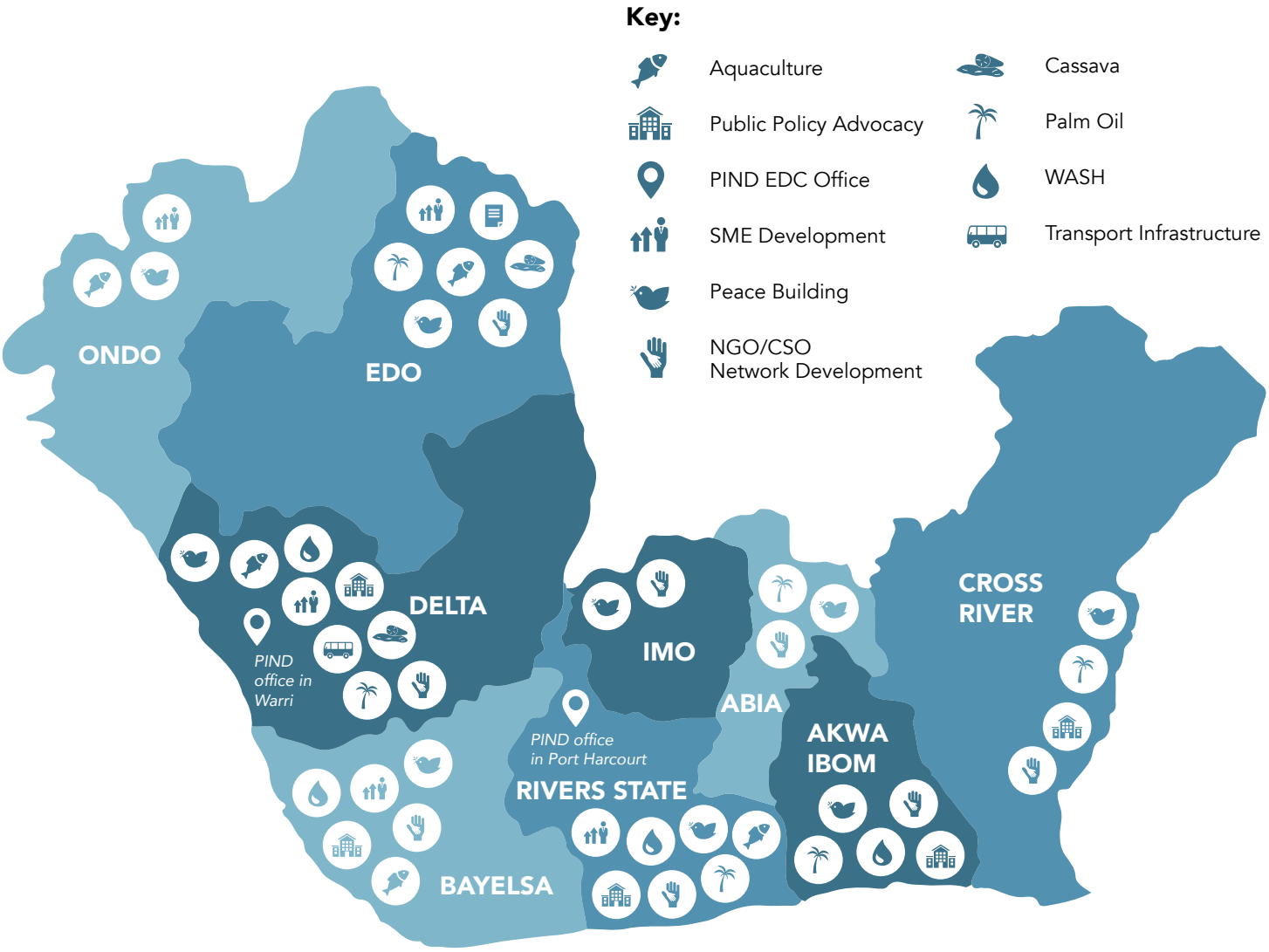


Figure 4: Map of PIND Activity in the Niger Delta
Note: Icons are not geospatially located.

"A one-dimensional, economic-centered definition of poverty fails to adequately address the concept of quality of life in all of its forms; many of which are aspects that are intangible and immeasurable, but nonetheless exceedingly important to human life and development."

(Altamirano, et al., 2003).

Assessment to Measure Impact

NDPI and PIND's comprehensive and extensive portfolio, which focuses on the enabling of market systems, calls for impact measurement methods that are equally as robust and comprehensive.

However, current development policy and approaches, and thus measurement methods, while evolving, have not necessarily been designed to address the complexity of market systems or to provide feedback in a manner that might be meaningful to a private sector donor. Often, the most frequently cited indicators in development monitoring and evaluation (M&E) are the number of jobs created and changes in overall GDP.

To address the challenges inherent in trying to measure the impacts of such a complex portfolio, NDPI and PIND enlisted the support of the Initiative for Global Development (IGD), which has experience in assessing the impacts of private sector companies operating in Africa. In November 2014, NDPI and PIND met with IGD to discuss ways in which the foundations could identify an approach that would clearly articulate the impacts of the first five years of their operations. In March 2015, IGD entered into an agreement to conduct a holistic and comprehensive assessment to measure the socioeconomic impacts of NDPI and PIND programs and projects to date.

OBJECTIVES

The overarching goal of the impact assessment was to obtain an objective, independent, third-party view of the socioeconomic impacts and progress made towards systemic change achieved by NDPI investment in the Niger Delta and to assist NDPI in communicating its impacts and reach to a wide range of stakeholder audiences, both in the Niger Delta and globally. The assessment has been designed to use an innovative approach and supporting analytical methods to:

- Gather critical feedback from a wide range of stakeholders.
- Identify an appropriate method to quantify "multiplier effects."
- Understand critical success factors enabling impact.
- Identify key recommendations to sustain and maximize impacts in the future.
- Support transparency.
- Provide NDPI with opportunities to share lessons learned with a wider audience.
- Share valuable knowledge about ways in which the power of the private sector can most effectively be leveraged to catalyze and sustain positive socioeconomic impact in the developing world.

To address the complexity inherent in assessing market systems and of NDPI and PIND's goals of achieving systemic change in the Niger Delta, this assessment, while still leveraging traditional M&E methods, moves beyond them. IGD explored new methods within an innovative approach and, to aid the development of new, appropriately tailored methods and tools, we asked tough questions such as:

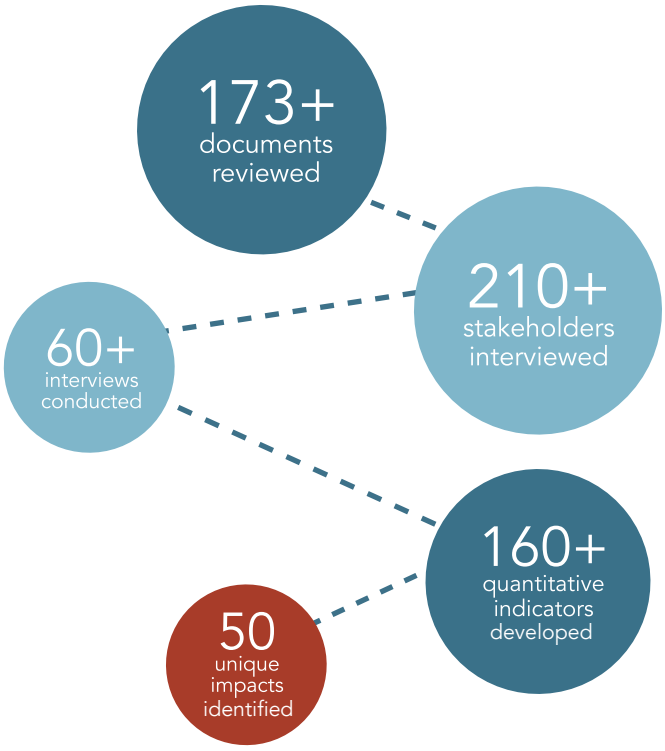
- Are there existing methods and tools that measure this, or ones that can be adapted from other disciplines to measure systemic change?
- How do we measure changes in market systems, accounting for all of the various stakeholders involved in supply and demand that are necessary to create a fully functioning market system?
- How can we more accurately measure how many people will be affected, what the "multiplier effect" might be, and how long it might take to reach a given number of individuals in a population?
- What drives human behavioral change – what are the drivers behind decisions to adopt new mindsets, best practices, and technologies?
- How can we measure the intangible but all-important changes in human well-being – the development of new hopes, aspirations, sense of pride in self and community, and a new vision for the future?

In summary, this impact assessment was not intended to be a traditional M&E evaluation of impact. This assessment constitutes a comprehensive institutional-level assessment of a living organization. It is also an assessment of the development of market systems and the enabling environments that support them, which, unlike many projects or initiatives, have no finite beginning or end. As a comprehensive organizational assessment, our study encompasses the full breadth and depth of NDPI and PIND activities, as well as provides an evaluation of their operational model and its effects on impact and systemic change in the Niger Delta. In essence, it is a critical review of not only what is being done, but *how* it is being done.

PROJECT APPROACH

Data Collection

IGD's approach consisted of an extensive review of secondary research sources, including existing documentation and desktop-based research. Additionally, IGD conducted in-country primary source research with a wide variety of NDPI stakeholders. IGD conducted two on-site visits to the Niger Delta over a three-week period. IGD met with 56 organizations and more than 210 individuals in one-on-one interviews and focus groups. All interviews were recorded and extensive transcripts completed. Working closely with NDPI and PIND, IGD also aggregated and conducted a rigorous review of existing program data. This included (but was not limited to) quarterly and annual M&E reports, previous organizational evaluations such as the Participatory Strategic Review (PSR) and the Lookback Report, value chain analyses and feasibility studies, online content, peace building and other programmatic reports, and results chains documents. The data from interviews and NDPI and PIND reports was coded and aggregated. In total, IGD reviewed and used 190 documents for the purposes of the analysis.



Articulating the NDPI Theory of Change and Operating Model

One of the most critical discoveries made by IGD during the assessment was reaching a true understanding of and being able to clearly articulate the unique structure and operating model of NDPI. The NDPI operating model is inherently complex, but well designed, providing numerous invaluable lessons for the private sector and the development sector alike. It is by the nature of its design and operating processes that NDPI is able to generate impact in one of the world's most challenging regions and holds the potential promise of bringing about truly sustainable, systemic change. The following section has been dedicated to discussing the NDPI model as it lays the groundwork for understanding the approach used to develop the Assessment Findings Framework, as well as the specific methods IGD developed and used to analyze and interpret the data aggregated within the framework, and to perform the overall impact assessment. Figure 4 below is an illustrative model of how the NDPI and PIND Theory of Change is operationalized. This is discussed in more detail in the following two subsections.

NDPI Theory of Change

NDPI and PIND aim to reduce poverty by acting as a catalyst for systemic change in the Niger Delta in **two core program areas: Economic Development and Peace Building.** NDPI and PIND understand that these two core areas are inherently interdependent, meaning that creating systemic change in a conflict-affected region requires addressing the root causes of conflict. Within the Niger Delta, conflict is largely a function of lack of economic opportunity for the general population. At the same time, economic growth has been stunted over time by militancy and other violent incidents. Thus, NDPI and PIND have appropriately focused on addressing both areas.

There is a third, and equally important program area of the NDPI and PIND Theory of Change, which is development of the **Enabling Environment**, to support the core Economic Development and Peace Building Programs. As in many other developing economies, the Niger Delta is faced with many barriers that inhibit both economic prosperity and human well-being. NDPI and PIND recognize that certain conditions are required to provide local populations with employment, such as a supportive enabling environment to support economic growth. As such, NDPI and PIND have taken a holistic approach that incorporates innovations and initiatives to develop a healthy enabling environment for economic development in the Niger Delta. These efforts include serving as advocates for the development of a healthy civil society, supporting the development of supportive policies and institutions, and tackling challenges related to infrastructure gaps, such as access to power, transport, and ICT.

NDPI Operating Model: Diffusion of Innovation

NDPI and PIND have been thoughtful in their implementation approaches across these three program areas. IGD found that NDPI and PIND have a "secret sauce" within their operating model, which demonstrates their awareness that *how* they implement their initiatives is every bit as important as the *what* of the initiatives themselves. Specifically, NDPI and PIND embrace an understanding that the achievement of systemic change involves multiple actors at all levels changing their practices or behaviors and sustaining those changes. By itself, NDPI cannot change each actor individually. Instead, it needs to find ways to stimulate change, which then spreads and multiplies through the efforts of other actors.

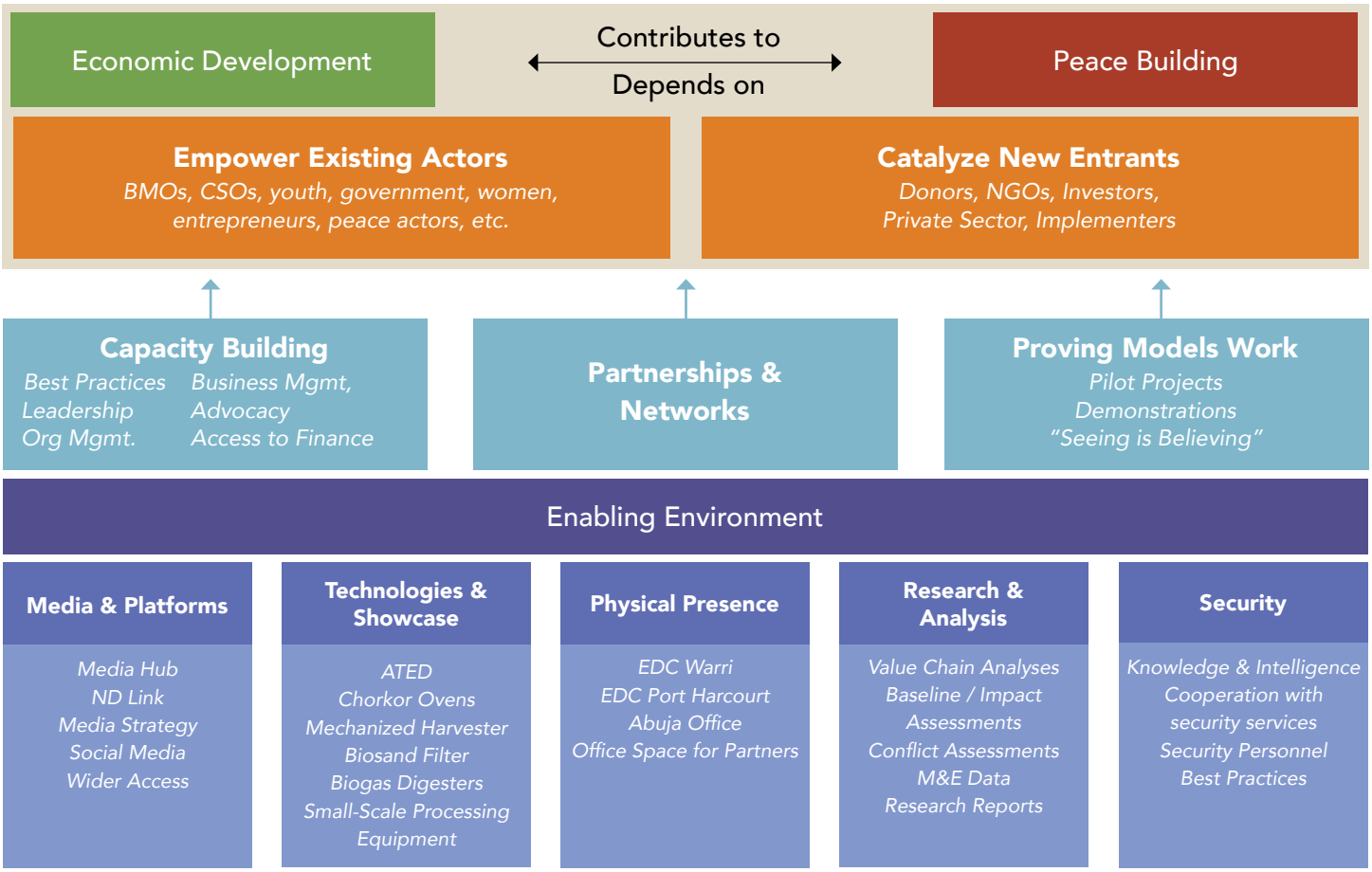


Figure 5: The NDPI-PIND Model

IGD articulates how the NDPI operating model works as follows:

- ***Existing actors are empowered*** through capacity building efforts.
- ***New entrants are catalyzed*** by demonstrating that projects work in the Niger Delta.
- In both cases, ***change is diffused through the communication of information via the extensive networks NDPI has created among both its implementing partners, as well as market actors throughout value chains.***
- Both implementing partners and market actors are ***supported by PIND's provision of technical assistance and other resources*** to help overcome practical barriers to change. These include PIND's physical presence in Abuja, Warri, and Port Harcourt, together with the research produced, the contextual understanding that the team has developed, and the platforms that NDPI and PIND provide. Ultimately, NDPI's approach is to empower existing actors to carry out activities sustainably and, eventually, without support, and to bring new actors and resources into the region to systemically change the context of the Niger Delta.

Within the three major focus areas (Economic Development, Peace Building, and Enabling Environment), IGD observed that NDPI's approach is to identify the package of solutions that are most likely to be adopted, demonstrate that they work, and then catalyze other actors to scale the approaches. To do this, NDPI must identify and inspire individuals and organizations to spearhead the changes needed. The solutions that NDPI seeks to encourage include practices, behaviors, and technologies. IGD identified that this approach, and the resulting process of adoption by NDPI stakeholders, is consistent with the ***Theory of Diffusion of Innovation***. This theory was initially made famous by Everett Rogers in 1962 and seeks to explain how, why, and at what rate new ideas and technologies spread through cultures. Innovations are diffused through various communication channels and are also influenced by several variables that include the appropriateness of the innovation itself within the context of a population, the social system of the population, available communication channels, and time.

Developing an Assessment Framework Consistent with the NDPI-PIND Model

IGD applied the Theory of Diffusion of Innovation to develop a simplified model and assessment framework that articulates the NDPI model in terms of what are referred to throughout the assessment as **13 Innovations**. These are outlined below:

I. Economic Development

A. Aquaculture

1. Aquaculture Value Chain Development
2. Aquaculture Access to Finance and Financial Services

B. Cassava

3. Cassava Value Chain Development
4. Cassava Access to Finance and Financial Services

C. Palm Oil

5. Palm Oil Value Chain Development
6. Palm Oil Access to Finance and Financial Services

II. Peace Building

D. Peace Building

7. Peace Building Network Development

III. Enabling Environment Development

E. Civil Society

8. SME Network Development
9. NGO / CSO Network Development
10. Institutional Network Development
11. Water, Sanitation & Hygiene (WASH) Infrastructure Development
12. Power Infrastructure Development
13. Transportation Systems Development

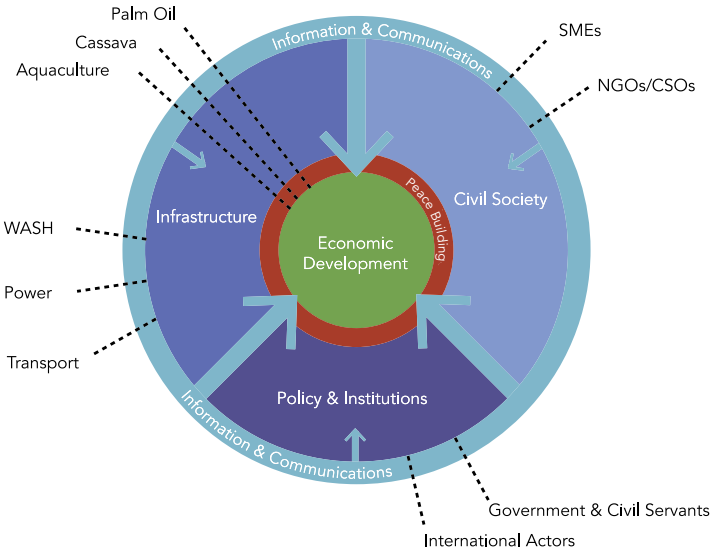


Figure 6: Simplified Model Forming the Basis of the Analysis Framework

Consistent with the theory, IGD uses **the term 'innovation' to broadly refer to new ideas, practices, approaches, as well as technologies.** The successful adoption of these innovations requires changes in behavior by the stakeholders who will ultimately drive systemic change. These innovations are spread by NDPI and its partners through the development of extensive social networks, sharing of information through communications channels, and the use of demo sites and pilots, which are critical success factors. This dissemination enables innovators and early adopters within the Niger Delta to further spread best practices, a process which occurs predominantly through word-of-mouth.

Forming the most detailed level of the Assessment Framework, IGD developed 49 Impact Statements underlying the 13 Innovations. The Impact Statements describe the long term, systemic effect the organization is hoping to achieve for each group of stakeholders (grouped by "existing market actors" and "new market entrants" consistent with the operating model). They were developed using NDPI and PIND's existing results chains, as well as through direct observations and other primary data IGD gathered in the field. The Areas of Innovation and their associated Impact Statements are summarized in tables on the following pages.

A final 50th Impact is considered by IGD to be the overarching NDPI–PIND Operating Model, which serves to enable and bring all of the other aspects together. This Impact and its critical success factors are discussed in detail in the Key Findings section of this report.

Summary List of NDPI Impact Statements

I. Economic Development

Aquaculture			
Innovation 1: Aquaculture Value Chain Development			
Empowering existing:	Farmers	1	Existing farmers improve practices and increase yield from their ponds
		2	Strengthens Fish Farming Associations to better serve farmers
	Value Chain Actors	3	Stronger business linkages exist between existing aquaculture value chain actors resulting in increased commercial activity
Catalyzing new:	Farmers	4	Respect for fish farming as an activity and career increases
	Value Chain Actors	5	New businesses and partnerships emerge throughout the value chain
Innovation 2: Aquaculture Access To Finance And Financial Services			
Empowering existing:	Financial Institutions	6	Financial institutions regularly provide financial services to aquaculture value chain actors
Catalyzing new:		7	Financial institutions enter market and compete for business of aquaculture value chain actors

Cassava			
Innovation 3: Cassava Value Chain Development			
Empowering existing:	Farmers	8	Existing cassava farmers improve practices and increase yield from their fields
		9	Strengthens cooperatives/clusters to better serve cassava farmers
	Value Chain Actors	10	Stronger business linkages exist between existing cassava value chain actors resulting in increased commercial activity
Catalyzing new:	Farmers	11	Respect for cassava farming as an activity and career increases
	Value Chain Actors	12	New businesses and partnerships emerge throughout the cassava value chain
Innovation 4: Cassava Access To Finance And Financial Services			
Empowering existing:	Financial Institutions	13	Financial institutions provide financial services to other actors in cassava value chain
Catalyzing new:		14	Financial institutions enter market and compete for business of cassava value chain actors

Palm Oil			
Innovation 5: Palm Oil Value Chain Development			
Empowering existing:	Farmers	15	Existing farmers improve practices and increase yield from their trees
		16	Strengthens cooperatives/clusters to better serve farmers
	Value Chain Actors	17	Stronger business linkages exist between existing palm oil value chain actors resulting in increased commercial activity
Catalyzing new:	Farmers	18	Respect for palm oil farming as an activity and career increases
	Value Chain Actors	19	New businesses and partnerships emerge throughout the palm oil value chain
Innovation 6: Palm Oil Access To Finance And Financial Services			
Empowering existing:	Financial Institutions	20	Financial institutions regularly provide financial services to palm oil value chain actors
Catalyzing new:		21	Financial institutions enter market and compete for business of palm oil value chain actors

II. Peace Building

Peace Building			
Innovation 7: Peace Building Network Development			
Empowering existing:	Peace Actors	22	Legitimizes and supports self-identified peace actors (individuals and groups)
		23	Provides healing to wider community members
		24	P4P members are responsive and help mitigate conflict
Catalyzing new:		25	Government, international development, and private sector actors participate in spreading peace
		26	New and more accurate information, resources and strategies about peace available, which enable more effective engagement

III. Enabling Environment Development

Civil Society			
Innovation 8: SME Network Development			
Empowering existing:	SMEs/ Entrepreneurs	27	Existing SMEs/Entrepreneurs increase profitability and productivity
Catalyzing new:		28	SMEs/Entrepreneurs see opportunities in the Niger Delta resulting in increased employment and income in the Niger Delta
Innovation 9: NGO/CSO Network Development			
Empowering existing:	NGO/CSOs	29	Existing NGOs/CSOs better serve their constituents/stakeholders
Catalyzing new:		30	Donors and other actors work effectively with Niger Delta NGO/CSOs
		31	Respect for NGOs/CSOs and their employment opportunities increases

Policies & Institutions			
Innovation 10: Institutional Network Development			
Empowering existing:	Government, Civil Servants, & International Development Actors	32	Local Government Areas proactively address constituents' needs and better serve the community
		33	Federal and state government actors work in partnership with development actors, donors and the private sector to achieve systemic change in the Niger Delta
		34	Stronger linkages exist between all government actors (local, state, federal)
		35	Improved financial transparency and flow of funds in the economy
Catalyzing new:		36	International development actors better contribute to economic development and peace building in the Niger Delta
		37	Federal and state government priorities & funding aligns with market systems development

Infrastructure			
Innovation 11: WASH Infrastructure Development			
Empowering existing:	Social Entrepreneurs	38	Communities have access to clean, affordable water
		39	Government actively addresses consituents' need for access to WASH
		40	Communities recognize importance of WASH
Catalyzing new:		41	Entrepreneurs and SMEs see opportunities in providing services around WASH/Health

Infrastructure			
Innovation 12: Power Infrastructure Development			
Empowering existing:	Power Value Chain Actors	42	Current power providers increase reliability and affordability of energy supply to underserved markets
		43	Governments actively address constituents' need for access to power
Catalyzing new:		44	New low-cost innovative energy solutions are available
		45	Cross sector actors work together to deliver power

Infrastructure			
Innovation 13: Transportation Systems (Roads/ Waterways/ Public transit) Infrastructure Development			
Empowering existing:	Transportation, Logistics, & Supply Chain Actors	46	Cross sector actors support communities by providing safe & reliable roads and transportation systems
		47	Governments proactively address constituents' need for safe & reliable transportation
Catalyzing new:		48	Cross sector actors work together to improve transportation infrastructure
		49	Private sector actors see opportunities and start new businesses to provide services around transportation

METHODOLOGIES

Selecting and Developing Methodologies

Due to the complex nature of dynamic market systems, the variety and interrelatedness of NDPI and PIND's activities and interventions, and the large number of networks and actors involved, it was necessary for IGD to develop a suite of methods and tools to evaluate the 49 Impact Statements, and thus the progression of each of the 13 Innovations. IGD reviewed, applied, and tailored multi-disciplinary methods from various fields, including private sector best practices. At a high level, five primary methodologies were used in the assessment as follows:

1) Qualitative Outcomes Metrics: Indicate the extent of an impact among specific stakeholders through documented changes in their behavior, including their relative levels of change in knowledge, capacity, discourse, actions, and social norms. The resulting findings are included in the Summary Findings Framework, which served as the basis for this assessment. Detailed criteria and the definition associated of the progression actors make through this process are located in Appendix E. In addition, these metrics are captured in the Maturity Model in the category Human Capital Alignment.

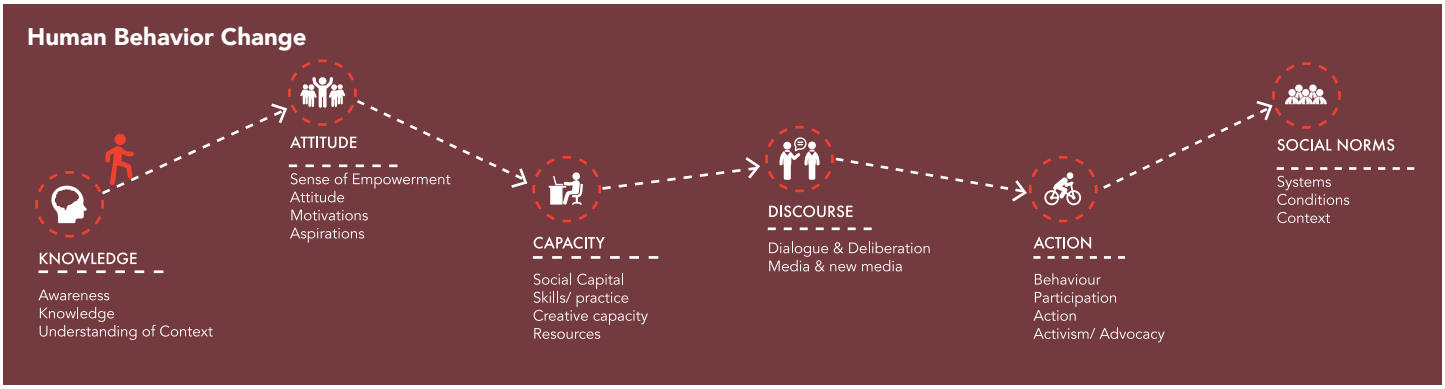


Figure 7: Qualitative Indicators – The Stages of Behavior Change Leading to Systemic Change

2) "Proof Points" and Case Studies: Throughout the assessment report, IGD has included a second type of qualitative evidence in the form of documented examples of compelling stories of innovators and early adopters in various NDPI innovation areas to demonstrate how all of the various factors combine into powerful, personal stories of transformation and hope that create the "multiplier effect." As much as possible, IGD has attempted to define some of the common characteristics we observed in individuals that could be classified as innovators and early adopters. IGD made the recommendation, which is discussed in the summary recommendations in the report, that these characteristics be considered and institutionalized by NDPI and PIND because they form a key element of their Theory of Change. In Appendix D we have included characteristics of entrepreneurs and innovators developed by other organizations for consideration.

3) Quantitative Outcomes Metrics: Indicate the extent of an Impact Statement among specific stakeholders through specific changes in quantifiable factors and measurements. These metrics and indicators are included in Appendix A as support for the scoring and projections evaluated by the methodologies included within this assessment.

4) Rates of Adoption: Provides an estimated number of stakeholders who have changed their behavior, specifically with regards to adopting a new idea, practice, or technology introduced by NDPI or its partners in an area of innovation.

Leveraging the theories of ***Diffusion of Innovation*** and ***Tipping Points*** as the theoretical underpinnings for the assessment, IGD developed a tailored, quantitative measurement methodology to capture these "multiplier effects," otherwise known as "rate of adoption." To measure behavior change within stakeholders and the spread of adoption within these areas, IGD adapted a simplified Bass Diffusion model.

Common Characteristics Observed

- *Determination for Success*
- *Taking Risk*
- *Finding Key Linkages*
- *Taking Initiative*
- *Spreading the Benefits*
- *An Eye for Scaling Up*
- *Peaceful Dialogue*
- *Building Internal Capacity*

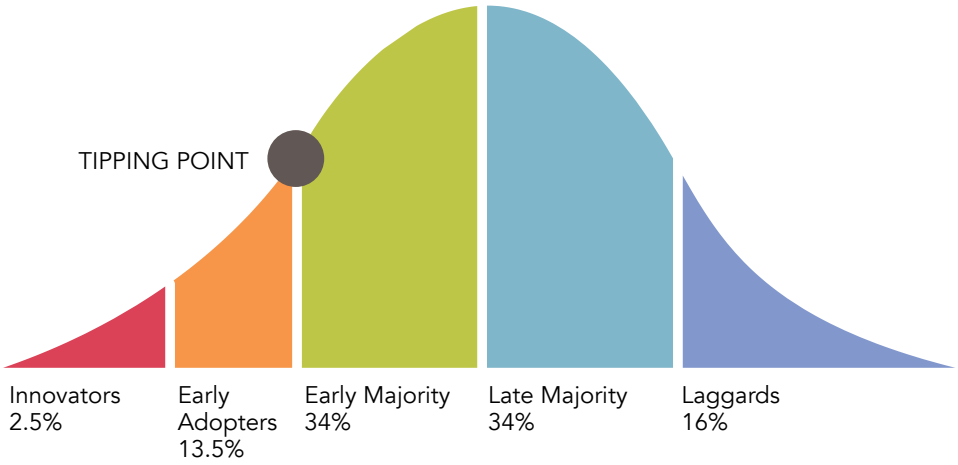


Figure 8: Tipping Point of Innovations

The Bass Diffusion Model was developed in 1963 by Professor Frank M. Bass as a mathematical explanation that supports the Theory of Diffusion of Innovation by showing the rate at which new products (or other innovations) will diffuse among potential customers. The Bass Model is the most widely applied new-product diffusion model. It has been tested in many industries and with many products (including services) and technologies.

The equation is as follows:

$$\frac{f(t)}{1 - F(t)} = p + \frac{q}{M}[A(t)]$$

p= coefficient of innovation
q= coefficient of imitation
M = the potential market (the ultimate number of adopters)

Figure 9: Bass Diffusion Model

The equation is to be read: "The portion of the potential market that adopts at time (t) given that they have not yet adopted is equal to a linear function of previous adopters." More can be read about the Bass Diffusion Principle and Model here: http://www.bassbasement.org/BassModel/Default.aspx.

IGD decided to use this model to estimate how many individuals might adopt the innovations. Estimates also include how quickly the new ideas, approaches, and technologies being introduced by NDPI, PIND, and their partners might be multiplied, or spread, throughout the Niger Delta to lead to a systemic level of change. The estimates were developed based on a series of scenarios of Bass Diffusion Modeling using an off-the-shelf software developed by DecisionPro, Inc. The software enables users to input past data collected about an innovation and uses the data to calculate predicted future adoption rates using the Bass Diffusion equation. In addition, it provides a database of potentially analogous innovations so that the user can see how the predicted curve compares to other innovations for which substantial data has been collected over time, thus enabling the user to make judgment calls about how the estimated rates of adoption may or may not change based on other variables. As is noted throughout the report, many innovations and interventions are in very early stages, thus providing a lack of robust data with which to perform analysis. These estimates are based on a number of assumptions and IGD has made numerous recommendations throughout the report on areas where, over time, NDPI can and should continue to refine the basis of the assumptions, as well as past data to enable a more robust and accurate estimate of adoption rates.

The Tipping Point Theory was then applied to help gauge when an innovation will reach a level of systemic change. (The theory states this generally happens once an innovation has been adopted by 16% of the population.)

5) Maturity Model: Finally, to place the progress of all of the 13 Areas of Innovation and their underlying 49 Impact Statements into perspective for NDPI, IGD developed a new method intended to show the "maturity" of each. IGD borrowed from private sector management tools such as Lean Six Sigma, Continuous Process Improvement, and Lean Innovation, to develop a maturity model comprising clear stages by which we observed Innovations progressing towards reaching a systemic level of change. To provide some level of objectivity towards determining which stage of maturity an Impact Statement (and thus Area of Innovation) has reached, IGD developed supporting criteria for each of the five stages. The entire model is shown in Figure 8.

	Level 1	Level 2	Level 3	Level 4	Level 5
	Ad Hoc	Pilot	Stickiness	Scale	Systemic Change
Coordinated Strategy/ Implementation Plan	No service portfolio or investment	Service portfolio strategy & plan emerges	All actors buy in & agree to role in service portfolio	Service portfolio executed & reviewed across all 9 Niger Delta states	Market systems begin to take over; development institutions scale back
Network Development Relationships	Stakeholders are not connected	Small loosely connected networks form around activities	More tightly connected networks gain recognition	Networks expand (geographically, more stakeholders, industries) & internally driven	Collective networks have reached critical mass across the region
Human Capital Alignment	Raising stakeholder knowledge & awareness	Stakeholders attitudes change	Stakeholders capacity is built	Stakeholders adopt & operationalize actions	Behavioral/ societal norms change
Resources	No planned budget or investment	Funding & investment identified for specific activities	Consistent, committed funding & investment	More funders & investors crowd-in	Effective & efficient flows of capital to Niger Delta contribute to GDP increase
M&E	No measurement or easy measurement for the sake of measurement	New, more appropriate measurement methods & tools identified & tested	Development of a strategic M&E plan	Evidence collected & measured consistently within all initiatives & innovations	Investor & policy-makers make decisions based on appropriate, timely & accurate information

Figure 10: IGD Innovation and Systemic Change Maturity Model

The five stages and their associated scoring are as follows:

1. **Ad Hoc:** Stage of preliminary activity occurring on an experimental or uncoordinated basis without a clear plan for program activities, stakeholders and participants, funding, and/or monitoring. The associated score for this level of maturity in all categories = "1" point.

2. **Pilot:** Stage of program activity when experimentation becomes controlled as plans begin to take shape around specific activities, actors come together and engage, funding is identified, and/or monitoring methods are identified and tested. The associated score for this level of maturity in all categories = "2" points.

3. **Stickiness:** Stage of activity when experimentation ceases and plan becomes clearly defined or "sticky," leading to the buy-in, consistency, and strategy related to stakeholders, funding, and/or monitoring, which helps programs reach the "tipping point" required to take off and build to large numbers quickly. The associated score for this level of maturity in all categories = "3" points.

4. **Scale:** Stage of activity when widespread, internally driven involvement leads programming, and scope of the project expands significantly. The associated score for this level of maturity in all categories = "4" points.

5. **Systemic Change:** Stage of activity when new practices and ideas spread independently and sustainably without further need for intervention. The associated score for this level of maturity in all categories = "5" points.

The five criteria categories are as follows:

1. **Coordinated Strategy/Implementation Plan:** Progress achieved by organizations supporting market systems development in developing and implementing a comprehensive strategy to coordinate market actors and activities, but eventually scaling back and giving way to self-sufficiency of the market.

2. **Network Development/Relationships:** Progress achieved toward collective networks reaching critical mass across the region.

3. **Human Capital Alignment:** Progress achieved toward individual behaviors changing and reaching a critical mass to the extent that social norms change.

4. Resources: Progress achieved toward effective and efficient flows of capital to enable market systems development and eventually reaching a state where the market is so large and efficient it may contribute to increasing GDP.

5. M&E: Progress achieved toward regularly identifying, collecting, and monitoring metrics that aid investors and policymakers in decision-making.

Maturity Model Scoring

IGD applied a robust approach to determine the progress of each of NDPI's Innovation Areas against the Maturity Model. Each of the 49 Impact Statements were scored against the Maturity Model using the criteria in the model and assessed by interpreting the extensive quantitative and qualitative evidence gathered and documented in the Assessment Framework previously discussed. Because there are five stages, each category was scored out of a possible total of 5 points with the lowest score being a "1" and associated with an Ad Hoc Stage of maturity, and the highest possible score being a "5" and associated with a Systemic Level Change having been reached. It is important to note that this impact assessment was intended to support further development of the NDPI M&E system. For this reason, Impact Statement scores for the category of M&E were not included in this assessment. Therefore, the average "score" for each Impact Statement was determined by dividing the sum of the category scores by four rather than five, despite the five total categories of the Maturity Model.

The Impact Statement scores were then summed and weighted to determine an overall score for each Innovation. This same approach was then similarly applied to determine a score for each Innovation Area and finally to each of the three Program Areas.

Figure 9 shows an example of how each Impact Statement was scored against each Maturity Category and then averaged in the Total Maturity Score Column and how these were rolled up to the Innovation and Innovation Area level. The supporting scores for every Innovation and its supporting Impact Statements aligned to each stage can be found in Appendix A.

				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Aquaculture								2.7
Innovation 1: Aquaculture Value Chain Development				3.1	2.8	3.2	3	3.1
Empowering existing:	Farmers	1	Existing farmers improve practices and increase yield from their ponds	3	4	4	4	3.4
		2	Strengthens Fish Farming Associations to better serve farmers	3.5	3	3	3	3.4
	Value Chain Actors	3	Stronger business linkages exist between existing aquaculture value chain actors resulting in increased commercial activity	3	2	3	3	2.9
Catalyzing new:	Farmers	4	Respect for fish farming as an activity and career increases	3	3	3	3	3.0
	Value Chain Actors	5	New businesses and partnerships emerge throughout the value chain	3	2	3	2	2.8

Figure 11: Example scoring card for Innovation 1

Summary

The approaches and methods detailed here are intended to be a first step towards the development of new and more appropriate ways of measuring the impacts of market-based approaches to development and their effects on changing the overall context of a conflict-affected region of the world. The authors of the report acknowledge that moving forward, the methods, and more importantly, some of the underlying data and assumptions can and should continue to be refined. However, it is our hope that in taking these first steps towards a comprehensive measurement approach tailored to NDPI and PIND, this assessment will serve as a roadmap for the organizations in systematically measuring their extensive impacts in the Niger Delta. We also hope that the findings, important lessons learned, and new methods and tools will serve as useful aides for discussion, consideration, and adaptation by other practitioners to continue to develop and improve the field of international development, specifically the increasingly important role of the private sector and market-based approaches in achieving development goals.

The following sections of the report provide a summary of the findings of the impact assessment and the detailed findings by Innovation Area. Section 2 provides a summary of the Key Findings, which include what IGD considers to be some of the most notable achievements of the organizations that are not necessarily aligned to the Impact Statements or Innovations. However, it also includes aggregated findings of the Rate of Adoption calculations, and highlights of the results of the scoring against the Maturity Model. The results will provide the reader with a summary of which Impact Statements and Innovations have made the most significant progress towards a systemic level of change within the first five years of operation. Section 2 also discusses the Critical Success Factors identified by IGD for the 50th Impact, which is the NDPI Partnership Model.

Section 3 provides a more comprehensive and detailed discussion of each of the Innovation Areas and their composite Innovations, including supporting quantitative and qualitative evidence, rate of adoption calculations, and case studies as proof points. It also provides detailed recommendations for increasing the maturity of each Innovation.

Finally, Section 4 concludes the report with a summary of key, overarching recommendations made by IGD based on the findings of the assessment and an overall assessment of NDPI's impact in the Niger Delta.

Partners for Peace (P4P) members hold up "Peace Yes!" stickers at the conclusion of Peace Camp in Oyigbo, Rivers State.

NDPI - PIND - IGD Partnership to Measure Impact

IGD | INITIATIVE for GLOBAL DEVELOPMENT

Key Concepts:

- Market systems development
- Sustainable systemic change
- Spread of innovation
- Partnership-based model
- Network development
- Behavior change / rate of adoption
- Increase access to finance

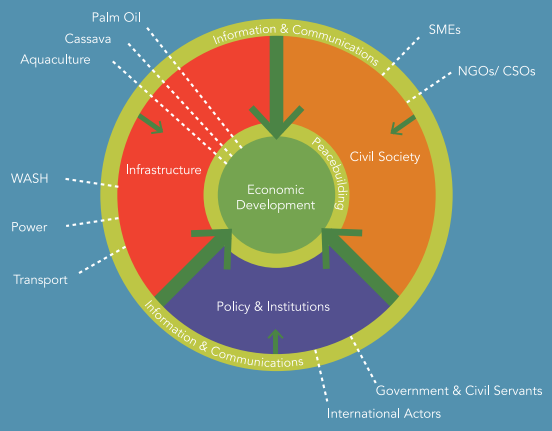
Actors / Stakeholders Involved & Interviewed

- Private Sector / Value Chain Actors
  - Smallholder Farmers in Aquaculture, Cassava, and Palm Oil
  - Social Entrepreneurs
- Financial Institutions
- International Donors
- Development Organizations
- Local and International NGOs and CSOs
- Nigerian Government

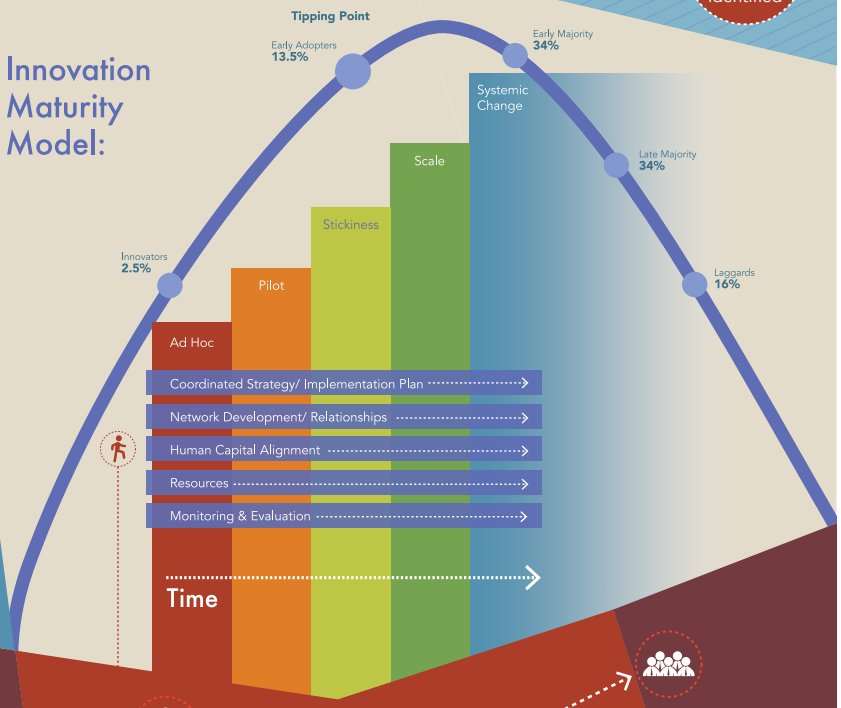
Approach:

- 210+ stakeholders interviewed
- 173+ documents reviewed
- 160+ quantitative indicators developed
- 60+ interviews conducted
- 50 unique impacts identified

NDPI-PIND Simplified Model:



Innovation Maturity Model:



Human Behavior Change:

KNOWLEDGE
Awareness
Knowledge
Understanding of Context

ATTITUDE
Sense of Empowerment
Attitude
Motivations
Aspirations

CAPACITY
Social Capital
Skills/ practice
Creative capacity
Resources

DISCOURSE
Dialogue & Deliberation
Media & new media

ACTION
Behaviour
Participation
Action
Activism/ Advocacy

SOCIAL NORMS
Systems
Conditions
Context

Objectives of Impact Assessment:

To determine progress made by NDPI and PIND to date towards achieving sustainable, systemic change in the Niger Delta.

1. Obtain an objective, independent, third party view on the socio-economic impacts achieved.
2. Identify a well-balanced mix of qualitative and quantitative indicators to quantify impacts achieved to date and multiplier effects.
3. Communicate impacts to donors, partner organizations, and other stakeholders both in the Niger Delta and globally.
4. Provide NDPI and PIND with opportunities to share lessons learned with a wider audience.
5. Share valuable knowledge about ways in which the power of the private sector can most effectively be leveraged to catalyze and sustain positive socio-economic impact in the developing world.

NDPI NIGER DELTA PARTNERSHIP INITIATIVE

PIND

2

KEY IMPACTS

KEY FINDINGS

$92.2 Million

catalyzed in new investment

$739,000

Catalyzed in new loans from local financial institutions

+3,851

*Peace actors empowered in the P4P network**

511

*Organizations empowered within the network**

79%

Organizations in network that are local to the Niger Delta

Achievements in Catalyzing New Resources

In five years, NDPI and PIND have brought significant international attention and resources to bear in support of sustainable development initiatives in the Niger Delta and this is an area of significant potential future impact.

A region that until recently was virtually "untouchable" by even the international development community, the Niger Delta is now receiving investment from multi-lateral and bi-lateral donors and international NGOs including the United States Agency for International Development (USAID), United Kingdom Department for International Development (DFID), United Nations Children's Fund (UNICEF), and the Fund for Peace (FFP), as well as other private sector actors who see the impacts and opportunities to create shared value. NDPI and PIND have catalyzed more than $92 million of new investment into the region in both monetary and in-kind resources (See Appendix C). This amount will continue to grow in the coming years as the impacts of NDPI and PIND initiatives continue to take hold and make it easier for organizations to operate in the region. IGD heard from senior-level executives in many of these organizations that they would not be working in the region if it were not for the presence, security, office space, and commitment and results demonstrated to date by NDPI and PIND. Similarly, over time, new financial institutions will begin to enter into the market, building on the early successes of organizations such as the Lift Above Poverty Organization (LAPO), Coastline Microfinance Institution (CMI), and GroFin who are actively lending to value chain actors, including smallholders in the region.

Achievements in Empowering Existing Actors

NDPI and PIND have also achieved significant impacts in empowering existing organizations and individuals. IGD also sees this as an area of greater future impact.

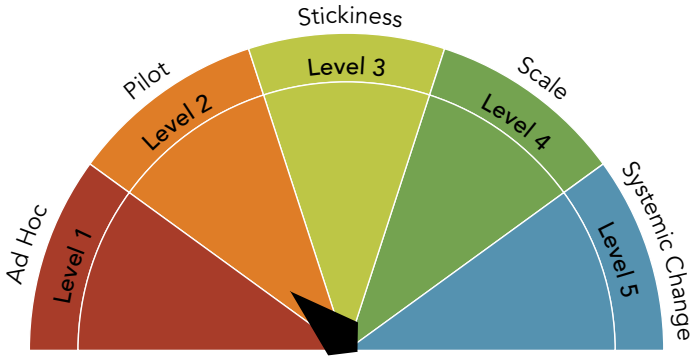
NDPI and PIND understand the importance and art of forging strong relationships including partnerships, alliances, and developing networks. To date, they have developed a network of 511 organizations working in the region with whom they are connected directly or indirectly. Within specific innovations, PIND has empowered more than 3,851 individuals who have now joined and actively participate in the Partners for Peace (P4P) peace building network, and many individuals have been empowered through the work that PIND is doing with at least 406 local organizations made up of business membership organizations, CSOs, and NGOs across the region. In addition, NDPI and PIND's work in the value chains have resulted in the creation of many new businesses. As the Theory of Diffusion of Innovation and our rates of adoption projections show, these too will continue to grow as more individuals and organizations have the opportunity to participate in demonstrations and also begin to imitate those actors who have already adopted PIND innovations.

* Within this section and throughout this report the term "empowered" is defined as follows: Individuals that have benefited from NDPI and PIND or partner capacity building efforts (with or without funding support) that function to increase the degree of autonomy and self-determination in the lives of people and communities in order to enable them to represent their interests in a responsible, and self-determined way, acting on their own authority. Characterized by a move away from a deficit-oriented towards a more strength-oriented perception. As the term "empowered" often has a different meaning to citizens of the Niger Delta, IGD and NDPI felt it important to clarify this definition here.

OVERALL IMPACT ASSESSMENT

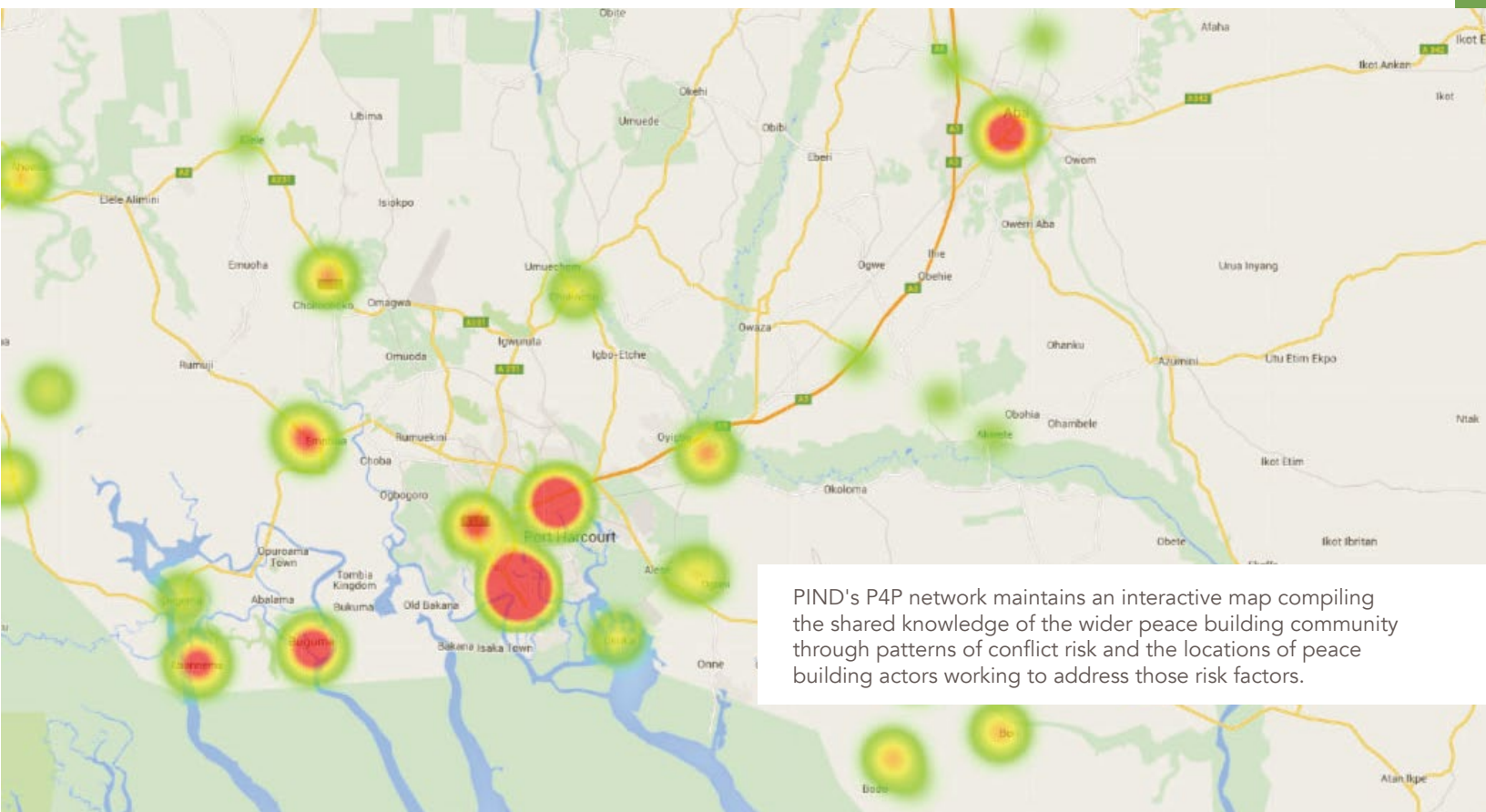
Innovation Maturity and Progress towards Systemic Change

At the highest level, NDPI's progress towards systemic change is, on average, in a full-fledged Pilot state, scoring a **2.4** *on the 5-point maturity scale.*



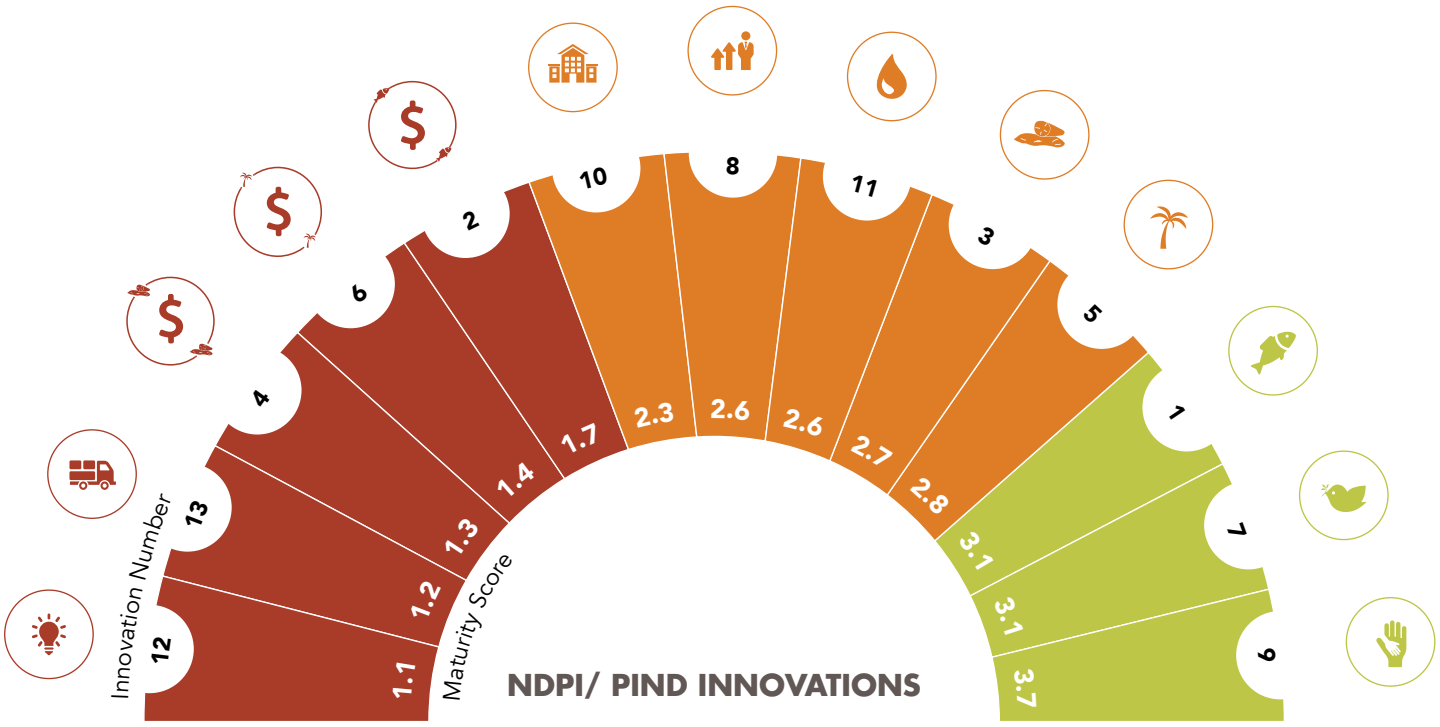
Across the entire NDPI portfolio, the maturity of the 13 Innovations varies greatly. One Innovation is beginning to reach scale, while other Innovations are more recently being implemented and thus are still in the Ad Hoc stage.

The gauge below shows the progression of each of the Innovations along the Maturity Model. They are shown in ascending order from the most least mature innovation, i.e., the newest or lesser developed to the most mature innovation, i.e., the one that has progressed the furthest towards creating systemic change. Similarly, the gauge on the following page illustrates the top 16 most significant individual impacts that NDPI has had to date. Each of the top 16 impacts comprises different Innovations, which are described in detail in Section 3 of this report. To understand how these ratings were developed, readers of this report should refer to Appendix A.



PIND's P4P network maintains an interactive map compiling the shared knowledge of the wider peace building community through patterns of conflict risk and the locations of peace building actors working to address those risk factors.

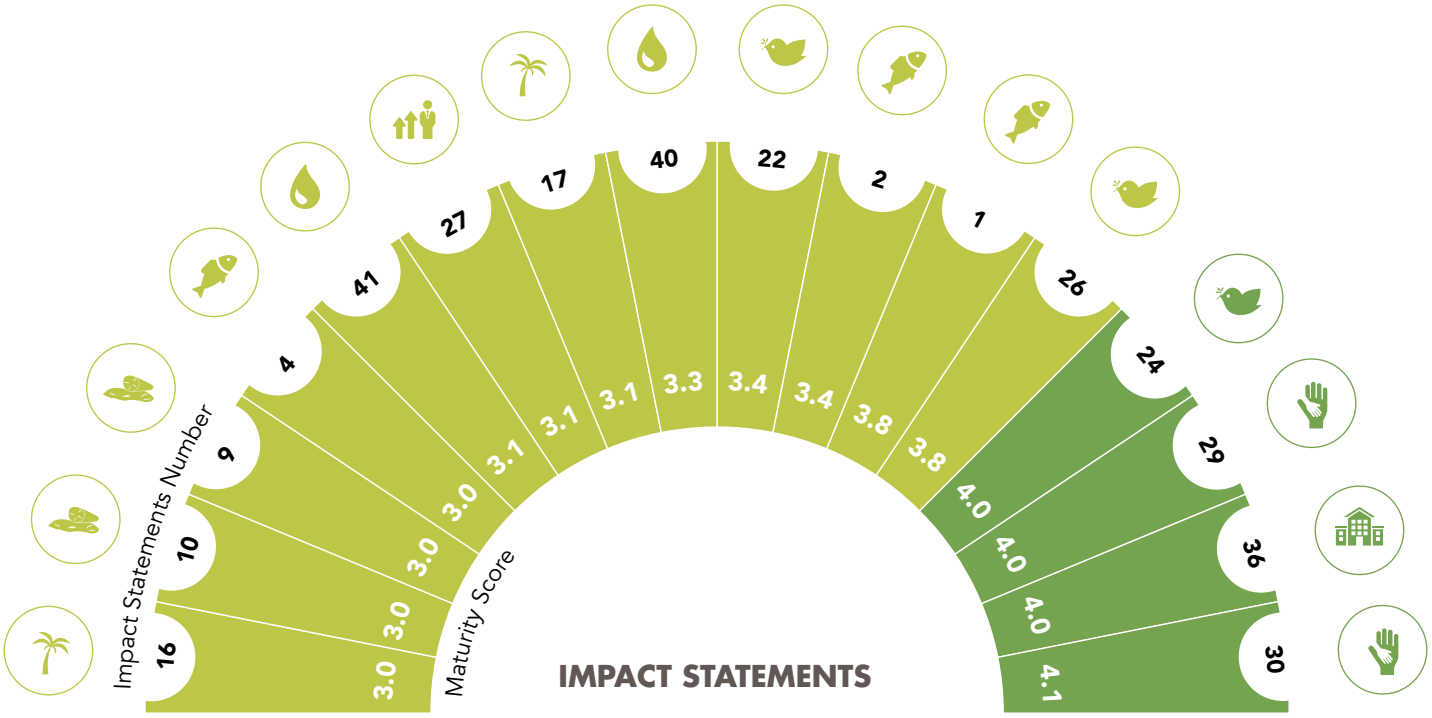
SNAPSHOT OF NDPI INNOVATION MATURITY



Innovation 1:	Aquaculture Value Chain Development
Innovation 2:	Aquaculture Access To Finance And Financial Services
Innovation 3:	Cassava Value Chain Development
Innovation 4:	Cassava Access To Finance And Financial Services
Innovation 5:	Palm Oil Value Chain Development
Innovation 6:	Palm Oil Access To Finance And Financial Services
Innovation 7:	Peace Building Network Development
Innovation 8:	SME Network Development
Innovation 9:	NGO/CSO Network Development
Innovation 10:	Institutional Network Development
Innovation 11:	WASH Infrastructure Development
Innovation 12:	Power Infrastructure Development
Innovation 13:	Transportation Systems (Roads / Waterways / Public Transit) Infrastructure Development

Note: Innovation Maturity Score - Total maturity score to determine stage for each innovation is an average of the scores of the underlying impact statements comprising each innovation. See Appendix A for the full list and supporting scores.

SNAPSHOT OF HIGHEST SCORING IMPACT STATEMENTS



Impact 1:	Existing fish farmers improve practices and increase yield from their ponds
Impact 2:	Strengthens FFAs to better serve farmers
Impact 4:	Respect for fish farming as an activity and career increases
Impact 9:	Strengthens cooperatives/ clusters to better serve cassava farmers
Impact 10:	Stronger business linkages exist between existing cassava value chain actors resulting in increased commercial activity
Impact 16:	Strengthens cooperatives/ clusters to better serve palm oil farmers
Impact 17:	Stronger business linkages exist between existing palm oil value chain actors resulting in increased commercial activity
Impact 22:	Legitimizes and supports self-identified peace actors (individuals and groups)
Impact 24:	P4P members are responsive and help mitigate conflict
Impact 26:	New and more accurate information,resources, and strategies about peace available, enable more effective engagement
Impact 27:	Existing SMEs/ Entrepreneurs increase profitability and productivity
Impact 29:	Existing NGOs/ CSOs better serve their constituents/ stakeholders
Impact 30:	Donors and other actors work effectively with Niger Delta NGO/ CSOs
Impact 36:	International development actors better contribute to economic development and peace building in the Niger Delta.
Impact 40:	Communities recognize importance of WASH
Impact 41:	SMEs/ Social Entrepreneurs provide innovative and affordable WASH technologies/ solutions

Note: Impact Maturity Score - Total maturity score to determine stage of each impact is an average of the scores for the impact statement across all Maturity Model criteria.

Discussion

A significant factor in the varying level of progression of Innovations and their composite Impact Statements is time. Not all activities were initiated simultaneously, and in fact, quite a few are in relatively infant stages. Prime examples of new focus areas for NDPI and PIND include Power and Transport.

In June 2015, NDPI and PIND held a Niger Delta Development Forum (NDDF) focused on power and in late October 2015 another NDDF, held in Washington, DC, focused on infrastructure, primarily on transport and roadways. The events were well attended by international and national stakeholders and policymakers. This constitutes the initiation of NDPI and PIND's development of a coordinated strategy and implementation plan for these two areas of innovation. IGD anticipates that these two areas of innovation will quickly begin to move out of the Ad Hoc stage and into a Pilot stage and NDPI, PIND, and their partners will develop clear pilot solutions to address these ecosystem barriers in the Niger Delta.

On the other hand, some of the innovations have been operational for several years and have had more time to mature. In particular, Innovation #9: NGO / CSO Network Development is the most mature of all of the innovations and, based on IGD's assessment, is beginning to near scale. The table on the previous page shows that two of the top six most significant impacts pertain to this innovation because they are nearing scale. These two interrelated impacts are:

a. Donors and other actors are working effectively with Niger Delta NGOs and CSOs.
b. Existing NGOs and CSOs better serve their constituents.

Both impacts were assessed and revealed existence of strong coordinated strategies and implementation plans, a robust foundational network, capacity developed within the needed human capital, alignment, and consistent commitment of resources.

Aggregate Rate of Adoption

The table below is the summation of the various rates of adoption estimated throughout the rest of this report. The data shown here represents the estimated total number of individuals who have adopted, and will adopt in the future, PIND best practices.

Year / Forecasting Scenarios	Estimated From Past Aquaculture Data	Estimated From Past Cassava Data	Estimated From Past Palm Oil Data	Estimated From Past Peace Building Data	Sum
Total Market Potential	**6,618***	**1,125,390**	**1,400,000**	**39,200,000**	
2015	3,045	4,178	662	3,769	11,654
2020	24,049	144,055	24,240	138,760	331,105
2025	55,825	1,264,549	649,292	4,292,117	6,261,782

Table 1: Cumulative PIND Rate of Adoption Estimates

* The number for aquaculture market potential is based off estimates of market potential in Delta state because a regional market population number was not available.

Impact #50: The NDPI–PIND Model – Critical Success Factors

So how do NDPI and PIND actually work to create systemic change? What is unique about their development approach? IGD identified a 50th impact that, in essence, encompasses all of the other 49 discrete impacts identified within the various areas of innovation. **The NDPI model is an impact or innovation in itself.** As cited earlier, IGD found during the course of the assessment that equally important to what NDPI is doing, is how they are doing it. IGD's analysis has identified six critical success factors for how NDPI and PIND have achieved and continue to achieve impact, and more importantly progress towards systemic change in the Niger Delta. These are:

1. Build foundational networks

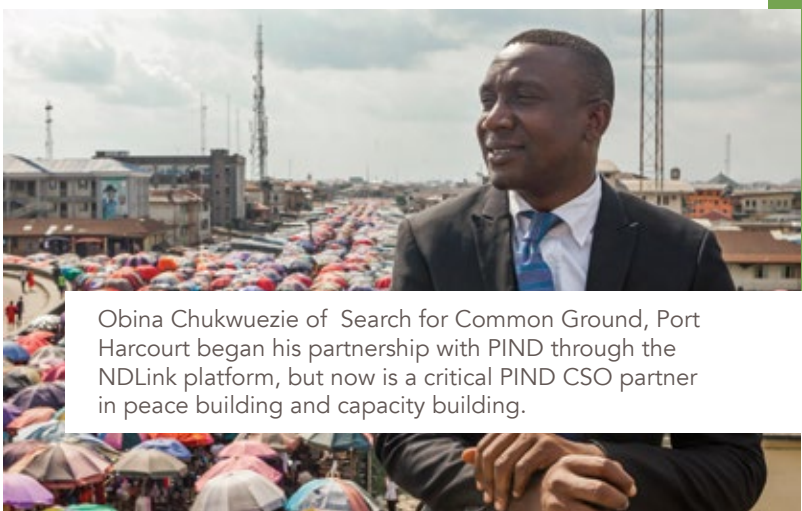
NDPI and PIND play an active role in linking groups and individuals together. This connecting function encourages collaboration and cooperation among different actors, enabling them to identify and access more opportunities. NDPI and PIND also act as a **bridge** between the private sector, government, development actors, and local organizations and individuals. This is an important space that few organizations are able to navigate successfully as a result of the mistrust between the different sectors. A perfect example of this includes the many NDDF events, which are widely attended by cross-sector actors. These forums function to establish networks of actors that identify and agree to take collective action to overcome some of the greatest challenges facing economic development and peace in the Niger Delta. This is further evidence that NDPI and PIND are well respected by actors from all of these realms and, as a result, are able to help coordinate and align their activities to achieve common goals more effectively. The linkages are sometimes on an individual level, but NDPI and PIND also build networks that provide a platform and support for groups of actors to work towards common goals. The networks are the underlying foundation that enables the rate of adoption. NDPI and PIND have taken an approach of building networks at every layer of the value chains and within their other innovations. The network of relationships at all levels provides a strong foundation for success; for example, by enabling NDPI and PIND to respond to changing circumstances and adapt programs. Some of the networks created include fish farmer associations and similar associations and clusters of cassava and palm oil farmers, networks of NGOs and CSOs, NDLink, the Leadership, Empowerment and Development Project (LEAD), and the Peace and Security Working Group (PSWG) sub-group. In particular, in establishing P4P, PIND has created a strong and rapidly growing peace building movement, which appears to be becoming self-sustaining.

2. Develop critical relationships and partnerships

Alliances forged and supported by NDPI and PIND are stronger than the sum of their individual parts. Central to NDPI and PIND's approach is relationship building, which they do in many different ways. NDPI and PIND function as an **embedded donor**. PIND, in particular, is situated within the communities it seeks to support and employs people from the Niger Delta. NDPI and PIND take the time to research and understand the context to ensure interventions are appropriate, thus increasing their adoption rates and ultimately their likelihood of success. In this way, NDPI and PIND are able to build important and genuine relationships with local individuals and organizations. Many of those that NDPI and PIND engage in this way become partners, taking up the cause and employing similar approaches to help to deliver and implement programs.

3. Identify and empower local change agents

NDPI and PIND have demonstrated an ability to identify change agents. NDPI and PIND inspire change-makers and encourage them to make change happen on their own. NDPI and PIND support change agents with technical assistance and knowledge – offering platforms, advice, networks and information. Where NDPI and PIND do provide direct funding, it is at a pilot scale to find projects that work and to demonstrate the viability of particular models. NDPI and PIND then find other actors willing to take this forward, be they individuals or organizations (private sector, donor, NGO, or other). NDPI and PIND's work is bringing new energy to farmers, farming communities, and local business owners and entrepreneurs and providing them with a sense of pride, direction, and modernization. Attitudes towards farming, in local communities and the broader region, are changing as a result, and people are starting to see the potential in farming, rather than viewing it as a last resort. NDPI and PIND appeal to communities' aspirations, providing people with hope and a shift in mindsets.



Obina Chukwuezie of Search for Common Ground, Port Harcourt began his partnership with PIND through the NDLink platform, but now is a critical PIND CSO partner in peace building and capacity building.

4. Commit to developing sustainable market systems

NDPI and PIND **facilitate and catalyze**, rather than create dependency on donor funding. The model is not designed to give direct grants to individuals or organizations, but rather to help actors to establish relationships and enhance their capacity to create change for themselves. This is critical to the long-term sustainability of NDPI and PIND's innovations and for creating genuine systemic change in the Niger Delta.

5. Embrace lean innovation

Lean innovation is about experimentation and iterative design. NDPI and PIND are masters at embracing and exemplifying the core principles of lean innovation. They identify the minimal viable product. They rapidly develop a version and test it with stakeholders, usually in a real-world competitive situation, and they repeat the process until the core product is competitive or pivot to explore a new approach. This is most evident within the technology innovations they have developed in the Appropriate Technology Enabled Development (ATED) center. The chorkor oven, mechanical adjustable harvester (MAH), small-scale processing equipment (SSPE), biogas digester at the Economic Development Center (EDC), the BioSand Filters (BSFs), and clean cookstoves are all examples of PIND's technologically lean innovations. But beyond this, NDPI and PIND embrace lean innovation throughout the organization in a way that welcomes collaboration, feedback, and continuous learning.

6. Possess strong organizational DNA

NDPI and PIND possess a rare and strong organizational DNA that functions to make both organizations agile and high-performing. Stakeholders engaged throughout the assessment process consistently cited observations that NDPI and PIND exude characteristics that function to establish NDPI and PIND as credible and trustworthy among their stakeholders. In IGD's observations, the NDPI and PIND staff are extremely passionate and committed. NDPI and PIND are unrelenting on their principles – they walk the talk. Within PIND, the majority of staff is locally hired and they remain committed to taking sustainable, participatory, market-based approaches in all initiatives.

"PIND takes an approach that is polite, but firm."

- Louw Burger, Thai Farms

"PIND operates with sincerity of purpose."

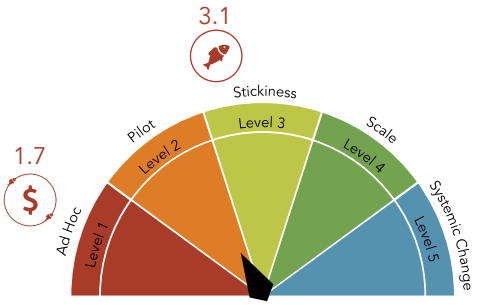
- Dr. Alfred Mulade, NDDC

An area palm oil farmer travels to the TEXMACO equipment dealership to purchase a Mechanical Adjustable Harvester (MAH) after hearing about the technology from his peers.

3

DETAILED IMPACT ASSESSMENT BY INNOVATION

ECONOMIC DEVELOPMENT



Aquaculture Average Maturity Score

2.7 Approaching "Sticky"

AQUACULTURE

The demand for fish in Nigeria is significant, yet roughly half of the country's domestic demand is met through imports. In the Niger Delta specifically, there are large numbers of catfish farmers. PIND is working with market actors within the aquaculture sector to boost local aquaculture productivity and reduce operating costs for regional fish farmers, processors, and sellers.

To stimulate growth in this sector, PIND focuses on building the organizational capacity of fish farmer associations, connecting farmers with local aquaculture experts to improve their technical skills, and increasing farmers' access to new technologies. **PIND has made solid progress with aquaculture market-based development, which has already been successfully piloted, and is now progressing towards a "take off point" or "Stickiness" at all levels of the value chain.**

IGD identified seven key impacts of NDPI and PIND within two major areas of innovation in building a market system in aquaculture:

Innovation 1: Aquaculture Value Chain Development

Innovation 2: Aquaculture Access to Finance and Financial Services

Innovation 1:

Aquaculture Value Chain Development Maturity Score = 3.1 / Sticky

PIND's work in aquaculture value chain development has reached a state of Stickiness and it is now ready to Scale. IGD identified five major impacts within this innovation as follows:

Detailed Innovation 1 Maturity Scores By Impact Statement:	MATURITY
1. Existing fish farmers improve practices and increase yield from their ponds	**3.4**
2. Fish farming associations (FFAs) are strengthened to better serve farmers	**3.4**
3. Stronger business linkages exist between existing aquaculture value chain actors resulting in increased commercial activity	**2.9**
4. Respect for fish farming as an activity and career has increased	**3.0**
5. New businesses and partnerships emerge throughout the aquaculture value chain	**2.8**
TOTAL AVERAGE	**3.1**

Across these five impacts, PIND has achieved the greatest progress towards a systemic level of change in Impact 1 and Impact 2. PIND and its partners are training fish farmers within FFAs on a package of eight new fish farming practices that increase efficiency and effectiveness and reduce costs resulting in greater yields of higher quality and increased income. To date, a total of 766 fish farmers have been directly trained across all of the demonstration ponds operated by PIND and its partners. Qualitative findings reveal major impacts in changes in the knowledge, attitudes, and beliefs of fish farmers and FFAs, which are speeding adoption rates. Individuals acknowledge a deep sense of pride and excitement in what they are doing and feel empowered with their new knowledge and success.

Using assumptions based on the UUFFA flagship demonstration site to perform Bass Diffusion Modeling, the current estimated rate of adoption of the techniques taught by PIND and its partners throughout the Niger Delta is estimated to be 3,045 farmers as of the end of 2015. This signifies the total number of farmers – both direct and indirect who have changed behavior and adopted new practices as a result of PIND. Furthermore, it is estimated that based on an average annual market population growth rate of 30%, the market size of fish farmers in the Delta will reach 161,152 farmers of which 127,700 will have adopted PIND best practices by the year 2030.

In support of Impact 4, PIND and its partners have also made significant strides in creating business linkages between fish farmers and suppliers of higher quality fish feed and fingerlings, and with business service providers (BSPs) who can consult fish farmers on best business management practices. This is evidenced by the fact that 31 new businesses

"The farmers were excited. So many fish farmers had previous misconceptions changed, like feeding by weight... not knowing that they were wasting a lot of money. Reaction from them was very positive."

- Grand Cereals, Fish Feed Supplier

have been established and 10 new partnerships created since inception. Grand Cereals, now a major supplier of high-quality fish feed to the United Ufuoma Fish Farmers Association (UUFFA) in Warri, cited ***"We never knew (farming clusters) existed without the relationship with PIND."*** This same supplier initiated an aquaculture academy, which has now trained more than 650 fish farmers in Ughelli on best practices demonstrating the significant impact PIND has had in building the market.

Recognizing infrastructure and financial barriers to producing value added products in the local aquaculture market, PIND developed and introduced the chorkor oven for fish smoking. The chorkor oven is a more efficient, sustainable, and safe mechanism for fish smoking than traditional smokers and enables fish smokers to smoke much larger quantities of fish at one time than that of a traditional smoker. When IGD interviewed stakeholders they revealed that consumers prefer the taste of fish smoked on chorkor ovens compared to that of traditional smokers. Now, two chorkor ovens are providing fish smoking services to 450 farmers.

"There are changing perceptions of what fish farming is. The community does recognize us. We are strong in this community. We give scholarships to children in this community."

"We are no longer side-tracked as 'those backyard farmers' any longer. They [PIND] have wheeled us into the mainstream and we know that in not too distant years, we as farmers, we will have a stronger say than before."

- UUFFA Members

Innovation 2:

Aquaculture Access to Finance and Financial Services Maturity Score = 1.7 / Approaching Pilot Stage

A key impediment to growth in the aquaculture sector in the Niger Delta is a lack of access to finance. High interest rates, meeting banks' collateral requirements, and short periods for loan repayments are challenges often faced by fish farmers. **PIND's work in creating greater access to finance and financial services to support aquaculture value chain development is moving from an Ad Hoc state to Pilot stage.**

This is a broad area that includes a variety of different financial institutions, all of whom are necessary to support actors at different levels of the value chain and PIND has demonstrated varying levels of impact within the sector. IGD identified two impact areas within this innovation:

Detailed Innovation 2 Maturity Scores By Impact Statement:	MATURITY
1. Financial institutions regularly provide financial services to aquaculture value chain actors	**1.8**
2. Financial institutions enter market and compete for business of aquaculture value chain actors	**1.0**
TOTAL AVERAGE	**1.7**

Evidence gathered by IGD shows that, to date, PIND has achieved the greatest level of impact in working to facilitate access to finance for smallholder fish farmers. PIND has successfully piloted a microfinance program to link fish farmers, micro-enterprise processors (chorkor oven owners), and fish mammies (local distributors), with MFIs including the United States African Development Foundation (USADF), LAPO, and Coastline MFI. They have provided the necessary capital to farmers to rent or establish ponds and purchase higher quality feed and other inputs. To date, a total of NGN 56.2 million has been lent to 141 fish farmers with loan repayment rates reaching 100%. These types of loan repayment methods are not extensively available, as financing still remains a major barrier for most individual farmers and micro-entrepreneurs. IGD observed the concept taking off with small community lending schemes, but a general lack of availability of capital is a constraint preventing more widespread lending to fish farmers.

While access to MFIs has been successfully piloted, there is a lack of evidence to support proof of a coordinated strategy and plan to create access to finance and related services to all actors throughout the aquaculture value chain.

Stimulating and increasing market demand are critical at this juncture to prevent oversupply in local markets, as the supply side is ready to Scale. As such, additional types of financial institutions will also need to be linked to the market. Specific considerations include the need to identify seed-stage capital for SMEs who will establish businesses including warehouses, distribution and logistics operations, and value-added product development including canned and frozen fish, which will require processing plants, and cold chain storage, and packaging facilities.

"The first time (lending) with UUFFA was like tilling soil – hard work. The second time it was easier, we all have to learn.

The vision for us is to have impact on the farmers, do business with farmers, and especially work with those who are really serious about farm business."

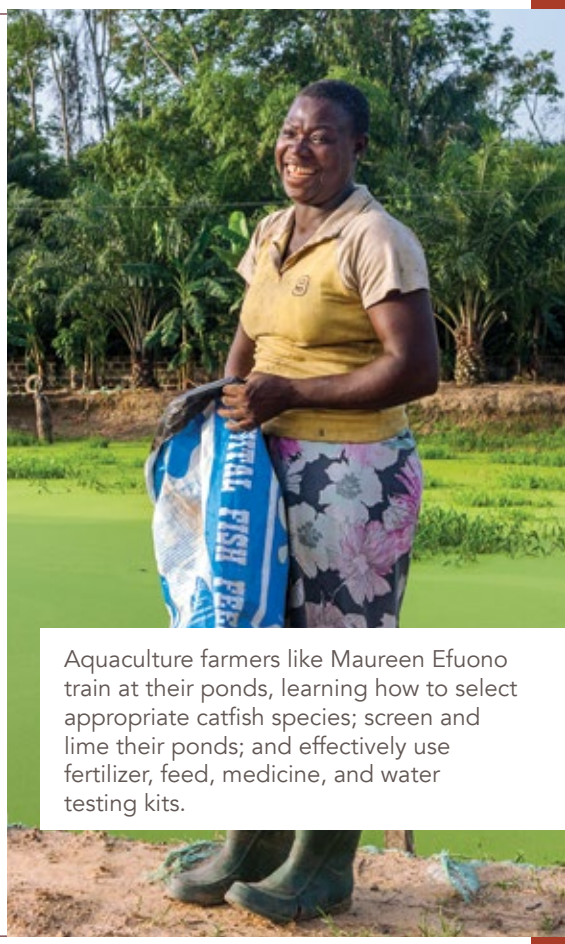
- LAPO MFI

AQUACULTURE RATE OF ADOPTION ESTIMATES

The Bass Diffusion model relies on annually collected past data to draw estimates of market saturation, and predict future adoptions. Given the recent initiation of PIND activities, there is limited data to support the generation of a highly accurate curve. Thus, the data and its predicted curve were analyzed against analogous products to display estimated adoptions over time. The potentially analogous innovations are included so that the user can see how the predicted curve compares to other innovations for which substantial data has been collected over time, thus enabling the user to make judgment calls about how the estimated rates of adoption may or may not change based on other variables. See Appendix B for assumptions used to develop the estimations.

Justification of analogous systems chosen:

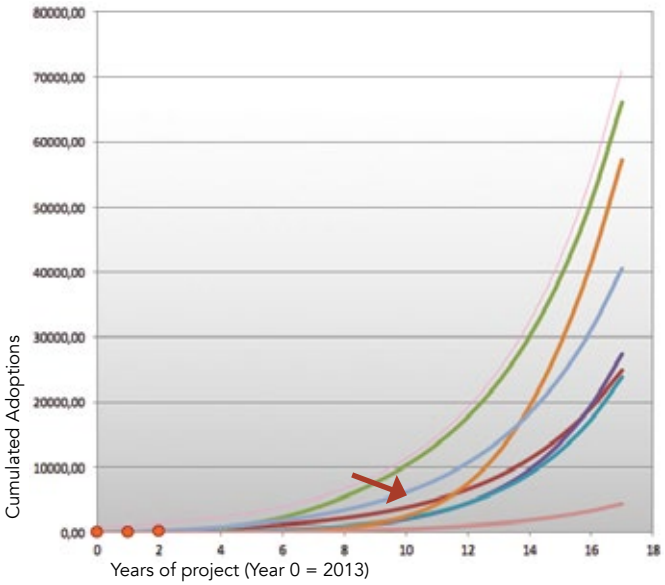
- **Corn |** Product being introduced into agricultural system, much like cassava is being promoted as a product of the Niger Delta. High p-coefficient for innovation and advertising and high q-coefficient for imitation and word-of-mouth sharing between near peers in close influence.
- **Bale hay |** Rural innovation to reduce hand labor and mechanize process. Low p-coefficient of innovation and advertising and high q-coefficient for innovation and word-of-mouth sharing between near peers.
- **Artificial Insemination|** Agricultural innovation with high initial costs but producing a higher value product. Low p-coefficient of innovation and advertising and high q-coefficient for innovation and word-of-mouth sharing between near peers.
- **Accelerated Program |** Educational program, much like aquaculture extension service provided by rural fish farming associations. Low p-coefficient for innovation and advertising and high q-coefficient for imitation and word-of mouth sharing.
- **Electric knife |** Continuously evolving innovation created to make an everyday process faster and easier. High p-coefficient for innovation and advertising and low q-coefficient for imitation and influence of near peers.
- **Universal Product Code |** Best business practices to standardize product development. Low p-coefficient of innovation and advertising and low q-coefficient for innovation and word-of-mouth sharing between near peers.



Aquaculture farmers like Maureen Efuono train at their ponds, learning how to select appropriate catfish species; screen and lime their ponds; and effectively use fertilizer, feed, medicine, and water testing kits.

UUFFA Rate of Adoption Estimates							
Year	Estimated From Past UUFFA Data	Corn	Bale hay	Artificial insemination	Accelerated program (educational innovation)	Electric knife	Universal Product Code (UPC)
2015	234	134	28	41	9	299	20
2020	1,636	3,680	533	637	381	2,537	204
2025	6,609	17,746	4,521	4,501	7,498	10,669	1,033

Table 2: UUFFA Rate of Adoption Estimates

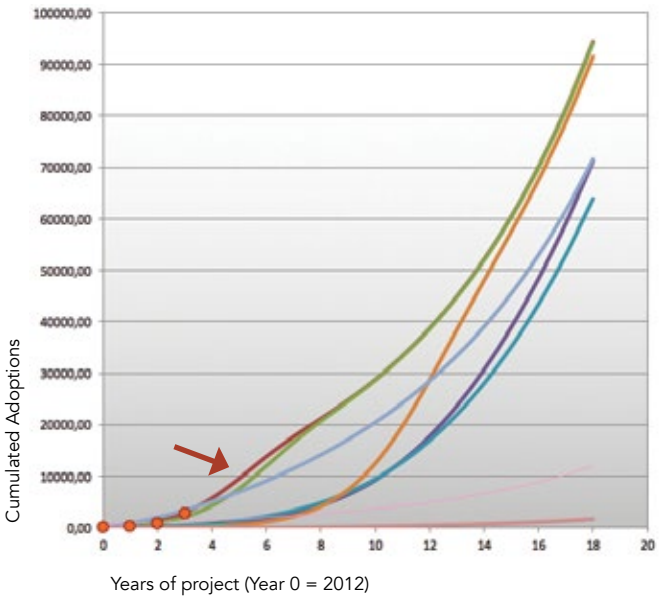


UUFFA Forecasting Scenarios

- Past Data
- Estimated From PIND Past Data
- Corn
- Bale hay
- Artificial insemination
- Accelerated program (education innovation)
- Electric knife
- Universal Product Code (UPC)
- Market Potential

Delta State Aquaculture Rate of Adoption Estimates							
Year	Estimated From Past PIND Data	Corn	Bale hay	Artificial insemination	Accelerated program (educational innovation)	Electric knife	Universal Product Code (UPC)
2015	2,986	2,130	390	536	145	3,426	30
2020	21,188	20,709	4,380	4,869	4,166	14,168	167
2025	44,930	44,814	23,668	21,995	38,495	33,418	568

Table 3: Delta State Aquaculture Rate of Adoption Estimates



Delta State Aquaculture Forecasting Scenarios

- Past Data
- Estimated From PIND Past Data
- Corn
- Bale hay
- Artificial insemination
- Accelerated program (education innovation)
- Electric knife
- Universal Product Code (UPC)
- Market Potential

Innovations 1 and 2 – Summary Evaluation Against the Maturity Model:

Innovation 1: Aquaculture Value Chain Development

Innovation 2: Aquaculture Access to Finance and Financial Services

3.1 1.8

Coordinated Strategy / Implementation Plan:

› Strategic aquaculture value-chain development exists in terms of building capacity on the supply side (suppliers, farmers, and MFIs) and is well implemented by NDPI, PIND, and its partners, but has not been developed or expanded across the region (activity is concentrated in Warri). In addition, it also lacks government involvement and support for the market development.

› There is less evidence of a coordinated strategy and plan to both build capacity and unlock capital to support the demand side of the market, including aggregators, processors, and regional or national distributors.

2.8 2.0

Network Development / Relationships:

› Working within fish farming associations is a critical success factor to enable reach to large numbers of fish farmers. These efforts need to be replicated further to reach critical mass.

› Some key influencers have been identified, which help to change the behavior of fish farmers in adopting new practices. The characteristics of innovators and early adopters in the population should be examined and institutionalized to optimize resources.

› The network of fish farmers and associations is strong, but needs to evolve to include a network of all value chain actors.

3.2 1.5

Human Capital Alignment:

› PIND has successfully piloted effective approaches including training techniques. Step down training (i.e. fish farmers are trained and then pass the training on to other farmers) is occurring.

› Local business service providers have been identified and are building capacity with local fish farmers and some suppliers.

› PIND has successfully introduced appropriate technology to support value chain development with the chorkor oven. Creating greater access to finance will be critical to reaching Scale for this innovation.

3.0 1.5

Resources:

› Additional partners will need to be leveraged to expand the plan across the Niger Delta through replication of pilot sites. This expansion will further enable development and stimulate the establishment of new businesses and partnerships throughout the value chain.

› Resources could be targeted to develop a more robust plan to engage local academic institutions to raise overall levels of respect for fish farming and to develop a talent pipeline that will be sufficient to supply larger, national markets.

Entrepreneurs near fish farming clusters use chokor oven technology to smoke fish in larger quantities more safely, build new small businesses that increase employment, and ultimately allow aquaculture farmers to reach new smoked fish markets improving their livelihoods.

IGD Recommendations to Reach Scale

- **Develop a plan to build on successful fish pond and MFI pilots.** PIND can create opportunities to work with partners to replicate demonstration sites across the Niger Delta to create scale on a magnitude that will create true systemic outcomes and impacts in the region. In particular, PIND may want to consider a partnership with the African Technology Foundation (ATF) that has extensive experience in providing technical assistance to support "aquapreneurs" in Egypt in (partnership with the World Fish Association.)

- **Strengthen and expand the network and business linkages among all value chain actors.** Move towards a trade association model to bring fish farmers together with suppliers, agrodealers, processors, exporters, and financial institutions.

- **Boost access to finance throughout the value chain** by increasing engagement with appropriate financial service providers, identifying innovative finance mechanisms, and tapping into development funds and impact investors to pilot new schemes.
  - › Consider a partnership with the Aspen Network of Development Entrepreneurs to develop programming to support SME development and identify impact investors to support this.
  - › Consider a partnership with the Initiative for Smallholder Finance to identify additional innovative financing approaches to support fish farmers and micro-entrepreneurs.

- **Stimulate and create market demand by focusing on value added production to avoid oversupply in the local market.** Consider the following:
  - › Linking the Warri market to Lagos where there is a high, unmet demand for fish.
  - › Identifying investors, facilitating deals to establish fish canning businesses, and linking to larger processing facilities.
  - › Developing a partnership with the Global Cold Chain Alliance to address barriers to establishing frozen fish businesses, including distribution challenges.

- **Continue to evolve the M&E system** to better capture metrics associated with the variety of stakeholders in the value chain and support market systems approaches. Some considerations include:
  - › Regularly (every six months) measure the rate of adoption among fish farmers through fish farming associations and demonstration pond sites.
  - › Measure the rate of adoption among chorkor oven owners.
  - › Regularly track the amount lent by MFIs to fish farmers and associations.
  - › Establish a baseline of the number of MFIs in the region and track increases in the sector.
  - › Establish a baseline of value-added businesses and regularly measure the number of businesses.
  - › Review metrics provided in the IGD Findings Summary Document for suggested metrics and indicators.

Members of the Catfish Farmers Association of Nigeria (CAFAN) at their association's office in Ugehelli, Delta state, Nigeria. CAFAN joined with PIND and feed distributors aquaculture demonstrations and learn how to maintain proper association records.

Akamune Ogheneobukome Rhoda adopted aquaculture best practices to increase catfish yield and grow her aquaculture business.

Aquaculture case study

FISH FOR LIFE

From Being Unemployed to Owning an Aquaculture Business

"I would love to buy land near my village. Then, I can create jobs for young people..."

- RHODA

Characteristics of an Entrepreneur:

- *Determination for Success*
- *Taking Risk*

After completing her youth service, Akamune Ogheneobukome Rhoda found herself facing unemployment. She had considered different employment opportunities, but none seemed profitable. Just a year later, however, Rhoda owned a successful fish farming business. She credits PIND for inspiring her success. Rhoda's story demonstrates the opportunities that aquaculture provides for young people in Nigeria.

Rhoda's journey started with PIND's CAPABLE training where she learned leadership, strategic management, entrepreneurship, and computer skills. Through the training, Rhoda met local leaders who had overcome constraints in their own lives. "One of those speaking at the training was Josephine from the UUFFA. That was when I became interested in aquaculture," Rhoda recalled.

DETERMINATION FOR SUCCESS

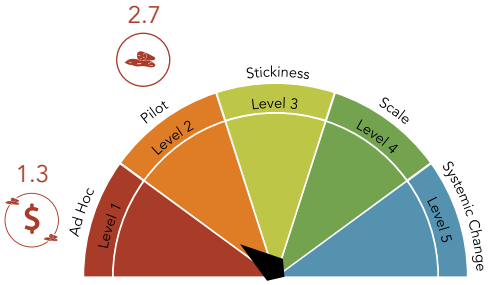
Rhoda was assigned to Josephine for further mentoring. Everyday Rhoda visited UUFFA where she asked many questions and learned to care for fish. Aquaculture inspired Rhoda and she soon began planning how she could acquire her own pond. By saving up, she became a registered member of the fish association and received a new pond.

Rhoda made little income from her first harvest, but she persisted. While she was enthusiastic about her new business, her family was skeptical. When her parents came to the ponds and witnessed her determination for themselves, they changed their minds. "People see me differently now, even my father," Rhoda remarked, whose father did not initially support her endeavors, but is now providing her with financial support.

TAKING RISK

Owning and running a business comes with many lessons and challenges; one being financing. "A good leader takes risks," Rhoda recounted from her leadership training. She decided to take out a loan to move her project forward. The loan and support from her family became the foundation for Rhoda's business to grow and allowed her to sell fish at a premium price.

Rhoda currently shares her profits and training with other youths from her home village. Rhoda's success in aquaculture has brought her newfound confidence. She is now seeking out additional markets for her three ponds. "I would love to buy land near my village. Then, I can create jobs for young people," Rhoda stated.



Cassava Average Maturity Score

2.2 Early Stage Pilot

CASSAVA

As in aquaculture and palm oil, PIND is working with key partners in cassava to boost farmers' productivity and yields through the sharing of best practices in cassava farming and improving the access of farmers to enhanced harvesting and processing technologies.

Through these activities PIND has moved regional cassava value chain actors from the Ad Hoc stage into the Pilot stage through the establishment of strong networks of farmers and processors with whom they have established trust and credibility, developed capacity, and created linkages to off-takers to balance market supply and demand.

While Nigeria is the largest producer of cassava in the world, it is not a leading exporter of cassava, trailing behind Thailand, Vietnam, India, and Costa Rica. In addition, Nigeria remains the highest importer of wheat flour in the world, spending close to NGN 650 million annually on wheat imports. Over the last few years, in an effort to reduce imports and boost the national agro-economy, the Nigerian government has created several policies requiring that all baked goods in Nigeria must contain a minimum of 10% to 20% cassava flour. These market conditions and national policies have positive implications for the Nigerian cassava market by increasing the demand for high-quality cassava production.

However, there are also several constraints that must be considered and PIND has been working to address these issues within this innovation area.

1. Cassava must meet specific standards on moisture and starch content levels to be processed into flour that is of sufficient quality to produce baked goods.
2. Cassava must be properly processed to eliminate the presence of hydrogen cyanide that is contained in different varieties of cassava tubers in varying amounts, but all of which contain levels toxic to humans.
3. Cassava must be processed very quickly (generally within 24 hours), and then stored appropriately to avoid post-harvest losses, which are generally high. This is particularly challenging in areas with poor infrastructure and relatively few processing plants.

In sum, there exists significant market potential for cassava farmers within Nigeria and potentially in export markets. Overcoming these constraints is however critical to developing a strong cassava value chain in the Niger Delta – important considerations for PIND and its partners.

To date, PIND and its partners have engaged a total of 237 agricultural associations with a total membership base of 5,519 cassava farmers in the region. They are training cassava farmers and associations on six new farming techniques that will increase yields and improve quality. This is particularly important in the cassava value chain given the standards for cassava flour previously mentioned. Similar to IGD's findings in aquaculture, qualitative indicators in cassava reveal major impacts in the changes in the knowledge, attitudes, and beliefs of individual cassava farmers and of cassava associations. Farmers indicated that training improved their knowledge of proper inputs, growing techniques (including use of fertilizer, pesticides, herbicides, and tilling), as well as appropriate storage of cassava stems.

But how effective is the training provided by PIND and its partners? The emphasis in developing a sustainable system must not be on the number of individuals reached or trained, but on retention, adoption, and spread of practices to show that they have taken hold and will spread throughout the value chain.

IGD identified seven key impacts of PIND within two major areas of innovation in building a market system in cassava:

Innovation 3: Cassava Value Chain Development

Innovation 4: Cassava Access to Finance and Financial Services

Similar to the findings within the aquaculture value chain, to date there has been significantly more impact and progress towards Systemic Change within the innovation area of value chain development than in the area of access to finance and financial services.

Innovation 3:

Cassava Value Chain Development Maturity Score = 2.7 / Approaching Stickiness

PIND's work in the cassava value chain is in the Pilot stage and is Approaching Stickiness. Remaining consistent with the NDPI model, IGD identified five major impacts within this innovation area as follows:

Detailed Innovation 3 Maturity Scores By Impact Statement:	MATURITY
1. Existing cassava farmers improve practices and increase yield from their fields	2.9
2. Cassava associations are strengthened to better serve farmers	3.0
3. Stronger business linkages exist between existing cassava value chain actors resulting in increased commercial activity	3.0
4. Respect for cassava farming as an activity and career has increased	2.0
5. New businesses and partnerships emerge throughout the cassava value chain	2.4
TOTAL AVERAGE	2.7

The work with cassava farmers at demo sites is still in early stages, but these pilots are already taking hold. A total of seven sites have been established among PIND and its partners. Across these demonstration sites, PIND has directly trained a total of 292 cassava farmers, and it is estimated that 1,282 farmers have now adopted those best practices. In the case of the Ubulu-Uku cluster, PIND's flagship demo site, there are about 1,000 farmers. Here PIND has established additional demo plots beside control group plots that enable the farmers to compare these new techniques with traditional techniques and varieties. This helps to increase and speed adoption of the innovation practices. Rate of adoption was estimated by IGD with data gathered from the Ubulu-Uku cluster. Bass Diffusion Modeling revealed that while only 200 farmers have been directly trained by PIND, a total of 224 farmers have actually adopted the practices, which signifies the number of indirect farmers who have likewise changed behavior and adopted new practices as a result of PIND's work.

By extrapolating on this initial data set, it is estimated that based on an assumed total market population of 100,100 farmers in all of Delta State, and an average annual market growth rate of 12% this impact will reach a tipping point in the year 2018, and by the year 2020, there will be about 64,845 cassava farmers using these best practices. When this data is extrapolated to the entire Niger Delta region, it is estimated that the total market potential (i.e. total number of potential cassava farmers) is 1,125,390, and the tipping point of 16% of that population will be reached in the year 2021. By the year 2025, it's estimated that about one million farmers will be using these best practices across the region.

PIND has also made significant strides in establishing business linkages between actors in the cassava value chain. In doing so, they have succeeded in catalyzing new resources into the region. At least eight new partnerships were formed via direct connections made by PIND, including input suppliers, processors, large off-takers of cassava, and extension agents or trainers supporting cassava farmers. In addition, PIND has created linkages between cassava farmer associations and state governments, as well as with the Ministry of Agriculture. Processors, such as Gonchuks, are realizing an increase in profits and large off-takers such as Thai Farms are working in the Niger Delta for the first time after trying unsuccessfully for three years to establish a supply chain in the region.

Innovation 4:
Cassava Access to Finance and Financial Services Maturity Score = 1.3 / Ad Hoc

PIND's work in creating greater access to finance and financial services is still in an Ad Hoc stage. IGD identified two impact areas within this innovation:

Detailed Innovation 4 Maturity Scores By Impact Statement:	MATURITY
1. Financial institutions regularly provide financial services to aquaculture value chain actors	1.3
2. Financial institutions enter market and compete for business of aquaculture value chain actors	1.0
TOTAL AVERAGE	1.3

There was limited evidence suggesting extensive impact in the area of creating greater access to finance and financial services within the cassava value chain to date. PIND recognizes the importance of financial services and has begun to strategize a plan to address the issue. Some impacts have been realized as a result of larger private sector actors providing financing for inputs for smallholder farmers for whom they guarantee off-take. Access to finance will become critical moving forward as the adoption rates of better farming techniques among farmers are likely to increase as demo plots begin to yield. More farmers will desire higher quality inputs, small-scale equipment such as tractors, improved storage techniques and options (warehouses), and access to distribution networks to get product to market, prevent post-harvest loss, and meet demand of large off-takers, which will prevent over-supply in local markets.

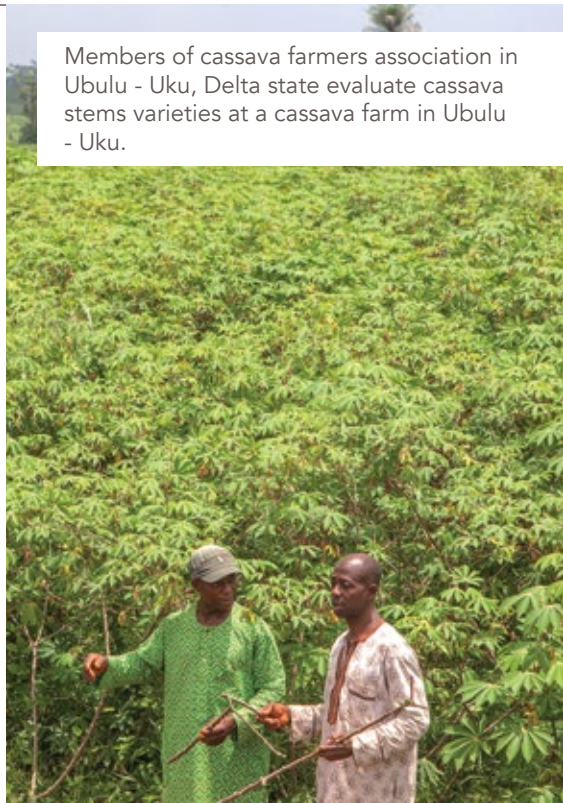
Similarly, processors will also need to keep pace with any increases in supply and demand, which could require investments in more efficient processing equipment. While large-scale off-takers have thus far provided financing for farmers in some of the clusters as part of outgrower schemes, PIND will need to develop a formal pilot around this innovation to move cassava further towards a level of systemic change.

CASSAVA RATE OF ADOPTION ESTIMATES

The Bass Diffusion Model relies on annually collected past data to draw estimates of market saturation, and predict future adoptions. Given the recent initiation of PIND activities, there is limited data to support the generation of a highly accurate curve. Thus, the data and its predicted curve were analyzed against analogous products to display estimated adoptions over time. The potentially analogous innovations are included so that the user can see how the predicted curve compares to other innovations for which substantial data has been collected over time, thus enabling the user to make judgment calls about how the estimated rates of adoption may or may not change based on other variables. See Appendix B for assumptions used to develop the estimations.

Justification of analogous systems chosen:

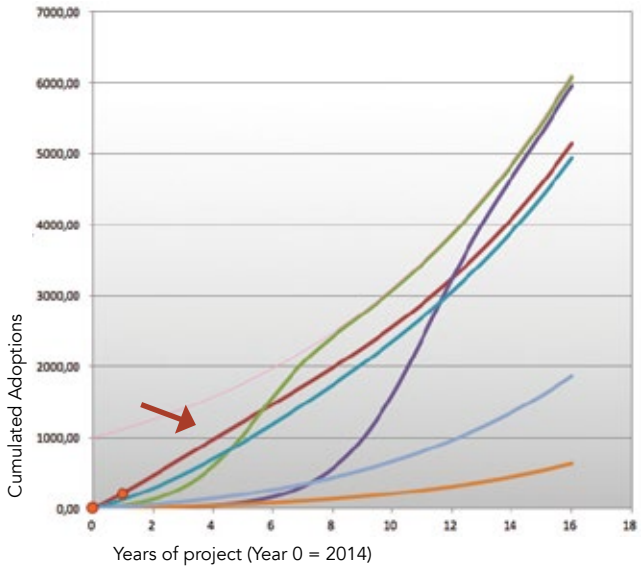
- **Corn |** Product being introduced into agricultural system, much like cassava is being promoted as a product of the Niger Delta. High p-coefficient for innovation and advertising and high q-coefficient for imitation and word-of-mouth sharing between near peers in close influence.
- **Accelerated Program |** Educational program, much like aquaculture extension service provided by rural fish farming associations. Low p-coefficient for innovation and advertising and high q-coefficient for imitation and word-of mouth sharing.
- **Electric knife |** Continuously evolving innovation created to make an everyday process faster and easier. High p-coefficient for innovation and advertising and low q-coefficient for imitation and influence of near peers.
- **Tractor |** Agricultural mechanization process of increased efficiency and time savings with high start-up costs. Low p-coefficient for innovation and advertising and low q-coefficient for imitation and influence of near peers.
- **Freezer |** Storage and food saving mechanism not mass-produced until two decades post-production. High p-coefficient for innovation and advertising and low q-coefficient for imitation and influence of near peers.



Members of cassava farmers association in Ubulu - Uku, Delta state evaluate cassava stems varieties at a cassava farm in Ubulu - Uku.

Ubulu Uku Rate of Adoption Estimates						
Year	Estimated From Past Ubulu Uku Data	Corn	Accelerated program (educational innovation)	Electric knife	Tractor	Freezer
2015	224	43	3	129	8	26
2020	1,473	1,571	167	1,192	83	267
2025	2,888	3,450	2,399	2,693	258	803

Table 4: Ubulu Uku Rate of Adoption Estimates

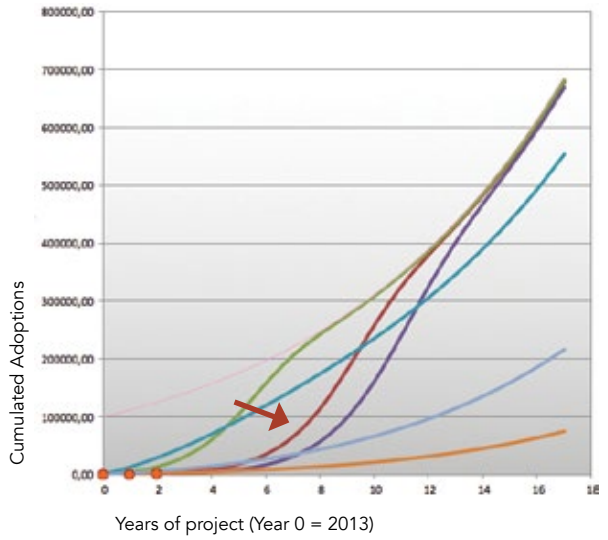


Ubulu Uku Forecasting Scenarios

- Past Data
- Estimated From Past Data
- Corn
- Accelerated program (education innovation)
- Electric knife
- Tractor
- Freezer
- Market Potential

Delta State Cassava Rate of Adoption Estimates						
Year	Estimated From Past Data	Corn	Accelerated program (educational innovation)	Electric knife	Tractor	Freezer
2015	1,681	13,275	890	29,022	1,800	5,854
2020	64,844	205,489	31,277	146,148	10,787	34,562
2025	379,504	386,823	324,793	306,281	31,345	96,403

Table 5: Delta State Cassava Rate of Adoption Estimates



Delta State Cassava Forecasting Scenarios

- Past Data
- Estimated From Past Data
- Corn
- Accelerated program (education innovation)
- Electric knife
- Tractor
- Freezer
- Market Potential

Innovations 3 and 4 – Summary Evaluation Against the Maturity Model:

Innovation 3: Cassava Value Chain Development

Innovation 4: Cassava Access to Finance and Financial Services

2.8 1.5

Coordinated Strategy / Implementation Plan:

› A strong coordinated strategy and plan exists to build capacity and to create business linkages throughout the value chain; however, there is no strategy to create the necessary access to finance to support value chain actors.

› The strategy and plan could be further enhanced through formal engagement with academic institutions and media to create greater awareness and respect for cassava farming as a livelihood.

2.7 1.0

Network Development / Relationships:

› Working within associations is a critical success factor to enable reach to large numbers of cassava farmers. These activities need to be replicated further to reach critical mass, with particular emphasis on geographic dispersion.

› There was no evidence of a formal body or structure to bring actors across the value chain together in one location.

2.5 1.0

Human Capital Alignment:

› PIND is in the process of piloting effective methods with farmers. More run time is required to reach Stickiness and Scale.

› More local service providers could be identified to increase adoption of best practices.

2.6 1.0

Resources:

› Additional partners will need to be leveraged to expand the plan across the Niger Delta through replication of pilot sites. These partnerships will further enable and stimulate the establishment of new businesses and partnerships throughout the value chain.

› PIND will soon be introducing a small-scale tiller to support farmers. Creating greater access to microfinance will likely be critical for adoption of this technology.

› Linkages to financial institutions will be critical to support growth of local processing mills, and storage, warehousing, and distribution of unprocessed and processed cassava.

IGD Recommendations to Reach Stickiness

- **Develop a plan to build on successful pilots. PIND can create opportunities to work with partners to replicate demo sites across the Niger Delta to create scale on a magnitude that will create true systemic outcomes and impacts in the region.**
- **Continue to develop farmer capacity.**
  - › Focus on standards for high-quality cassava production to extend beyond local markets.
  - › Diffuse small-scale tiller to increase efficiency of production.
- **Strengthen and expand the network and business linkages among all value chain actors.**
  - › Move towards a trade association model to bring together all value chain actors in an area to a single location to increase partnerships and commercial activity.
  - › Further engage the Ministry of Agriculture to support development of the value chain.
  - › Engage with larger scale off-takers who are scaling to meet increasing demand for cassava.
- **Create linkages to finance throughout the value chain by developing a robust strategy to engage with appropriate financial service providers.**
  - › Consider engaging local MFIs and other financial institutions, and initiating a fund to support farmers and small and mid-sized processors in the region.

Members of cassava farmers association, Ubulu - Uku Delta state, at their cassava demo plots in Ubulu – Uku.

Godwin Ojobo demonstrates cassava flour milling equipment in his Gon-chuks factory.

Cassava case study

SUCCESS THROUGH LINKAGES

Developing a Market through Key Value Chain Players

"Crop without a factory is a weed; factory without crops is scrap metal..."

- GODWIN

Characteristics of an Entrepreneur:

- *Determination for Success*
- *Taking Risk*
- *Finding Key Linkages*

The cassava market in Asaba, Nigeria held a lot of potential; however, without key stakeholders the value chain could not develop. Godwin Ojobu, CEO of a cassava flourmill, received support from PIND to establish important market linkages. This connected the smallholder farmers and his business to the off-takers, which transformed the cassava value chain and helped Godwin grow his business.

Godwin worked in the oil sector for 27 years. He had always wanted to return to his village, but when he moved back to his village in Asaba, Godwin was concerned about the plight of the local cassava farmers. Despite the availability of the crop, Godwin saw that there was no cassava market and the price for cassava was depreciating. Further research revealed that the cassava market was viable, driving Godwin to create his own business Gonchuks, a cassava flourmill, to provide a market. "My goal was for them to see that there were opportunities and competition created by my company," he shared.

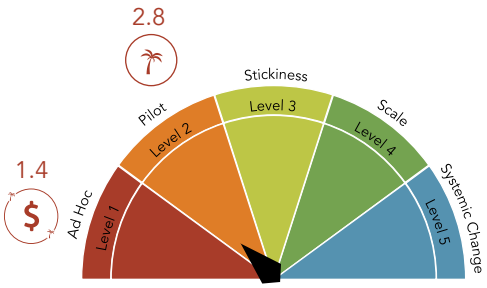
"CROP WITHOUT A FACTORY IS A WEED"

Godwin recalls the excitement of the cassava farmers, but also their disappointment. Within 24 hours after harvest, cassava has to be processed immediately before it begins to ferment. There is an urgent need for many processors to off-take from the local farmers. "They are discouraged because there is no off-taker. I could not meet expectations." Without off-takers, the Gonchuks flourmill faced funding constraints and could not absorb all of the products from the farmers.

FINDING KEY LINKAGES

PIND's training expanded Godwin's knowledge of the cassava value chain and helped identify important market linkages for Gonchuks. One day, Godwin received an unsolicited request for flour from an off-taker in Lagos. PIND had made a connection on his behalf and set him up to be a supplier. Soon, another call came in requesting flour. "I was surprised," he remembers.

Before, his suppliers were limited to 30 discouraged farmers. Now, the extra off-takers means he can buy from 109 local cassava farmers. He noticed the change in the farmers. "PIND has been able to empower them, support them, give them awareness and they are happy."



Palm Oil Average Maturity Score

2.4 Full-fledged Pilot

PALM OIL

Once the leading palm oil producer in the world, Nigeria's share of the global palm oil market has declined significantly in recent decades. An initial assessment published by PIND in 2012 found that roughly 80% of the country's palm oil was produced by smallholder farmers and processors. To enable those farmers and processors to meet a larger portion of market demand, PIND has focused on helping farmers improve their technical skills, access better processing and harvesting equipment, and secure a more consistent demand for their crops. The organizations have developed a strong pilot program for palm oil market-based development, which has taken hold. With more time and focus in specific areas, these innovations will rapidly reach a state of Stickiness across a broader population and progress towards Scale.

IGD identified seven key impacts within two major areas of innovation PIND is developing to build a market system in palm oil:

Innovation 5: Palm Oil Value Chain Development

Innovation 6: Palm Oil Access to Finance and Financial Services

Innovation 5:

Palm Oil Value Chain Development Maturity Score = 2.8 / Nearly Sticky and Getting Ready to Scale

PIND's work in the palm oil value chain has nearly reached a state of Stickiness and will soon be ready to Scale. IGD identified five major impacts within this innovation as follows:

Detailed Innovation 5 Maturity Scores By Impact Statement:	MATURITY
1. Existing palm farmers improve practices and increase yield from their trees	2.8
2. Associations and clusters are strengthened to better serve farmers	3.0
3. Stronger business linkages exist between existing palm oil value chain actors resulting in increased commercial activity	3.1
4. Respect for palm oil farming as an activity and career has increased	2.5
5. New businesses and partnerships emerge throughout the palm oil value chain	2.6
TOTAL AVERAGE	2.8

Within the palm oil value chain development the most significant impacts have been created through the insertion and diffusion of two new innovative technologies:

1. Mechanical adjustable harvester (MAH)
2. Small-scale processing equipment (SSPE)

In both cases the technologies have been successful at increasing the efficiency of both farmers and processors and simultaneously have functioned to create critical business linkages between actors throughout the value chain resulting in improved incomes.

The MAH has incredible potential to systemically change the way that palm fruits are harvested. Not only does it increase harvesting efficiency, it also dramatically reduces the risk of injury and death resulting from traditional methods of tree climbing to harvest. On average, a tree climber can harvest 60 bunches of palm fruits per day and work a maximum of three days a week as a result of the arduous nature of the work. In comparison, the MAH harvests 140–200 bunches of palm fruits in six hours and can be operated seven days a week. IGD visited a medium-sized business called TEXMACO, owned and operated by Ikechukwu Umeaku. After observing the MAH in a demonstration given by PIND, and already having relationship with the German manufacturing company STIHL which produces the harvester, Umeaku bought into the MAH becoming a leading innovator within the Nigerian palm oil market. Used widely in other leading global palm oil-producing markets, including Indonesia and Brazil, the MAH is extremely promising for the Nigerian market as well.

While IGD was interviewing Umeaku, a smallholder farmer entered his store. The farmer had traveled a fairly long distance to purchase an MAH. He became aware of the MAH through word-of-mouth and his knowledge increased through online research when he discovered TEXMACO. His adoption decision was confirmed upon seeing the MAH in the store and he purchased an MAH on the spot. This example illustrates the process of Theory of Diffusion of Innovation and confirms appropriateness of this methodology for measurement of PIND innovations and their progress towards achieving systemic change in the Niger Delta.

While the potential for this technology is very high, the MAH was only recently introduced, so there is little data to show significant evidence of spread of adoption of the harvester.

To date, PIND and its partners have trained 322 farmers on better business practices. Additionally, 592 farmers are now using the MAH and have experienced a 30% increase in profit. IGD conducted a focus group with about 25 farmers of the Eziorsu Oil Palm Farmers Association, where adoption of the MAH is enthusiastic. However, many farmers do not have sufficient capital to purchase their own MAH (see section below on Access to Finance). Instead, farmers are working together to aggregate their resources to share the cost and usage of the MAH among themselves.

IGD leveraged Bass Diffusion Modeling to estimate rates of adoption for the MAH across several populations of farmers. Currently there are 109 farmers in the Eszi Orsu Farming Association, which is estimated to increase to 180 farmers by the year 2030 and all 180 farmers will be using an MAH. Within the broader population of Imo State, there are currently an estimated 70,000 palm oil farmers. Extrapolating current data, the MAH is expected to reach the 16% tipping point of this population in the year 2023, and by 2025, nearly 59,000 farmers will be using the MAH. This number and the total market population will climb to over 1.1 million farmers by the year 2030 in Imo State alone. When comparing to estimates for the entire Niger Delta Region, there are currently 1.1 million palm oil farmers. By 2020, nearly 25,000 will have adopted the MAH, and by 2030 the population of farmers, nearly all of who will use an MAH, will grow to nearly 2.4 million.

Creating greater efficiency in processing is critical to developing the palm oil market system in the Niger Delta. It will enable farmers and processors to produce in quantities that are necessary to support and be attractive to larger off-takers supplying national and export markets. The development and adoption of SSPE is thus also functioning to increase efficiency for palm oil production among larger farmers and small processors, while simultaneously creating new business opportunities for local fabricators. IGD met with several fabricators and visited a processing plant to observe how the equipment enables value chain actors to produce palm oil. In addition, the business linkages impact is now ready to scale and will function to drive this value chain forward. Early indications show that this is in initial stages and in due time, the free-functioning market will begin to take over. For example, during the course of this assessment, IGD and PIND were able to identify three large investors in the palm oil value chain, including Dangote Industries. Dangote is in the process of establishing a 50,000-hectare farm in Cross Rivers State outside of Calabar. In forging partnerships with large corporate entities such as Dangote, PIND can rapidly increase adoption rates for the MAH and SSPE among local farmers and processors who supply them through out-grower schemes. Resultant impacts are likely to include a vast increase in jobs and income in the region for farmers, processors, fabricators, and small business operators alike.

Innovation 6:

Palm Oil Access to Finance and Financial Services Maturity Score = 1.4 / Ad Hoc

PIND's work in creating greater access to finance and financial services to support palm oil value chain development is in an Ad Hoc state, but is nearly in Pilot stage in support of farmers. More organization is required to support other actors in this value chain.

IGD identified two impact areas within this innovation:

Detailed Innovation 6 Maturity Scores By Impact Statement:

		MATURITY
1.	Financial institutions regularly provide financial services to palm oil value chain actors	1.9
2.	Financial institutions enter market and compete for business of palm oil value chain actors	1.0
	TOTAL AVERAGE	1.4

As with aquaculture and cassava, creating access to finance and financial services will be critical to move this value chain to the next level. Access to finance is particularly critical to support smallholder farmers in the purchase of MAHs to increase their crop yield and PIND and its partners have developed a pilot program to support these purchases. Training has also been provided to farmers and SMEs to improve their recordkeeping skills, which, in turn, increases the confidence of financial institutions. Some MFIs have shown an increased willingness to provide microloans, although there is not yet any engagement with commercial banks.

However, Self-Help Rural Development Association (SHERDA), a PIND partner, noted that the Bank of Agriculture is showing interest. In the meantime, some palm farmers have been able to lease processing equipment through financing offered by PIND. In one instance, PIND contributed 25% of the total cost for an SSPE to be installed in a mill where the mill owner paid 75% of the value of the machine and agreed to provide demonstrations at his mill to spread adoption of the equipment. Since then, four additional SMEs have applied to PIND for loans to purchase or lease SSPE equipment.

"We pooled our resources together and we purchased it together. We can rent it if we are in need."

- Palm Oil Farmers' Association

"Most of the farmers want to purchase one on their own, but they don't have money so they are looking for a way to get money from sponsors, government, or from an organization. They can recover costs in 9 days."

- Ikechukwu T. Umeaku, TEXMACO Owner

Small-scale processing equipment for palm oil extraction is locally fabricated in partnership with associations of fabricators and the Nigerian Insitute for Palm Oil Research (NIFOR).

PALM OIL RATE OF ADOPTION ESTIMATES

The Bass Diffusion Model relies on annually collected past data to draw estimates of market saturation and predict future adoptions. Given the recent initiation of PIND activities, there is limited data to support the generation of a highly accurate curve. Thus, the data and its predicted curve were analyzed against analogous products to display estimated adoptions over time. The potentially analogous innovations are included so that the user can see how the predicted curve compares to other innovations for which substantial data has been collected over time, thus enabling the user to make judgment calls about how the estimated rates of adoption may or may not change based on other variables. See Appendix B for assumptions used to develop the estimations.

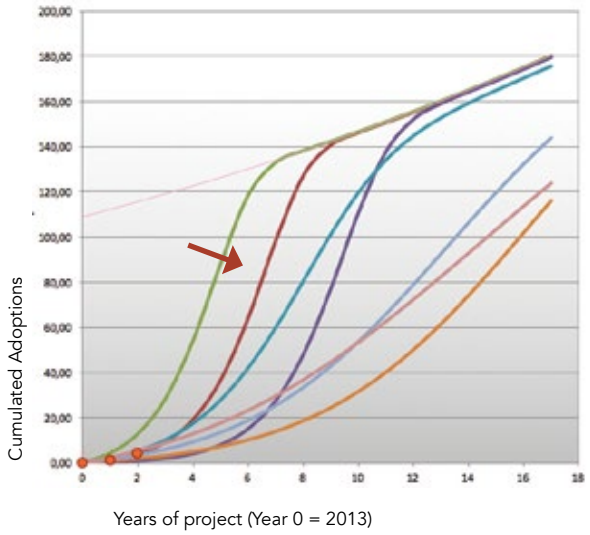
Justification of analogous systems chosen:

- **Corn |** Product being introduced into agricultural system, much like cassava is being promoted as a product of the Niger Delta. High p-coefficient for innovation and advertising and high q-coefficient for imitation and word-of-mouth sharing between near peers in close influence.
- **Accelerated Program |** Educational program, much like aquaculture extension service provided by rural fish farming associations. Low p-coefficient for innovation and advertising and high q-coefficient for imitation and word-of mouth sharing.
- **Food processor |** Introduced and promoted to catering companies for facilitating repetitive tasks before later spreading to individuals. High p-coefficient for innovation and advertising and high q-coefficient for imitation and word-of-mouth sharing between near peers in close influence.
- **Lawn mower |** No comparable technology and low market saturation with a need to purchase supporting products. Low p-coefficient for innovation and advertising and low q-coefficient for imitation and word-of-mouth sharing between near peers in close influence.
- **Power leaf blower |** First used for fertilizer but consumers also adopted to save time on additional tasks. Low p-coefficient for innovation and advertising and low q-coefficient for imitation and word-of-mouth sharing between near peers in close influence.
- **Vacuum cleaner |** Continuously improving and gradually more convenient technology; though consumers must overcome habits of simple sweeping. High p-coefficient for innovation and advertising and low q-coefficient for imitation and word-of-mouth sharing between near peers in close influence.

Demonstrations of the Mechanical Adjustable Harvester (MAH)'s increased efficiency in harvesting palm fruits help to increase adoption rates of palm oil farmers and associations.

Ezi Orsu Rate of Adoption Estimates							
Year	Estimated From Past Ezi Orsu Data	Corn	Accelerated program (educational innovation)	Food processor	Lawn mower	Power leaf blower (gas or electric)	Vacuum cleaner
2015	4	13	1	5	2	3	5
2020	99	133	28	60	14	25	30
2025	155	155	152	145	50	79	72

Table 6: Ezi Orsu Rate of Adoption Estimates

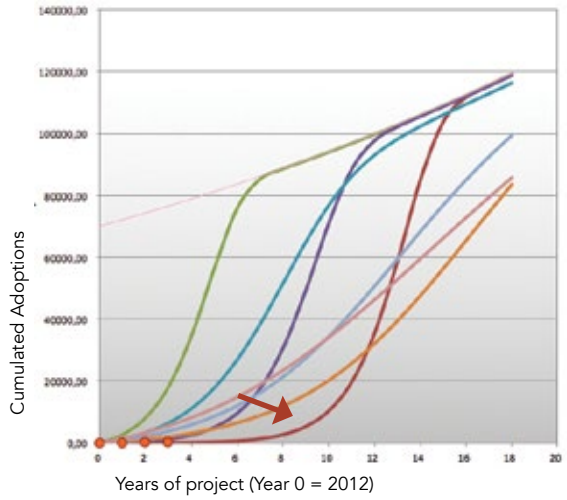


Ezi Orsu Forecasting Scenarios

- Past Data
- Estimated From Past Data
- Corn
- Accelerated program (education innovation)
- Food processor
- Lawn mower
- Power leaf blower (gas or electric)
- Vacuum cleaner
- Market Potential

Imo State Palm Oil Rate of Adoption Estimates							
Year	Estimated From Past PIND Data	Corn	Accelerated program (educational innovation)	Food processor	Lawn mower	Power leaf blower (gas or electric)	Vacuum cleaner
2015	75	18,344	1,257	6,510	2,010	3,816	5,595
2020	2,717	88,674	30,779	51,717	11,928	21,419	23,579
2025	58,919	102,797	102,131	98,207	39,526	59,491	52,998

Table 7: Imo State Palm Oil Rate of Adoption Estimates



Imo State Palm Oil Forecasting Scenarios

- Past Data
- Estimated From Past Data
- Corn
- Accelerated program (education innovation)
- Food processor
- Lawn mower
- Power leaf blower (gas or electric)
- Vacuum cleaner
- Market Potential

Innovations 5 and 6 – Summary Evaluation Against the Maturity Model and Recommendations:

Innovation 5: Palm Oil Value Chain Development

Innovation 6: Palm Oil Access to Finance and Financial Services

2.8 1.5

Coordinated Strategy / Implementation Plan: A strong strategy and plan is in place among PIND and its partners for developing the capacity in value chain actors. Business skills and technology insertion have increased farmer, processor, fabricator, and SME capabilities. The impact of this value chain could quickly increase if a similarly strong strategy and plan were developed and implemented with a key focus on the following areas:

› Bringing in large, private sector partners who can guarantee off-take, create access to larger markets, and provide access to capital for smallholders and SMEs.
› Developing a plan to partner with local academic institutions to increase visibility and respect for palm oil farming and related industry as a career of choice.
› Creating access to finance and financial services for actors throughout the value chain. Currently, access to finance is a major constraint to growth of farmers and small businesses, which are the lifeblood of the value chain.
› Expanding geographically across the Niger Delta.
› Intensifying focus on supply chain and logistics barriers that exist in the region (aggregation, storage, access to power, transport, and distribution) that will constrain access to larger markets at the risk of over-supply in local markets.
› Advocating for appropriate policy to support growth of the industry. PIND and its partners can develop a plan for appropriate advocacy with government to incentivize increased commercial activity in the value chain and protect value chain actors. In particular, consideration should be given to protecting land rights and ownership of palm farms by local smallholder farmers.

2.7 1.0

Network Development / Relationships: PIND and its partners have made tremendous progress in organizing palm oil farmers into associations and strengthening those associations through capacity building. Strong business linkages have also been developed among a small number of processors, fabricators, SMEs, and off-takers and this has proven successful. It is now time to scale the network geographically and through expansion of membership (particularly with private sector partners and academic institutions), including identification of new businesses, and empowering the network to take on an internal drive of its own.

2.5 1.0

Human Capital Alignment: PIND and its partners have made good progress on increasing the capacity of value chain actors. However, there are a few areas where capacity could be further enhanced to increase progress towards Systemic Change:

› Palm oil types and international standards: Continue training to develop capacity of local farmers and processors to produce the various types of palm oil (virgin red palm oil, palm kernel oil, RBD Oil used for commercial cooking, bio-fuel) to create greater access to new markets. In addition, capacity can continue to be enhanced to ensure locals produce palm oil according to Certified Sustainable Palm Oil (CSPO) and/or Roundtable on Sustainable Palm Oil (RSPO) standards.
› Technical and Vocational Skills: These skills could be increased to build a pipeline of local fabrication talent; specifically mechanical or electrical engineering could be beneficial.
› Entrepreneurship and Marketing Skills: Leverage appropriate marketing and advertising approaches to expand entrepreneurial skills and likely increase sales of agrodealers and other value chain entrepreneurs.

2.6 1.0

Resources: There is evidence of consistent, committed funding and investment by PIND and its partners for specific activities, including the capacity training for farmers and SMEs on business skills and use of the MAH and SSPE. Moving forward additional partners and resources should be considered to address the opportunities and gaps identified above.

Chief Damian Nwachukwu is a owner of an oil mill in Umuagwo, Imo state that provides improved palm oil small scale processing equipment as both a demonstration of better processing techniques and opportunity for increased livelihoods of palm oil farmers.

Ikechukwu Umeaku speaks about the Motorized Adjustable Harvester (MAH).

Palm Oil case study

ACCESS FOR ALL

Enhancing Value Chains through Technology Access

"We cannot depend on just crude oil forever. Agriculture is good for the economy and for everyone …"

- UMEAKU

Characteristics of an Entrepreneur:

- *Determination for Success*
- *Taking Risk*
- *Finding Key Linkages*
- *Taking Initiative*
- *Spreading the Benefits*
- *An Eye for Scaling Up*

Ikechukwu Umeaku has been in the business of dealing agricultural equipment for more than 18 years. Recently, through a PIND demonstration, Umeaku was introduced to STIHL's motorized harvester. This new equipment transformed how Umeaku sees Niger Delta agriculture and the palm oil value chain.

TAKING INITIATIVE

In Nigeria, palm oil farmers face many risks, one of which is climbing high trees to harvest palm fruit. Umeaku owns TEXMACO, an agricultural equipment dealership. Umeaku learned about STIHL's motorized harvester through a PIND demonstration. Although the demonstrations were not seamless, "I took it upon myself to go and test it in my village. It worked!" he said. He wanted to improve distribution of the harvesters. According to Umeaku, all palm oil farmers should have one. Driven by such motivation, Umeaku approached PIND about working through TEXMACO.

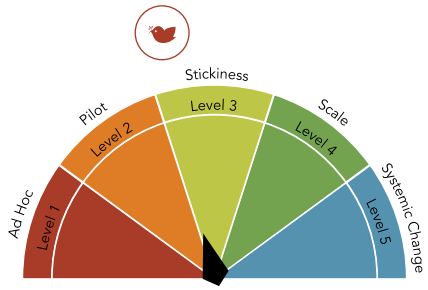
SPREADING THE BENEFITS

Umeaku's engagement with PIND connected him to a network of palm oil farmers. He has decided to sell the harvester at cost to minimize the constraints palm farmers face in financing and adopting the technology. Now a fervent promoter of the motorized harvester and the results it produces, Umeaku travels to palm fields to show his customers how to use the harvester, especially those who remain skeptical of the technology. "Since we started selling we have not had any problems with customers or any complaints," Umeaku shared. TEXMACO has now brought in machines to the value of NGN 18 million.

AN EYE FOR SCALING UP

Umeaku has had his eyes on expansion and sustainability. Farmers trust him and look to him for additional demonstrations on other products such as chemical sprayers and brush cutters. Umeaku just sold his 26th harvester, but next year's plans are much grander. "I believe in a year we will be selling 100 or more!" he projects. The opportunities in the Niger Delta are limitless. "We cannot depend on just crude oil forever. Agriculture is good for the economy and for everyone," he shared.

PEACE BUILDING NETWORK



Peace Building Average Maturity Score
3.1 Sticky and Heading Towards Scale

PEACE BUILDING NETWORK

PIND's impacts in relation to peace building are remarkable in terms of the speed with which they have occurred. The Peace Building Program is only two years old, but already there are more than 3,800 members of the P4P network, and it is taking on a life of its own despite the challenges of operating in a difficult environment.

Conflict is a driver of poverty and a barrier to economic development. The Niger Delta has experienced violence and conflict for decades, manifesting in different ways and with multiple complex drivers. Building peace in the Niger Delta is therefore crucial if PIND is to achieve its goal of sustainable economic development. PIND's work on peace building features two main components:

- The P4P network is a self-governing network of peace actors working on initiatives in their local areas to mitigate conflict and promote dialogue on peace.
- The Integrated Peace and Development Unit (IPDU) is a center of innovation and research for peace building practices.

PIND is also a member of the PSWG, and established a sub-group for the Niger Delta to work on issues related to electoral violence in particular.

IGD identified five key impacts of NDPI and PIND within the Peace Building Network innovation.

Innovation 7:
Peace Building Maturity Score = 3.1 / Sticky and Getting Ready to Scale

Detailed Innovation 7 Maturity Scores By Impact Statement:	MATURITY
1. Legitimizes and supports self-identified peace actors (individuals and groups)	3.4
2. Provides healing to wider community members	2.0
3. P4P members are responsive and help mitigate conflict	4.0
4. Government, international development, and private sector actors participate in spreading peace	2.5
5. New and more accurate information, resources, and strategies about peace available, enable more effective engagement	3.7
TOTAL AVERAGE	3.1

Empowering existing peace actors.
A main characteristic of PIND's approach in relation to peace building is the empowerment of peace actors to develop their own capacity and that of their communities, rather than intervening on their behalf.

For example, P4P members have elected their own state chapter coordinators and the Central Working Committee, which provides a self-functioning governance structure. As a result of the sense of ownership imbued by this approach, individuals within the P4P network have contributed their own resources and funds to activities. These contributions catalyzed an additional $5,000 to support Bayelsa's P4P chapter event in November 2015 and an additional $10,000 for media resources across all the chapters.

A challenge for peace actors in a conflict-affected area is that they can feel ineffective in the face of systemic violence. Overcoming this sense of helplessness is essential to effectively engage a

critical mass of people that can mitigate violence and actively build peace. IGD found that the peace actors supported by PIND felt capable of making a difference and reported a renewed sense of purpose and ambition. IGD identified the following reasons for improved morale:

1. The training and capacity building provided by PIND gave peace actors the tools to understand the issues and how to tackle them appropriately. In particular, conflict assessments enabled 974 peace actors attending PIND workshops to break down particular problems and plan their own interventions.

2. Working with others, through the P4P network or PSWG, contributed to a sense of being more effective, enabled an exchange of ideas, promoted collaboration, and provided support and encouragement to individuals or organizations that had previously felt alone or isolated. There was an important sense of the collective whole being stronger and more effective than the sum of its individual parts, each of which brought different strengths, expertise, resources and constituents to the network.

3. Peace actors reported being given a voice by the P4P network as a result of media coverage and social media.

"P4P gives us a voice through media coverage and this goes down to the communities and sounds the bell."

- P4P member

4. Membership of an official network such as P4P or PSWG gave peace actors credibility, giving them convening power and the respect of others. The network empowered them to take action and intervene in situations of potential conflict.

5. Perhaps most importantly of all, peace actors believed that the actions they took had made a difference and that they could see evidence that their interventions worked. This belief accelerated in 2015 after the national elections resulted in less violence in the Niger Delta than people had feared. Many of those involved in PIND's projects attributed this to the actions that they and others had taken to mitigate conflict.

Developing a network of critical mass.
Achieving sustainable peace requires engaging a critical mass of people in actively supporting the agenda, including those not previously involved in peace building. IGD found evidence that PIND's programs are catalyzing new peace actors at different levels, making progress towards a critical mass and the network taking on a life of its own. For example, membership of the P4P network has increased rapidly since it began in August 2013 with a membership of 120 individuals. Just two years later, at the time of this report, 210 different organizations identify themselves as Agents of Peace on the Niger Delta Information Hub. PIND and its partners have directly trained 2,633 individuals, and there are more than 3,800 members in the P4P network. This is partly as a result of work that PIND has undertaken to raise awareness through peace messaging and media coverage. It is also due to the common values and positive purpose that the P4P network provides in a place where the trust deficit is high. Using Bass Diffusion Modeling, IGD estimates that membership of P4P will reach 8,115 in 2016, 34,250 in 2018, 138,760 in 2020, 4,292,000 in 2025 and 8,270,000 in 2026 which is the tipping point for the entire Niger Delta population of 32 million people.

The participatory nature of the network and its ownership by the network members has also facilitated the engagement of new peace actors. P4P is organized into nine state chapters, some of which have sought on their own initiative to take P4P to areas beyond PIND's initial vision. This includes establishing sub-chapters in other cities and reaching out to rural communities. For example, the Imo State P4P Chapter has established sub-chapters in over a dozen local government areas (LGA), and is an official member of the Imo State Coalition of Peace Advocates (COPA).

"I always wished to be an ambassador of peace and P4P enables me to fulfill my dream."

- August, Cross Rivers State, P4P Member

"Interacting with members of the network and learning from them has changed my orientation, the way I interact with people, the way I present issues, the way I think about issues, the way I see conflict."

- Deborah and Livingston, P4P Members

"I feel more influential, and people listen to me. People look to me as a leader now. They see me bringing peace. It has even changed my interactions with my own family for the better."

- Debetimi, CAPABLE Trainee

At a grassroots level, IGD found examples where people who had not previously taken an active role in peace decided to do so, particularly after being encouraged to share their stories. IGD also found some evidence that PIND's approaches were helping to promote healing within and between communities, which is an important factor in the prevention of future conflict. Furthermore, women who attended town hall meetings to learn about election violence reported subsequently putting pressure on their husbands to not get involved. At the government level, official bodies are partnering with P4P chapters, demonstrating that they are seen as credible actors. For example, the Ministry of Education approved Edo state P4P chapter to establish peace clubs in schools and together they are now working on a peace curriculum. PIND programs are also targeting influential stakeholders such as traditional rulers, politicians, and so-called "conflict entrepreneurs."

Finally, an important characteristic is that the IPDU is intentionally distinct from the network to enable the IPDU to pilot ideas and initiatives separately. Only when there is sufficient evidence that an approach works is it pushed out to P4P members. This separation, and the explanation for it, is further evidence that NDPI and PIND are fundamentally designed as learning organizations and embrace lean start-up principles that enable diffusion of innovation.

"There is a need to overwrite [the] narrative of the Niger Delta as conflict-prone because this has not helped us. We want to work towards dialogue, make our case."

- P4P – Central Working Committee

Leveraging information and resources to mitigate conflict. It is much more difficult to attribute cause and effect in terms of actual conflict mitigation, particularly as it is not always easy to prove that violence would have occurred. However, IGD found strong evidence to suggest that actions supported by PIND programs did contribute to conflict mitigation and peaceful outcomes. In addition, IGD found several examples of militants becoming agents of peace as a result of PIND influence. Peace actors reported multiple instances of successful conflict mitigation through intervention, mediation, and advocacy. For example, P4P members intervened in advance of the New Yam Festival in Abia State and successfully prevented violence, breaking an annual cycle. In another case, peace actors advocated for an additional polling unit in a community in Bayelsa to avert a cause of tension in previous elections. The common thread for interventions was dialogue and de-escalation. An important tool in conflict mitigation is the peace map, which enables identification of patterns of violence, as well as providing an early warning system, and enhancing the ability of local peace actors to coordinate a response.

PEACE BUILDING RATE OF ADOPTION ESTIMATES

The Bass Diffusion Model relies on annually collected past data to draw estimates of market saturation, and predict future adoptions. Given the recent initiation of PIND activities, there is limited data to support the generation of a highly accurate curve. Thus, the data and its predicted curve were analyzed against analogous products to display estimated adoptions over time. The potentially analogous innovations are included so that the user can see how the predicted curve compares to other innovations for which substantial data has been collected over time, thus enabling the user to make judgment calls about how the estimated rates of adoption may or may not change based on other variables.

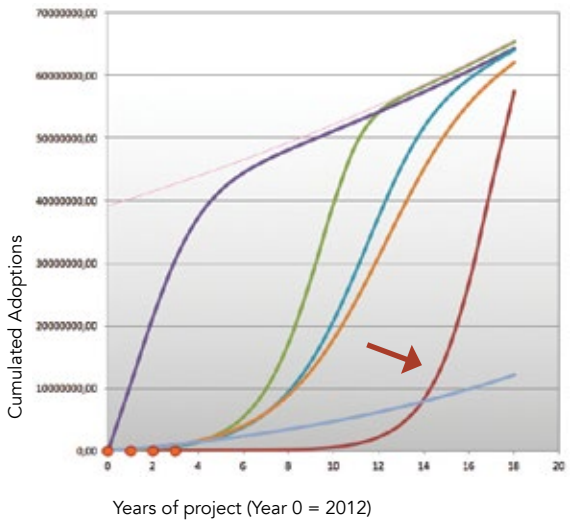
Justification of analogous systems chosen:

- **Accelerated Program |** Educational program, much like aquaculture extension service provided by rural fish farming associations. Low p-coefficient for innovation and advertising and high q-coefficient for imitation and word-of mouth sharing.
- **Flouridated water |** Public innovation, costs, and initiative from the government leading to other communities copying the practice. High p-coefficient for innovation and advertising and low q-coefficient for imitation and word-of-mouth sharing between near peers.
- **Foreign language |** Relies heavily on near peers for conversation. Low p-coefficient for innovation and advertising and high q-coefficient for imitation and word-of-mouth sharing between near peers in close influence.
- **Cell telephone |** Incentivized by the network of friends who already adopted and can thus call. Low p-coefficient for innovation and advertising and high q-coefficient for imitation and word-of-mouth sharing between near peers in close influence.
- **Telephone |** Dependent on the network of friends who already adopted and can thus call. Low p-coefficient for innovation and advertising and low q-coefficient for imitation and word-of-mouth sharing between near peers in close influence.

Deborah Effiong, President of P4P Rivers state Chapter, with P4P organizational partner Livingstone Membere spread peace building messages throughout their networks in Port Harcourt, Rivers state.

P4P Rate of Adoption Estimates						
Year	Estimated From Past P4P Data	Accelerated program (educational innovation)	Population using flouridated water (community adoption)	Foreign language (educational innovation)	Cell telephone	Telephone
2015	3,769	702,829	30,697,429	728,595	919,473	1,003,128
2020	138,760	17,183,339	48,066,644	9,442,097	8,920,038	3,417,952
2025	4,292,117	56,492,240	55,722,543	45,472,869	38,396,169	7,026,150

Table 8: P4P Rate of Adoption Estimates



P4P Niger Delta Forecasting Scenarios

- Past Data
- Estimated From Past Data
- Accelerated program (education innovation)
- Population using flouridated water (community adoption)
- Foreign Language (educational innovation)
- Cell Telephone
- Telephone
- Market Potential

Innovation 7 – Summary Evaluation Against the Maturity Model and Recommendations:

Innovation 7: Peace Building Network

2.8

Coordinated Strategy / Implementation Plan:

› Develop a coordinated media strategy to promote peace building. Rate of adoption is influenced by awareness, which is frequently raised through traditional sources, as well as social media. In addition, media can be used to help change the narrative within the region.

› A strategy to develop a social campaign, perhaps one that leverages Nigerian celebrities as agents of peace and supporters of the Niger Delta.

› Active participation from national, state, and local governments across all nine Niger Delta states could help to create stickiness and scale.

2.7

Network Development / Relationships:

› Consider enlisting change agents from other PIND programs as peace actors. These individuals are already familiar with PIND and have an established relationship of trust. The geographic spread and rate of adoption could quickly expand if these stakeholders were engaged in peace building efforts or the P4P network.

› Consider expanding and advocating for the P4P network to engage more with local academic institutions, including primary schools to initiate a culture of peace within youth populations.

2.5

Human Capital Alignment:

› Capacity can continue to be developed among international actors and the government. Advocating for support to change the narrative about the region with a focus on opportunity versus violence and militancy could influence and speed change within the region.

2.6

Resources:

› NDPI and PIND could consider engaging large private sector actors as proactive peace actors in the Niger Delta. The private sector brings great resources to bear and active involvement from private sector actors could provide additional credibility to the network as well as contribute valuable in-kind and financial resources to support further initiatives and uplift peace actors.

P4P members and partners share data and analysis of conflict trends with the Peace and Security Working Group (PSWG) to identify and address potential threats in the region.

Peace Building case study

NETWORK FOR PEACE

Working Together towards Stability and Peace

"People came out. People were confident. The election scenes were calm."

- EMEN

Characteristics of an Entrepreneur:

- *Determination for Success*
- *Taking Risk*
- *Finding Key Linkages*
- *Taking Initiative*
- *Spreading the Benefits*
- *An Eye for Scaling Up*

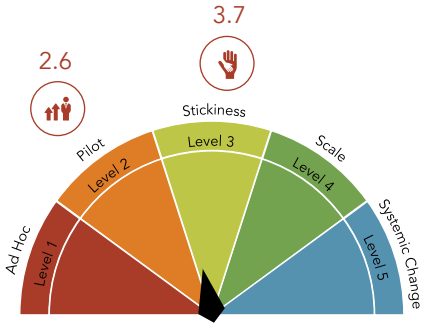
At the beginning of 2015, Nigeria was anticipating the upcoming presidential election and wary of violence that it might produce. Rivers State, in particular, was identified as a flashpoint for potential conflict. In response to this, PIND collaborated with the Nigeria PSWG in a participatory process to develop possible scenarios of election violence in the community and mitigating approaches. This effort encouraged greater participation in the election process and mitigated violence in the local community.

As part of the PSWG, a subgroup was organized to acquire local perspectives around the political and social triggers for violence. Emen Okon was one of the 40 locals who were consulted to inform the PSWG. PSWG led her and others through a series of exercises that helped identify violence scenarios, contemplate program design, review strategies, and look at the best way to intervene.

Lessons from these exercises were shared at a forum that convened key stakeholders including government officials, the security sector, the political parties, political candidates, and CSOs. "Everybody brings experience to the table. Each member organization has a different constituency," Emen shared. The subgroup presented their scenarios and offered recommendations for interventions that the 108 stakeholders in attendance could undertake to alleviate the risks. "The forum provided the opportunity and the platform to know what the stakeholders were doing and how best to address Nigeria's election violence issues," Emen remarked. Following the forum, the stakeholders and the subgroup worked together as a network to begin putting their plans into action. "The campaign was intense," Emen recalls. Some organizations held peace rallies. Radio jingles against violence in politics hit the airwaves. Others conducted voter mobilization and registration. Posters covered surfaces all over the state.

Despite all the efforts, everyone was still nervous about violence that could occur during the election. However, as Emen was driving around town to observe the scene, she saw the changes firsthand. "People came out. People were confident. The election scenes were calm," she remembered. She credits the campaigns for a peaceful atmosphere in the election.

ENABLING ENVIRONMENT



Palm Oil Average Maturity Score
3.2 Sticky and Heading to Scale

CIVIL SOCIETY

As in other regions around the world, civil society in the Niger Delta could be a strong force for positive social and economic change. Recognizing this, PIND has focused on improving the ability of CSOs to better serve their constituents, engage in public decision-making, and implement effective community development projects. Of the many areas in which PIND is creating impact, the most significant impacts to date have been evidenced in these activities to create a more supportive enabling environment through the strengthening of civil society in the Niger Delta. Of particular note is PIND's work with NGOs and CSOs, which has reached 3.7 on the maturity scorecard, indicating that this work is nearly at Scale in the region.

IGD identified five key impacts within two primary areas of innovation 8 and 9 in which PIND is working to strengthen civil society in the Niger Delta:

Innovation 8: SME Network Development

Innovation 9: NGO / CSO Network Development

These innovations are in somewhat different stages of maturity, as the evidence indicates. However, remaining consistent to their approach and model, PIND has predominantly focused these two innovations on creating strong networks of actors and empowering them through capacity building to create sustainable Systemic Change.

Innovation 8:
SME Network Development Maturity Score = 2.6 / Pilot and Approaching Stickiness

PIND's work is still in Pilot stages, but is approaching Stickiness. IGD identified two key impacts that PIND is having in this area of innovation:

Detailed Innovation 8 Maturity Scores By Impact Statement:	MATURITY
1. Existing SMEs/Entrepreneurs increase profitability and productivity	3.1
2. SMEs/Entrepreneurs see opportunities in the Niger Delta resulting in increased employment and income in the Niger Delta	2.0
TOTAL AVERAGE	2.6

PIND and its partners have made good progress on developing a successful pilot to build the capacity of local SMEs and entrepreneurs in the region. This innovation is particularly important to the long-term sustainability of PIND's efforts to develop value chains and other economic opportunities in the region because it will ensure that local businesses are not reliant on PIND for support. Building capacity among local SMEs is critical to developing an enabling environment in which markets can grow and thrive.

IGD gathered evidence of PIND working with a range of SMEs, including business service providers and local service providers. These groups in turn provide services to other SMEs in the three key value chains and have also supported other local businesses, including a furniture store and a poultry business. To date, PIND has trained and worked with 56 SMEs who have reported that they have been able to secure an additional NGN 34.5 million in business loans and NGN 20 million in angel investment to support their businesses. Additionally, PIND and partners have trained 19 business service providers of which three

"We have increased our clients and our outputs. My clients are very happy and have provided me with referrals. We have been able to better market our services and demonstrate our value. I am better able to articulate my organization's business value and what I bring to the table."

- DDI Consulting

have already engaged in step-down training to other local providers. Fifty-three SMEs reported paying for training, showing evidence of the linkages developing in the market and progress towards systemic change.

Qualitative findings also evidence changes in SMEs' knowledge in the form of a greater grasp of key business skills, including financial management and accounting; proposal writing; understanding of market context; and business linkage opportunities. Youth who attended Centre LSD's entrepreneurship training demonstrated shifts in attitude and mindsets about economic opportunities, particularly in ICT. Across the board, changes in capacity were evidenced. Thirteen participants reported an increase in their monthly income, including consultants that claimed their clientele base had increased significantly.

While still in Pilot stage, PIND's efforts to cultivate a healthy civil society by supporting local SMEs and entrepreneurs has resulted in an increase of business revenues in excess of NGN 132 million and the creation of about 73 new jobs in the region.

Innovation 8 – Summary Evaluation Against the Maturity Model and Recommendations:

Innovation 8: SME Network Development

2.8

Coordinated Strategy / Implementation Plan: PIND and its partners have done well in providing training to some of the local SMEs and entrepreneurs in the region to improve their capacity. Ultimately however, systemic change will be reached at a point when the local culture is emblematic of innovation and businesses and individuals see the Niger Delta as a lucrative region for establishing new ventures or locating established businesses. This will require greater coordinated engagement from a wider group of stakeholders including government, academic institutions, and other CSOs. Some key considerations include:

› Creating a one-stop-shop for new business owners and entrepreneurs. According to the World Bank's *Doing Business* Project, Nigeria ranks 129th out of 188 countries in terms of ease of starting a new business. On average it takes nearly 31 days to register a new business. This challenge becomes even greater within the Niger Delta. Out of 36 states ranked within Nigeria, all but two of the nine Niger Delta states rank in the bottom 50%, with Ondo, Abia, Rivers, and Imo ranking 36th, 35th, 32nd, and 31st respectively. PIND can work with stakeholders including local SMEs and entrepreneurs to create a one-stop-shop of resources and information to streamline registration and incorporation procedures.
› Engaging policymakers to create policies that incentivize business.

2.7

Network Development / Relationships:
› Establishing an environment in which innovation and entrepreneurship can thrive. As the Theory of Diffusion of Innovation and innumerable real-life examples show, innovation and ideas spread when individuals are surrounded by near-peers. For business owners and entrepreneurs this can be achieved in a variety of ways and some considerations include establishing professional societies and business networking groups, as well as innovation hubs. PIND could consider leveraging the EDCs to host meetings or networking events for local entrepreneurs, as well as forming partnerships with incubation and acceleration hubs, such as Impact Hub.

2.5

Human Capital Alignment: Consider a partnership with local academic institutions to create courses on entrepreneurship and business management that will create a sustainable pipeline of local talent and foster a culture of innovation.

2.6

Resources: Consider partnerships with the private sector to provide mentorship and hands-on training in business skills for SMEs and create inclusive supply chains.

Reference: http://www.doingbusiness.org/data/exploretopics/starting-a-business/nigeria/

Innovation 9:

NGO/CSO Network Development Maturity Score = 3.7 / Nearing Scale

The most significant impacts of all PIND's initiatives have been in building the capacity and developing strong networks of local NGOs and CSOs that have taken on a life of their own and as a result, are nearing Scale.

IGD identified three key impacts that PIND is having in this area of innovation:

Detailed Innovation 9 Maturity Scores By Impact Statement:	MATURITY
1. Existing NGOs/CSOs better serve their constituents/stakeholders	4.1
2. Donors and other actors work effectively with Niger Delta NGO/CSOs	4.0
3. Respect for NGOs/CSOs and their attractiveness as an employer of choice increases	2.9
TOTAL AVERAGE	3.7

Since 2011, PIND and its partners have created a network of 406 local NGOs and CSOs, which is 79% of their social network of organizations. The Leadership, Empowerment, and Development (LEAD), Strengthening Advocacy and Civil Engagement (SACE), and Capacity Building for Local Empowerment (CAPABLE) programs offer key resources and trainings for this network and include skills development across a wide range of topics that have dramatically enhanced these organizations' capacity to run effectively and benefit the greater Niger Delta community including:

- Best practices in financial management and accounting, human resources, procurement, and travel and asset management.
- Project management best practices.
- Standardization of financial reporting and authorization.
- Resource mobilization, monitoring and evaluation, advocacy, communications, and strategy planning.
- Development of internal standard operating procedures for all departments.
- Effective training and collaboration with other organizations.

"We learned to map stakeholders and then find out what they want to hear. It was not so much a training, but more a kick in the back to get you thinking on how to be innovative."

- Ken Henshaw, Social Action

Though these trainings were targeted at individuals representing their organizations, qualitative evidence shows that skills learned passed from training participants to the rest of the organizations' staff. Organizations represented at the training also reported increases in operating budgets, as well as gaining the capacity to conduct gender-sensitive programs and serve more people.

Strengthening these NGOs/CSOs individually and creating the broader civil society network is essential to PIND's partnership model and allows it as an institution to pull back from direct program involvement, instead graduating the local organizations to be the implementers of program activities in the region. In this way, connection to the PIND network confers a standard of capability that lends respect to NGOs/CSOs (which was previously absent) and allows them to have a platform for acting with government and individuals. PIND also coordinates and facilitates development activity and organization connections through NDLink, NDDFs, and the opportunities to network with fellow participants during training sessions. Together, 24 new partnerships have been formed leading to 14 new collaborative initiatives.

"We've been taught something new...that you don't always have to rely on donor agencies. The success story shared with us in training was impactful and inspiring."

- LGA focus group participant, LEAD Program

Additionally, stakeholders noticed changes in the culture of their organizations. IGD heard from individuals demonstrating key examples of how awareness and attitudes toward community responsibilities and key professional capacities, such as improved online etiquette and communication skills, created a more congenial and productive relationship with both funders and the government. Staff members were also now choosing to think strategically and innovatively, competing for proficiency, and advocating for themselves. Stakeholders also reported new incentives such as salary increases, marketable professional skills, employment vacancies, and making a legitimate societal contribution and possible path to employment.

Innovation 9 – Summary Evaluation Against the Maturity Model and Recommendations:

2.8

Coordinated Strategy / Implementation Plan:

› Through their institutional model, training activities, and various NDLink and alumni platforms PIND displays a clear and strategic path forward for developing their network.

› Leverage the strength of this network for goals of the broader institution by continuing to emphasize peace building and market development program themes throughout all program funding and trainings for the development network, capitalizing on the institutional capacity already present within PIND.

2.7

Network Development / Relationships:

› PIND and its partners have achieved tremendous success building a network of NGOs and CSOs who contribute to development activities in the region.

› To continue to scale the network, it will be crucial to draw from organizations in all Niger Delta states.

› Integrate and highlight gender sensitivity as an additional strategy for NGOs and CSOs to increase their impact in the Niger Delta.

2.5

Human Capital Alignment:

› Evidence of diffusion of innovation is displayed both by NGOs and CSOs and the individuals that comprise their organizations.

› Continue to capitalize on opportunities developed through NDDF and other platforms for coordination to create and carry out action steps for the network.

› Continue to involve government in the process; refining the discourse between civil society and government for strong relationships that can lead to an increase of government and NGO and CSO partnerships and projects.

2.6

Resources:

› Operating as an institutional donor for their network of NGOs and CSOs, PIND should review and continue to improve internal Project Management Office (PMO) functions.

› Consider initiating a broader campaign around participation in NGOs and CSOs to continue growing their influence and reach in the Niger Delta.

A capacity building deliberation session with the Strengthening Advocacy and Civic Engagement (SACE) team at the PIND office in Port Harcourt, Rivers state.

Social Action, like the NDDF Calabar seen here, brings together government stakeholders with local community members to enhance dialogue.

Civil Society case study

COLLABORATIVE, NOT COMBATIVE

Increasing Influence and Impact through Engagement

"…PIND has given us more tools; more channels to better engage key stakeholders with our findings."

- KEN

Characteristics of an Entrepreneur:

- *Determination for Success*
- *Taking Risk*
- *Finding Key Linkages*
- *Taking Initiative*
- *Spreading the Benefits*
- *An Eye for Scaling Up*
- *Peaceful Dialogue*
- *Building Internal Capacity*

Social Action is a CSO rooted in the Niger Delta focusing on bringing transparency and accountability to government budgets and spending. With PIND's influence, Social Action changed their strategy to engage with government, rather than combating them. They now leverage their relationship to achieve greater success throughout the region.

Ken Henshaw is a long time social servant and an employee of Social Action. "Before working with PIND, we felt we were hitting a brick wall and only achieving cracks," he shares. Social Action works to elevate issues of transparency and accountability in five states in the Niger Delta. Through assessments and promotion of its findings, Social Action strives to create an open discourse between government and community members.

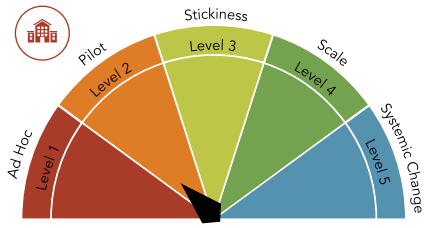
PEACEFUL DIALOGUE

"Originally, our strategy was to embarrass government by printing reports. After two years, we realized this didn't work," he notes. With PIND's influence, Social Action became more strategic in their presentation and distribution of findings, improved their dialogue with government stakeholders, and refined their social media presence. "The first step has been taken to actually build a relationship with the government. This is a fundamental change for us in our approach. We learned this approach through our training with the PIND team," Ken comments.

BUILDING INTERNAL CAPACITY

Partnering with PIND also refined Social Action's structure, bolstered its monitoring capacity, and refocused its work for greater efficiency. PIND worked closely with Social Action to improve its operational protocols and ultimately expand its reach. "While our findings remained the same, PIND has given us more tools, more channels to better engage key stakeholders with our findings," Ken reflects.

Social Action now works with other organizations and activists to pass on its skills in budget monitoring and reporting. It started working with eight CSOs and several community groups across four states. Now, it has at least 30 formal organizations and leaders in a network across the Niger Delta region. "Our intention is to create the most robust budgetary network in the Niger Delta," Ken states. It seems that Social Action is well on its way.



Policy and Institutions Average Maturity Score

2.4 In Pilot Stage

POLICY AND INSTITUTIONS

Initial data PIND gathered when first established showed that a lack of coordination and collaboration amongst development entities in the Niger Delta often resulted in the duplication of efforts and reduced the socioeconomic impact of projects. To address this challenge, PIND focuses on convening a wide range of stakeholders from the international donor community, international standard-setting bodies, and actors from the national, state, and local government levels to share information and foster greater understanding of the underlying causes of development challenges in the region. For this reason, the impacts within this innovation area range drastically.

NDPI and PIND's achievements in engaging the international donor community and catalyzing resources into the region have resulted in one of most significant impacts to date. However, NDPI and PIND's approach to engaging with government is to a great extent through local actors, which requires significant time to build trust and capacity for self-advocacy. It is therefore not surprising that these impacts have not progressed as rapidly in some cases. IGD identified six key impacts within the tenth innovation PIND is using to change behavior of development institutions and Niger Delta policymakers to expand their reach and sustain development.

Innovation 10:
Institutional Network Development Maturity Score = 2.4 / Pilot

Detailed Innovation 10 Maturity Scores By Impact Statement:	MATURITY
1. LGAs proactively address constituents' needs and better serve the community	2.5
2. Federal and state government actors work in partnership with development actors, donors, and the private sector to achieve systemic change in the Niger Delta	2.3
3. Stronger linkages exist between all government actors (local, state, federal)	1.6
4. Improved financial transparency and flow of funds in the economy	1.9
5. International development actors better contribute to economic development and peace building in the Niger Delta	4.0
6. Federal and state government priorities and funding aligns with market systems development	1.6
TOTAL AVERAGE	2.4

"Because of PIND, we started in the Niger Delta and took over a lot of work from PIND."

- Qazi Yawar – DFID/MADE

The most significant impact made toward institutional Systemic Change is occurring at the level of institutional development actors operating in the Niger Delta. PIND acts as a leader in development. Its presence and success proves that market development in the Niger Delta works and inspires other international development actors to get involved. IGD heard stakeholders from DFID and USAID report that without the presence of PIND, they would not be working in the Niger Delta. The presence of additional international actors and their financial commitments account for an increase of $92 million in development funds into the Niger Delta. More than providing an example of effective development for the region, PIND also provides physical security, such as secure office locations and vehicles, which also saves international actors entering the region time, money, resources, and the need for specialized personnel.

PIND has also made important progress in influencing Nigerian institutional actors, specifically LGA civil servants. The Okrika local government was able to increase their budget for social services by 55.4% because of PIND's capacity-building activities in government financial accounting and community budget tracking, as well as its engagement with journalists around the budget. LGAs conducted nine public dialogues to solicit community priorities, leading to a 6% increase in funding to locally identified priority sectors and implementation of 16 priority sector projects.

"All in government see PIND as collaborative…PIND is absolutely trusted in government…They are not hoping to get something out of it. Just giving good advice."

- Ministry of Agriculture

PIND is highly regarded by government officials who use the research produced to influence funding priorities and view association with the network as a point of credibility for civil society actors. Five policy changes have been recorded. That said, IGD documented many examples of government officials who look to PIND as a desirable partner and facilitator for other partnerships. This evidence indicates that there is momentum building for larger institutional changes through government stakeholders.

"PIND is very popular. They are very reliable."

- Ministry of Niger Delta Affairs

The time needed to achieve this level of trust is to be expected, especially given the view community members hold of government. In a climate where political neutrality is critical, PIND has trodden carefully and has a good reputation in this respect, with many other partners indicating that they trust PIND over the government. However, with trust already built, further engagement at higher state and national government levels is a logical next step. Another key variable barrier in influencing state and national governments is the uncertainty created by elections. One key to successful PIND pilots is a champion to influence and lead near peers. With complete turnover in government leadership, the position of the needed champion and their related peer officials and civil servants do not remain stable enough to sustain a progression of change. In this way, PIND has experienced setbacks in the investments made to target key state and regional government actors.

"PIND is the best thing to happen to the Niger Delta region…They have been successful in their interventions. They have been linking people together."

- Hon. Remy Chukwunyere, Imo State Directorate of Employment

"Many are involved politically, but PIND is not. Neutrality is very critical… they focus on development, development, development."

- Niger Delta Development Commission

Innovation 10 – Summary Evaluation Against the Maturity Model and Recommendations:

2.8

Coordinated Strategy / Implementation Plan:

› Continue to build upon a coordinated media strategy to promote budget tracking and financial transparency of government.

2.7

Network Development / Relationships:

› PIND and its partners have done a good job of organizing and coordinating local organizations for advocacy work, as well as calling for transparency and accountability of government. Key to moving these dialogues forward is making sure government officials and civil society actors are present in the network and discussions.

› Provide additional opportunities, like those facilitated with TEDxYouth, where government officials can engage with a wider variety of individuals on topics of interest through social media platforms.

2.5

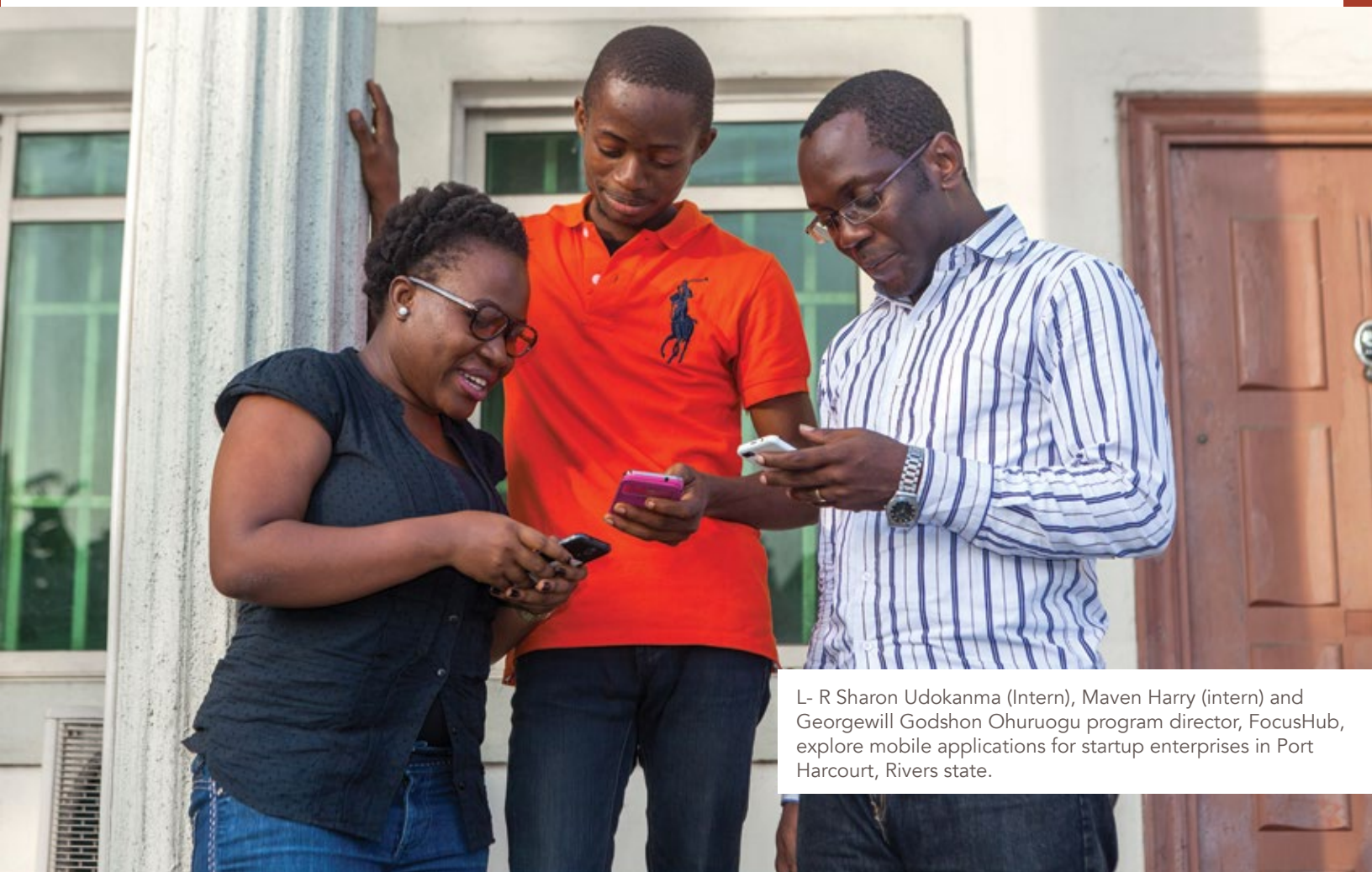
Human Capital Alignment:

› With elections finished, capacity can continue to be developed among a variety of key government officials and civil servants. Using a single state or community where government is receptive to PIND activity, rather than broadly targeting all states and officials in the region, could provide the necessary pilot to influence other states to later follow suit.

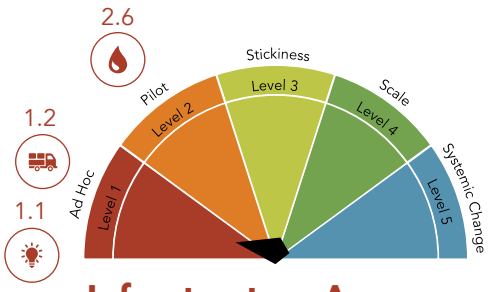
2.6

Resources:

› Individuals and community organizations are currently focused around specific projects and initiatives. Resources could be targeted more consistently to attract and hold attention of key government players.



L- R Sharon Udokanma (Intern), Maven Harry (intern) and Georgewill Godshon Ohuruogu program director, FocusHub, explore mobile applications for startup enterprises in Port Harcourt, Rivers state.



Infrastructure Average Maturity Score

1.7 Approaching Pilot Stage

INFRASTRUCTURE

PIND's focus on infrastructure comprises three different areas of innovation that are in various stages of maturity. Despite their distinct nature, each is focused on increasing access to public goods and services, which generally require strong public-private partnerships.

IGD identified 11 key impacts of PIND within three major areas of innovation in infrastructure:

Innovation 11: WASH Infrastructure Development

Innovation 12: Power Infrastructure Development

Innovation 13: Transportation Systems Infrastructure Development

Of note, WASH has had more run-time and engagement from international donors and development agencies, which has contributed to its progression further along the Maturity Model. Power and transport innovations require more significant engagement with policymakers. As PIND has focused less on government engagement to date, it is not surprising that these innovations are still in Ad Hoc and infancy stages. However, they represent key areas for significant future impact.

Innovation 11:

WASH Infrastructure Development Maturity Score = 2.6 / Pilot and Approaching Stickiness

WASH indicators in the Niger Delta remain poor, with many people lacking consistent access to clean water and sanitation facilities. In collaboration with partners from government, the private sector, and civil society, PIND focuses on addressing WASH-related challenges within Niger Delta communities primarily by sourcing and sharing simple, easy-to-use technologies that provide clean water and produce more sanitary household conditions. PIND's work is still in Pilot stages, but is approaching Stickiness. IGD identified four key impacts that PIND is having in this area of innovation:

Detailed Innovation 11 Maturity Scores By Impact Statement:	MATURITY
1. SMEs/ Social Entrepreneurs provide innovative and affordable WASH technologies/ solutions	3.1
2. Governments actively address constituents need for access to WASH	1.8
3. Communities recognize importance of WASH	3.3
4. Entrepreneurs/ SMEs/ Private sector see opportunities in providing services around WASH/ Health	2.4
TOTAL AVERAGE	2.6

To address the constraints related to WASH infrastructure development, PIND introduced the BSF. PIND approaches the distribution and implementation of this technology in two ways: establishing targeted, intensive pilots to saturate specific communities and training social entrepreneurs to more broadly educate local communities about the importance of key WASH practices and provide the technology needed to make these changes.

In these targeted communities, the BSF has changed community norms around potable water, drastically reducing expenses related to medical costs by NGN 2,800 per household and the purchasing of water sachets by NGN 4,000 per household. BSF users also report increased productivity from time saved acquiring water and positive health impacts. PIND has implemented techniques to encourage higher rates of adoption. In addition to the social pressure of many near peers that are all using the technology, community members receiving grant-funded BSFs sign contracts to ensure the adoption of the filter. Under this contract the filter will be reassigned if it is not

used consistently, continuously, and correctly. These incentives have all led to high rates of adoption in those communities introduced to BSF technology; however, with limited scope and distribution systems, the innovation has yet to begin the process of scaling.

There are now BSFs in 270 households. Despite the small scope of the pilots in these targeted communities, IGD has collected evidence indicating that there is an increase in demand of BSFs across the broader Niger Delta. For example, 21 new social enterprises were established and the social entrepreneurs report that in addition to the 94 BSFs they have sold, the demand for purchased BSFs outpaces both the easily sourced local supply and the distribution networks able to deliver the pre-fabricated models broadly across the region.

Training social entrepreneurs has created similarly small-scale but promising impact. IGD collected evidence of their changes in knowledge, attitudes, and beliefs, which shows social entrepreneurs investing in training on best practices in WASH and entrepreneurship. While PIND is beginning the process of establishing a database of these trained social entrepreneurs to link them to each other and provide further resources, the supply and distribution mechanisms of the BSF value chain are still lacking. Additionally, without access to finance potential customers are prevented from purchasing the technology necessary for improving their water supply.

These social entrepreneurs are also gaining important social capital in their communities. One entrepreneur saw WASH technology as an important opportunity for his business and invested without financial support from PIND. Another entrepreneur, Henry Erikowa of Coastal and Marine Areas Development Initiative (CMADI), is often on the radio speaking about WASH issues and can also be found setting up WASH clubs in the primary and secondary schools. Other large socialization programs will also contribute to this effort. The $800,000 WASH in Schools program will bring improved WASH practices to 30 area schools and is set to be initiated in 2016. A $400,000 UNICEF-PIND program is set to promote WASH practices as mechanisms for building peace throughout the region. Lastly, the Dodo River program brought in $130,000 from the Dodo River RDA and Oxbow Lake Rotary Club in Yenagoa.

Innovation 11 – Summary Evaluation Against the Maturity Model and Recommendations:

2.8

Coordinated Strategy / Implementation Plan:

› A clear WASH strategy exists in terms of distribution and adoption of the BSF in the piloted target communities, but is less defined for regional dissemination.

› Unlike the value chains in economic development, PIND approaches the WASH infrastructure innovation through development partners, which has led to a separation from market-based approaches. Treating the WASH value chain in a consistent and market-driven way could unlock the key actors needed to establish the supply chain needed for BSF distribution and lead to a higher level of sustainability.

› A social campaign to educate the broader population on the importance of WASH and available solutions would likely increase widespread adoption of WASH technologies.

2.4

Network Development / Relationships:

› Working intensely in targeted communities has been key to achieving high rates of BSF adoption, but bringing in local government actors to invest in their own WASH infrastructure will be key to replicating these pilots further to achieving Systemic Change.

› Some key development partners have been identified and engaged to coordinate and improve WASH strategies in the region.

› Approaching the WASH value chain from a market development perspective will include additional stakeholders in the process, namely BSF and other WASH technology fabricators and suppliers. Training and coordination of this process is still under development.

› PIND is taking key steps in developing a database of WASH actors. These efforts should continue to be expanded to both further coordinate the BSF distribution system, improving on the current gaps in demand and delivery, and better tracking the adoption and retained usage of purchased WASH technology.

2.5

Human Capital Alignment:

› WASH social entrepreneurs have been identified and are building capacity with local communities.

› With the BSF, PIND has successfully introduced appropriate technology to support improved WASH practices and step-down adoption is taking place in targeted communities.

› Establishing a value chain approach, with an additional component of access to finance, and the increase of government support will be critical for the process of Scaling this innovation.

2.9

Resources:

› Additional partners will need to be leveraged to expand the plan across the Niger Delta through the replication of pilot sites or the increase in social entrepreneurs. This will further enable growth and stimulate the establishment of new business and partnerships throughout a WASH value chain.

› Resources could be targeted to develop a more robust plan to engage local governments to invest more heavily in WASH infrastructure.

› Upcoming WASH programs in area schools and the establishment of partnership with key donors (such as UNICEF) show great promise in terms of catalyzing additional resources and coordinating existing efforts in the region.

Innovation 12:

Power Infrastructure Development Maturity Score = 1.1 / Approaching Pilot

A key constraint to economic growth in the Niger Delta is inadequate power supply and transport infrastructure. According to the 2014 Nigeria National Integrated Infrastructure Master Plan, an investment of roughly $2.9 trillion will be required over the next 30 years to meet Nigeria's infrastructure needs. Although the challenges to meeting these needs are significant, NDPI and PIND have realized that finding solutions to reliable power generation and transport in the Niger Delta are foundational to unlocking significant growth in all economic sectors. NDPI and PIND's activities in this area though are still Ad Hoc and heading toward Pilot stage.

IGD identified four key impacts that NDPI and PIND are having in this area of innovation:

Detailed Innovation 12 Maturity Scores By Impact Statement:	MATURITY
1. Current power providers increase reliability and affordability of energy supply to underserved markets	1.1
2. Governments actively address constituents need for access to power	1.1
3. New low-cost innovative energy solutions are available	1.1
4. Cross-sector actors work together to deliver power	1.1
TOTAL AVERAGE	1.1

Compared to other NDPI and PIND innovations, the activities related to power infrastructure are just starting. Despite the different activities around power advocacy and convening various actors in the power value chain, no innovation has coalesced into Pilot stage at the time of this report.

However, the power value chain shows significant promise given the data IGD has collected regarding NDPI and PIND's convening efforts and introductory power assessments. In one primary example, the Fall 2015 NDDF was entirely devoted to power infrastructure, with more than 100 local government officials and power value chain actors scheduled in attendance, including the Delta State Governor and Special Advisor to Cross Rivers State Governor.

Innovation 12 – Summary Evaluation Against the Maturity Model and Recommendations:

Innovation 12: Power Infrastructure Development

1.5

Coordinated Strategy / Implementation Plan:

› A strategy for power value chain development exists in terms of convening relevant private sector and government value chain actors; however, there has not been any clear definition of a single power infrastructure innovation.

› Research surrounding appropriate technology for creating power-generating solutions is still in its beginning stages. Introducing an individual or a bundle of technologies should follow the same market development approach that exists with other value chains, including access to finance.

1.0

Network Development / Relationships:

› Some key influencers have been identified to drive the creation of a power-related value chain and adoption of power-producing technologies. Utilizing key characteristics of innovators and early adopters in the population as well as continued engagement of these key value chain actors, including financial service providers and government officials, will speed the Piloting and Scaling process.

1.0

Resources:

› Additional partners will need to be leveraged to expand the plan across the Niger Delta through the replication of pilot sites or the increase in power SMEs/entrepreneurs. Growing the network will further enable and stimulate the establishment of new business and partnerships throughout the power value chain.

Innovation 13:

Transportation Systems Infrastructure Development Maturity Score = 1.2 / Approaching Pilot

NDPI and PIND's work in the transport sector is still in an Ad Hoc stage and heading toward Pilot stage. IGD identified four key impacts that NDPI and PIND are having in this area of innovation:

Detailed Innovation 13 Maturity Scores By Impact Statement:	MATURITY
1. Cross-sector actors support communities by providing safe and reliable roads and transportation systems	1.6
2. Governments actively address constituents need for safe and reliable transportation	1.0
3. Cross-sector actors work together to improve transportation infrastructure	1.0
4. Cross-sector actors work together to deliver power	1.0
TOTAL AVERAGE	1.2

Much like the power development innovation, NDPI and PIND's activities around transportation systems infrastructure are still relatively new and Ad Hoc. That said, over the course of NDPI and PIND's work in the Niger Delta, they have experienced some important successes in improving roads and waterways through community advocacy efforts linked to other innovations. However, these efforts have not been sustained or extended to broader populations and no activities have merged to form a pilot project that will improve the transportation systems in the Niger Delta's larger supporting ecosystem. In fact, transportation is widely cited as a key constraint for various stakeholders and value chain actors, leaving them to rely on disconnected, expensive, unreliable, and often insecure means to move themselves and their products.

The success of the previous advocacy efforts and the receptiveness of key government stakeholders indicate that the transportation systems infrastructure shows evidence of becoming a key piece of NDPI and PIND's work in the Niger Delta, in addition to its place as an important component of the enabling environment for the region at large.

Innovation 13 – Summary Evaluation Against the Maturity Model and Recommendations:

Innovation 13: Transportation Systems Infrastructure Development

1.6

Coordinated Strategy / Implementation Plan:

› Advocacy efforts of NDPI and PIND stakeholders and broader advocacy plans for the Niger Delta often include important elements of the transportation infrastructure; however, these activities are often unrelated and do not yet include other value chain actors.

1.0

Network Development / Relationships:

› Key government partners have been engaged and showed signs of investing more heavily in transportation-related infrastructure projects; however, to reach scale and encourage more sustained investment a broader network of private-sector partners will have to be engaged and included in the transportation systems innovation strategy.

1.0

Human Capital Alignment:

› Community members have showed signs of taking action to advocate for better transportation systems, which government has responded to in turn; however, sustained responses and implementation of larger scale transportation projects have yet to be realized.

1.0

Resources:

› Additional partners will need to be leveraged to expand the plan across the Niger Delta through the replication of pilot sites or the increase in transportation SMEs / entrepreneurs. This will further enable and stimulate the establishment of new business and partnerships throughout a transport value chain.

Henry Erikowa displays a Bio-sand water filter (BSF).

WASH case study

FILTERS CHANGE LIVES

Building Community Infrastructure through Providing Access to Clean Water

"PIND looks at you owning the project and training you to lead it."

- HENRY

Henry Erikowa has been participating in PIND activities since they were introduced to Egbokodo in 2012. Through his organization, CMADI, Henry has helped execute various PIND initiatives, creating tremendous impacts for the people of Egbokodo. One example is the WASH initiative, through which the BSF was introduced and distributed to increase the community's access to clean water.

Characteristics of an Entrepreneur:

- *Determination for Success*
- *Taking Risk*
- *Finding Key Linkages*
- *Taking Initiative*
- *Spreading the Benefits*
- *An Eye for Scaling Up*
- *Peaceful Dialogue*
- *Building Internal Capacity*
- *Owning the Project*
- *Replicating the Efforts*

OWNING THE PROJECT

As a local resident, Henry realized that people living in Egbokodo have a hand-out mindset. "People are used to having oil companies operating here and providing development projects," he shared. However, through working with PIND, he recognized the importance of actually owning the project to ensure its success and impact. "Now, PIND is looking at you owning the project and training you to lead it." Henry was empowered to become a lead WASH trainer in Egbokodo to bring the BSF to his community members so they use this appropriate WASH technology consistently, continuously, and correctly to gain better access to clean water.

TAKING INITIATIVE

Henry executed campaigns in his community to spread the WASH initiative and educate people about the BSF and access to clean water. He leveraged opportunities like the World Water Day to do radio interviews and raise awareness about WASH. He also set up WASH clubs in primary and secondary schools to promote broader WASH education. Initially, the project brought 50 BSFs into the community, creating substantial benefits for the Egbokodo people. "We find that people no longer spend money buying water and there's now a decrease in the visits to health centers." These financial savings also come with an increase in revenue. Henry also hears stories of increased productivity. "Children have better school attendance, and it's visible in increased production on their farms that mothers are not taking more time to look after them or to stay in the health center." Access to clean water means so much for the people of Egbokodo.

REPLICATING EFFORTS

More and more people have now heard of and purchased a BSF for themselves. Henry is calling for more entrepreneurs to step up as WASH advocates like himself to further spread the adoption of BSF technology. Already 12 people have committed to following Henry's social entrepreneurial path. This means more clean water and better infrastructure for the Niger Delta, all thanks to PIND and individuals like Henry.

4

RECOMMENDATIONS AND CONCLUSION

SUMMARY RECOMMENDATIONS

The following recommendations are derived from findings, observations, and feedback from stakeholders IGD interviewed in the field, in combination with data analysis, and IGD subject matter expertise in impact measurement and sustainable development approaches in the sector. These recommendations represent a summary of more detailed recommendations found throughout the report regarding specific innovations and are representative of consistent themes that were identified. The following recommendations are areas IGD sees as key opportunities for NDPI and PIND to maximize impacts and continue to evolve innovations towards a level of Systemic Change.

1. Intensify focus on developing the enabling environment; in particular, increase engagement with policymakers at all levels and catalyze cross-sector resources to address challenges in access to power and transport to alleviate constraints to the value chains.

NDPI, PIND and their partners have created significant impacts in economic development and peace building, as well as in some areas of the enabling environment, such as strengthening civil society. However, as the impact and maturity scores show, there has been less significant impact in many areas of the enabling environment, particularly within the areas of infrastructure and policy and Institutions. It makes sense that NDPI and PIND did not make government engagement and policy changes a core area of focus in the first five years as they worked to develop the necessary trust and credibility with the stakeholders targeted for capacity building. A top-down approach and working too closely with government would have created doubt among the broader network of stakeholders and threatened trust and credibility. Similarly, since government is generally responsible for providing adequate infrastructure, it holds that impacts in this area have not yet been as significant as in other areas. However, now that the market systems and peace building pilots have demonstrated success and are beginning to gain traction and go to Scale, addressing these barriers will become critical. Moving forward, NDPI and PIND should intensify focus on increasing the maturity and extent of impact in the areas of power, transport, and policy institutions.

2. Explore partnerships with technology-focused organizations to integrate and apply ICT to support actors and increase rates of adoption.

According to the Theory of Diffusion of Innovation, rate of adoption of innovation, particularly technological innovation, is driven by its relative advantage, compatibility, complexity, trialability, and observability. Bringing in outside expertise from technology-focused organizations to support PIND in identifying additional technological innovations to support value chain actors, particularly smallholder farmers, could be a key to driving adoption rates and moving value chain innovations to scale. For example, existing ICT technology can be leveraged to support value chains (for example, market data for farmers and weather patterns can be supported through mobile phone technologies, GPS systems, and low-cost drones). These technologies provide value chain actors with the right information at the right time. Technology partners can bring the birds-eye-view to partner with the extensive work the ATED Center is doing to bring even more technologies and technical assistance capabilities for integration into value chains and communities to increase the rate of adoption and speed up progress towards Systemic Change. PIND could consider a partnership with African Technology Foundation (ATF) (http://www.thea25n.com), whose mission is to provide access to resources that effectively address and manage the most pressing technological challenges on the continent.

3. Explore additional partnerships with media institutions to intensify the focus on changing the overall narrative of the region, catalyze social campaigns, and create wide awareness of innovations to increase rate of adoption.

Market actors choose to adopt innovations based on a decision-adoption process. The steps in this adoption process are knowledge, persuasion, decision, implementation, and confirmation. This is reflected in the rate of adoption calculation within the coefficient of innovation (q), which determines the extent of external influence spread through media and advertising. Thus, if NDPI and PIND focus on creating wider awareness of innovations from the outset, the rate of adoption and rate at which systemic change can be achieved will increase. Further, perceptions of the region present a barrier for market actors and international donors who do not want to relocate to an unfamiliar area where they fear the eruption of conflict. Therefore, creating a new image that recasts the Niger Delta as a region of economic opportunity and peaceable livelihoods will help support NDPI's overall objectives of achieving systemic change in the region. PIND could consider developing partnerships with local and international media institutions to help to create new headlines for the region, and partnering with the PIND Media Hub to develop social campaigns around peace building and value chains, including helping to change the perceptions of youth around the viability of agriculture as a career of choice. Media and technology partner institutions could also work with the ATED Center and Media Hub to create new platforms and advertising for increasing stakeholder awareness about technologies and best practices such as the MAH and WASH technologies, leveraging existing PIND networks and SMS capabilities.

Vero Omoughahun purifies water from a stream with the use of Bio-Sand water filter in Ashama, Delta state, Nigeria.

4. Bolster the demand side of value chain development focusing efforts on creating more linkages into larger markets including facilitating off-take agreements and deals.

To date, PIND has had major impacts in building the capacity of smallholder farmers and input suppliers who constitute the supply side of the value chain. IGD gathered evidence that PIND has initiated efforts to identify and work with stakeholders on the demand side and form business linkages with SMEs and smallholders. However, an increased focus on creating even more linkages with demand-side actors, including processors and large off-takers, will be critical to ensuring the success of the value chains. The risk in not doing so could result in oversupply of products in local markets, which would drive down local prices and ultimately result in decreased farmer incomes. PIND could consider partnering with organizations that have relationships and experience brokering deals with large multinationals to develop outgrower schemes and finance local and regional processing plants and storage facilities.

5. Continue exploring opportunities to apply market systems-based approaches to WASH.

The NDPI Theory of Change is predicated upon sustainable market-based approaches to development. IGD observed that some of the WASH technologies, such as the BSFs, are being advanced through such approaches. However, applying a market-based approach is not being leveraged as significantly within this innovation area as it is within other areas. PIND can bolster this approach, working to identify additional social actors and entrepreneurs who can take the technologies forward into communities to ensure the sustainability of WASH innovations and use them as an opportunity to generate more income for local individuals.

6. Continue to evolve the M&E system to incorporate market-based measurement methods and collect and aggregate necessary data to support consistent measurement of innovations.

As a consequence of this re-orientation of development and how change is created, the approach to measurement must also change accordingly. New targets, metrics, indicators, and particularly methods must be developed and leveraged to adequately measure and assess what is occurring through market-based interventions. For example, conducting single-point-in-time measurements of beneficiaries and applying estimated multiples to determine scope of impact in a population is neither an appropriate, nor a sufficient method of measurement. That said, measuring market systems development is complex and challenging for a variety of reasons that include, but are not limited to: The ability to gather adequate baseline data on markets; lack of historical data and ability to normalize data; complexity caused by the breadth of stakeholders involved, particularly in market systems interventions such as value chain development; influence of market variables; and an infinite number of variables that affect human behavior and thus the adoption of innovation.

IGD recommends that some further studies and analyses be conducted to support the refinement of data and assumptions used throughout this report to support the continuing evolutions of the NDPI and PIND M&E systems. Some critical areas where data and assumptions may be refined through further studies and on-going data collection efforts include:

- The development of more robust market baselines including identification of total market populations and populations of specific value chain actors within clusters, states, and the region.
- Obtaining regular measurements to determine the level of growth and/or non-growth of the markets. For example, it will be relevant to understand how many financial institutions were lending to fish farmers prior to PIND intervention and how many more financial institutions will move into the market seeing fish farming as a lucrative investment on a year-on-year basis.
- It will be critical to take regular measurements of the number of value chain actors and other stakeholders adopting and implementing the innovations PIND introduces to understand how successful the innovations are and their progress towards scale and systemic change.
- Additional measurements include regular follow-ups with stakeholders who have participated in training and other activities to understand qualitative outcome changes.

Combining these critical data collection efforts with the two key quantitative metrics that have been identified for each of the 50 discrete impacts identified in this assessment will provide a consistent picture of the level of impact PIND is having across various innovations and the amount of progress they are making towards achieving Scale and Systemic Change.

7. Increase access to finance across all value chains.

Throughout the assessment, adequate access to finance was cited as a barrier to business success and growth by nearly all actors. While significant strides have been made to connect a variety of market actors to sources of financing, including MFIs and the establishment of revolving funds, wider access needs to be created throughout all levels of the value chains. More MFIs should eventually enter the market and products need to become increasingly innovative to address the needs of the poor and fluctuations in market activity, particularly in the agriculture sector. In addition to providing access to credit, innovative insurance

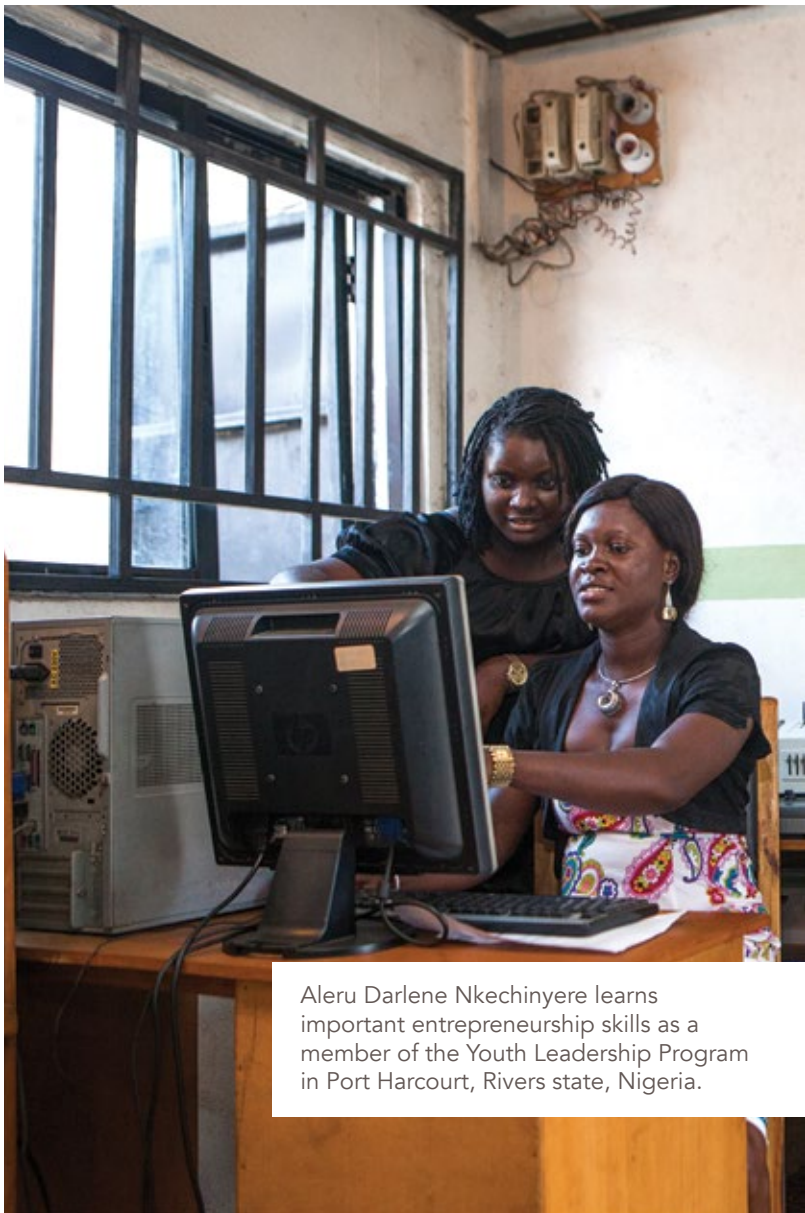
products and other savings instruments will help to boost support for entrepreneurs and small businesses. Injection of capital from impact investors is also needed to support the growth of the market, particularly to help expand local small and growing businesses. Additional funds will also be needed from angel investors, venture capitalists, and commercial banks to support investment in larger enterprises, such as the development of adequate warehouses, distribution outfits, and processing plants so that the markets can proportionately grow and support the supply side actors. PIND may want to consider establishing a partnership with the Initiative for Smallholder Finance to identify new and innovative financing mechanisms to support smallholder farmers and other value chain actors as well as with organizations such as the Aspen Network of Development Entrepreneurs and Grassroots Business Fund to identify a range of impact investors and venture philanthropists that may be willing to invest in higher risk investments and that focus more on the social returns of investment, rather than emphasizing high financial returns.

8. Institutionalize the criteria for identifying innovators and early adopters to speed the rate of adoption and achievement of Systemic Change.

NDPI and PIND are not donor organizations in the traditional sense. They (and their partners) are not giving handouts. Therefore, their stakeholders are not beneficiaries. By and large, NDPI and PIND stakeholders are market actors. Markets generally comprise the following actors and proportions of the population: Innovators (2.5%), early adopters (13.5%), the early majority (34%), the late majority (34%), and finally the laggards (13.5%). To create Systemic Change in the Niger Delta, NDPI, PIND, and their partners have, and must continue to seek out and influence the innovators and early adopters within the stakeholder populations of its various innovations. Similarly innovative social sector organizations such as Ashoka and Echoing Green have developed clear criteria and definitions for individuals who they deem to be "change makers" – the innovators and social actors and entrepreneurs of the world. While different, IGD observed similarities in these criteria when applied to many of the innovators and early adopters that PIND has identified and is working with across their various areas of innovation (interventions) (see Appendix D). IGD recommends that NDPI consider reviewing existing criteria and developing its own adapted version in order to institutionalize its criteria for those individuals with whom they seek to build capacity. This will have the impact of channeling critical resources to the individuals who will most quickly adopt and spread new innovations (best practices, ideas, mindsets, and technologies), ultimately maximizing NDPI, PIND, and their partners' social return on investment.

9. Work with other organizations to replicate the NDPI model to create impact around the globe.

The NDPI model is unique and a best practice in the field, particularly as a private sector initiative. Chevron, NDPI, and PIND can continue to increase their impact by identifying platforms and opportunities to share the findings of the assessment, with emphasis on the critical success factors and operational model of the organizations to inspire more private sector organizations and development institutions to establish similar initiatives in other conflict-affected regions around the globe. This could potentially even be leveraged as an opportunity to identify sustainable means of revenue generation for the organizations to channel back into their own work in the Niger Delta.



Aleru Darlene Nkechinyere learns important entrepreneurship skills as a member of the Youth Leadership Program in Port Harcourt, Rivers state, Nigeria.

CONCLUSION

For decades, and most notably throughout the 1990s and early 2000s, the Niger Delta region has been plagued by turmoil. Inter-ethnic violence and high levels of militarization ensued as a result of economic degradation and lack of economic opportunity for the general population. With more than 70% of the population poverty stricken, the region had become so conflict-laden that any private sector development outside of the extractives industry was thwarted and even development institutions all but refused to work there.

But there is hope. Today, things are different and they are continuing to change. NDPI and PIND have placed a firm stake in the ground. NDPI, PIND, and Chevron have "moved the needle" on corporate social responsibility, shared value, and development to a new level by creating awareness, building knowledge, and changing attitudes, beliefs, capacity, and actions in ways that permanently re-orient the hopes, aspirations, and visions of the people of a society. Their presence and the impacts they have achieved in the five short years since their inception serve as a beacon to a wide range of organizations around the globe.

However, achieving sustainable, systemic change is a process and one that is not accomplished quickly, nor by a single institution or sector. It requires an acknowledgement of the complexity involved in fundamentally changing human behavior and the fabric of a society. It requires significant time, and sustained commitment and investment to establish and maintain trust and credibility among a large group of stakeholders. In interviews with IGD, international donors and implementing partners including multi-lateral funding institutions, such as DFID and USAID, admitted that they would not currently be working in the Niger Delta if it were not for the presence of NDPI and PIND. Others, such as UNICEF, have recently joined arms.

In this manner, NDPI and PIND together function as a "lighthouse in the Niger Delta," beckoning to other institutions – local, national, and global – to come together in the region. NDPI and PIND shed light on the array of opportunities that exist in the Niger Delta for peaceable and sustainable livelihoods. This light has revealed a new vision for the region that many can now see and together this vast network of organizations brings resources to initiate market-based systems and create an enabling environment in which many industries can thrive; a concept that until now has eluded the Niger Delta. These catalytic resources bring hope and are captivating and empowering people of the Niger Delta. NDPI, PIND, and their partners are supporting people and businesses to establish and advocate for their own livelihoods and well-being. As a result, it is with near certainty that 20 years from now, the Niger Delta will be a very different place.

Call to Action

As an independent, non-profit organization with convening power that operates at the intersection of the private sector and development, IGD would like to use this opportunity to call to action other members of the private sector and development institutions to closely examine the NDPI model and seek every opportunity to replicate it around the world.

NDPI's comprehensive, market-based approach is unique and a significant departure from traditional development approaches. As such, it requires a different lens through which the organizations and their impacts are viewed. Perhaps more importantly, **it calls for new and more appropriate measurement methods**. The approach to interventions and measurement alike must be multi-disciplinary, taking into account not just the economic aspects of market development, but more importantly, the sociological, anthropological, and psychological factors as well. Fundamentally, developing sustainable market-based systems and **creating Systemic Change is about influencing human behavioral change**.

This report should be viewed as a step towards developing those new approaches. In the future, additional studies and analysis will be needed to capture the necessary data to enable robust, defensible analysis, and approaches, which will need to be refined and evolve over time.

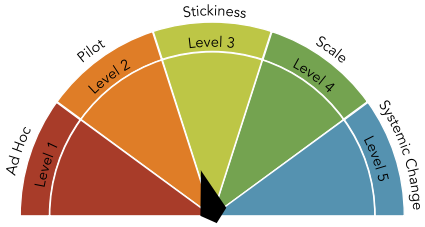
Niger Delta Development Forums (NDDFs) bring together government, business, and civil society stakeholders to discuss and coordinate Niger Delta development opportunities.

5

APPENDICES

APPENDIX A: MATURITY MODEL CRITERIA AND SUPPORTING SCORING DATA BY INNOVATION

AQUACULTURE



Innovation 1: Aquaculture Value Chain Development

				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Aquaculture								2.7
Innovation 1: Aquaculture value chain development				3.1	2.8	3.2	3	3.1
Empowering existing:	Farmers	1	Existing farmers improve practices and increase yield from their ponds	3	4	4	4	3.4
		2	Strengthens FFAs to better serve farmers	3.5	3	3	3	3.4
	Value Chain Actors	3	Stronger business linkages exist between existing aquaculture value chain actors resulting in increased commercial activity	3	2	3	3	2.9
Catalyzing new:	Farmers	4	Respect for fish farming as an activity and career increases	3	3	3	3	3.0
	Value Chain Actors	5	New businesses and partnerships emerge throughout the value chain	3	2	3	2	2.8

1.
- Adopter income increase = NGN 6 million / 17%
- Adopter yield increase = 14.5% from 2012-2014 (621 to 711)

2.
- Membership growth = 292% with an addition of 302 members in UUFFA
- Farmers benefiting from services = 766 farmers

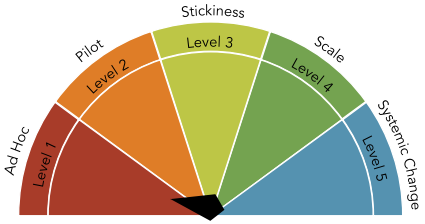
3.
- Sales growth = Feed companies experience 20% growth in sales
- Total amount invested by private sector in aquaculture demonstrations = (no data available)*

4.
- Resources and funds targeting aquaculture through extension programs and education classes = (no data available)*

5.
- New businesses = 30 new chorkor oven businesses established & 1 new feed company
- New individuals employed = 109 employed

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

AQUACULTURE



Innovation 2: Aquaculture Access to Finance and Financial Services

				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Aquaculture								2.7
Innovation 2: Aquaculture access to finance and financial services				1.8	2	1.5	1.5	1.7
Empowering existing:	Financial Institutions	6	Financial institutions regularly provide financial services to aquaculture value chain actors	2.5	3	2	2	2.4
Catalyzing new:		7	Financial institutions enter market and compete for business of aquaculture value chain actors	1	1	1	1	1

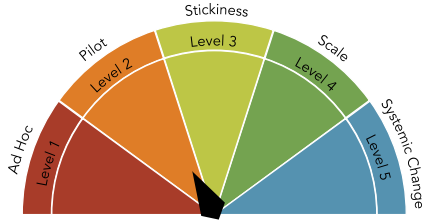
6.
- Total amount loaned to fish farmers = NGN 56.2 million
- Farmers receiving loans = 141 farmers from 2 lending institutions (46 from LAPO, 95 from ADF)
- Total amount loaned to other aquaculture value chain actors = NGN 31.1 million

7.
- Financial institutions lending in aquaculture value chain = 1 new lending institution (LAPO) & 2 continuing (Coastline Microfinance and Wetland Microfinance)

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

CASSAVA

Innovation 3: Cassava Value Chain Development



				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Cassava								2.3
Innovation 3: Cassava value chain development				2.8	2.7	2.5	2.6	2.7
Empowering existing:	Farmers	8	Existing cassava farmers improve practices and increase yield from their fields	3	3	2.5	3	2.9
		9	Strengthens cooperatives/clusters to better serve cassava farmers	3	3	3	3	3.0
	Value Chain Actors	10	Stronger business linkages exist between existing cassava value chain actors resulting in increased commercial activity	3	3	3	3	3.0
Catalyzing new:	Farmers	11	Respect for cassava farming as an activity and career increases	2	2	2	2	2.0
	Value Chain Actors	12	New businesses and partnerships emerge throughout the cassava value chain	3	2.5	2	2	2.4

8.
- Adopter yield increase = (expected May 2016)
- Adopter income increase = NGN 2,000-6,000/ farmer (expected)

9.
- Membership growth of partner associations = 114% (from 70 to 150)
- Farmers benefiting from services = 865 farmers

10.
- Total amount invested by private sector in cassava demonstrations = (no data available)
- Sales increase = 2 additional offtakers for Gonchuks

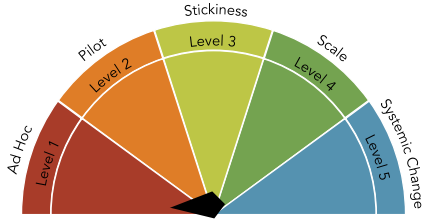
11.
- Resources and funds targeting cassava through extension programs and education classes = (no data available)*

12.
- New businesses = (no data available)*
- New individuals employed = (no data available)*

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

CASSAVA

Innovation 4: Cassava Access to Finance and Financial Services



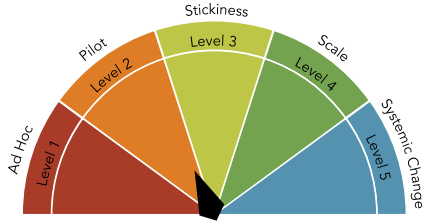
				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Cassava								2.3
Innovation 4: Cassava access to finance and financial services				1.5	1.5	1	1	1.3
Empowering existing:	Financial Institutions	13	Financial institutions provide financial services to other actors in cassava value chain	2	2	1	1	1.5
Catalyzing new:		14	Financial institutions enter market and compete for business of cassava value chain actors	1	1	1	1	1.0

13.
- Total amount loaned to cassava farmers (no data available)*
- Farmers receiving loans (no data available)*
- Total amount loaned to other cassava value chain actors (no data available)*

14.
- Financial institutions lending in cassava value chain (no data available)*

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

Innovation 5: Palm Oil Value Chain Development



				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Palm Oil								2.4
Innovation 5: Palm oil value chain development				2.5	3	3.5	2.2	2.8
Empowering existing:	Farmers	15	Existing farmers improve practices and increase yield from their trees	2	3	4	2	2.8
		16	Strengthens cooperatives/clusters to better serve farmers	3	3	4	2	3.0
	Value Chain Actors	17	Stronger business linkages exist between existing palm oil value chain actors resulting in increased commercial activity	3	3	3.5	3	3.1
Catalyzing new:	Farmers	18	Respect for palm oil farming as an activity and career increases	2	3	3	2	2.5
	Value Chain Actors	19	New businesses and partnerships emerge throughout the palm oil value chain	2.5	3	3	2	2.6

15.
- Adopter yield increase (data not available)*
- Adopter income increase = 40%

16.
- Growth of partner palm oil clusters (no data available)*
- Farmers benefiting from services = 1377 farmers

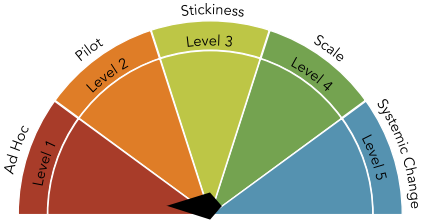
17.
- Amount invested by private sector actors = NGN 18 million by TEXMACO
- Sales growth = service providers experience 25% growth in sales
- Extractor incomes increase = 30%

18.
- Resources and funds targeting palm oil through extension programs and education classes = 10 programs and 1 study conducted

19.
- New individuals employed = 15 employed
- New SSPEs and MAHs sold and operating = 16 SSPEs; 33 new MAHs

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

PALM OIL



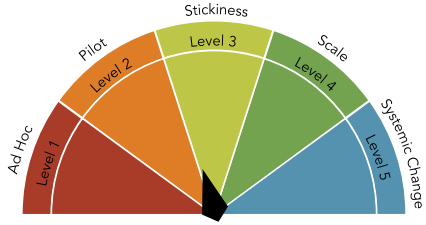
Innovation 6: Palm Oil access to Finance and Financial Services

				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Palm Oil								2.4
Innovation 6: Palm oil access to finance and financial services				1.5	1.5	1.5	1.25	1.4
Empowering existing:	Financial Institutions	20	Financial institutions regularly provide financial services to palm oil value chain actors	2	2	2	1.5	1.9
Catalyzing new:		21	Financial institutions enter market and compete for business of palm oil value chain actors	1	1	1	1	1.0

20.
- Total amount loaned to palm oil value chain actors (no data available)*
- Palm oil value chain actors receiving loans 13 MAH purchasers

21.
- Financial institutions lending in palm oil value chain 1 MFI-LAPO

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.



Innovation 7: Peace Building Network Development

				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Peace Building								3.1
Innovation 7: Peace Building Network Development				3.1	3.2	3.5	2.7	3.1
Empowering existing:	Peace Actors	22	Legitimizes and supports self-identified peace actors (individuals and groups)	3.5	4	4	2	3.4
		23	Provides healing to wider community members	2	2	2	2	2.0
		24	P4P members are responsive and help mitigate conflict	4	4	4.5	3.5	4.0
Catalyzing new:		25	Government, international development, and private sector actors participate in spreading peace	2	2	3	3	2.5
		26	New and more accurate information, resources, and strategies about peace available, enable more effective engagement	4	4	4	3	3.7

22.
- People identifying as Peace Actors = 3637 peace actors
- Peace building organizations and actors active in working groups = 3195 individuals and 656 organizations
- Forums / speaking events to promote & discuss peace = 182,096 peace building events

23.
- Individuals sharing personal peace building story through film = 40 featured individuals
- Active users in online peace building communities = 4944 (Shun Wahala); 2070 (P4P Facebook)

24.
- Communities with peace building and conflict prevention stepdown = 22 communities
- Conflict mitigation interventions successfully completed = 544, including state P4P-led interventions

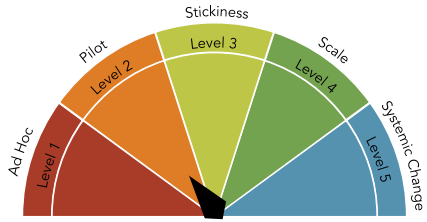
25.
- Public-Private Partnerships on peace building = 92 PPPs and 1 Edo state peace building curriculum
- Organizations with peace building-related mission = 377 P4P organization partners

26.
- Number of contributors for peace maps = 9 organizations / initiatives
- People using conflict bulletins = 974 workshop training participants; 1,533 unique Conflict Bulletin page views on website

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

CIVIL SOCIETY

Innovation 8: SME Network Development



				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Civil Society								3.2
Innovation 8: SME Network Development				2.5	2.5	2.8	2.5	2.6
Empowering existing:	SMEs/ Entrepreneurs	27	Existing SMEs/Entrepreneurs increase profitability and productivity	3	3	3.5	3	3.1
Catalyzing new:		28	SMEs/Entrepreneurs see opportunities in the Niger Delta resulting in increased employment and income in the Niger Delta	2	2	2	2	2.0

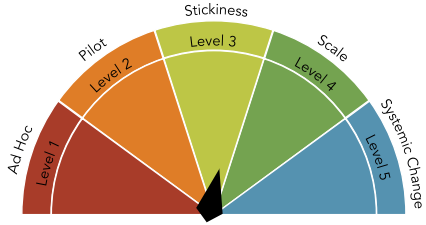
27.
- Amount of Sales increase for SMEs and Entrepreneurs = NGN 70 million
- Amount of investments provided to SMEs through loans, venture capital, etc. = NGN 54.5 million

28.
- New SMEs established = 1 (ZAL Yenagoa)
- New jobs created = 24 new employees

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

CIVIL SOCIETY

Innovation 9: NGO/CSO Network Development



				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Civil Society								3.2
Innovation 9: NGO/CSO Network Development				3.7	4.0	3.8	3.2	3.7
Empowering existing:	NGO/CSOs	29	Existing NGOs/CSOs better serve their constituents/stakeholders	3.5	4.5	4.5	3.5	4.0
Catalyzing new:		30	Donors and other actors work effectively with Niger Delta NGO/CSOs	4.5	4	4	4	4.1
		31	Respect for NGOs/CSOs and their employment opportunities increases	3	3.5	3	2	2.9

29.
- Amount of funding provided to NGO/CSOs = NGN 9 million through CAPABLE grants, the Technical Assistance Fund, and Challenge Funds
- Percentage increase in people served by NGO/ CSOs (no data available)*

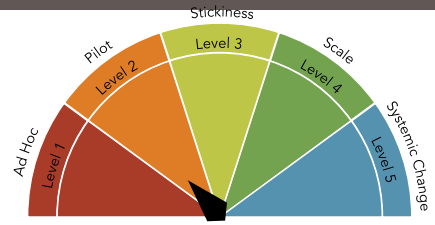
30.
- Partnerships established between NGO/CSOs and other actors = 98 linked NGO/CSOs through a network of 24 CAPABLE participants and 74 NGO/CSOs with LGAs
- Development initiatives carried out in partnership with NGO/ CSOs, donors, or government actors = 14 initiatives carried out between 2 or more organizations

31.
- New jobs created by NGO/CSO (no data available)*
- Percent increase in volunteerism (no data available)*

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

POLICIES and INSTITUTIONS

Innovation 10: Institutional Network Development



				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Policies & Institutions								2.3
Innovation 10: Institutional Network Development				2.4	2.4	2.1	2.3	2.3
Empowering existing:	Government, Civil Servants, & International Development Actors	32	LGAs proactively address constituents' needs and better serve the community	3	2	2	3	2.5
		33	Federal and state government actors work in partnership with development actors, donors and the private sector to achieve systemic change in the Niger Delta	2	2.5	2.5	2	2.3
		34	Stronger linkages exist between all government actors (local, state, federal)	2	2	1	1.5	1.6
		35	Improved financial transparency and flow of funds in the economy	2	2	1.5	2	1.9
Catalyzing new:		36	International development actors better contribute to economic development and peace building in the Niger Delta	4	4	4	4	4.0
		37	Federal and state government priorities & funding aligns with market systems development	1.5	2	1.5	1.5	1.6

32.
- Public dialogues held with LGAs = 9 public dialogues through LEAD and CAPABLE
- Allocation increase for locally identified priority sectors = 6% increase in priority allocation

33.
- Identified priority projects completed = 16 projects
- Policies reflecting development objectives instituted / enforced = 5 policies with 1 IPSAS template in the budget and 4 national reform bills

34.
- Number of events, workshops, & other opportunities for cross-government dialogue on development issues = (no data available)*
- Number of jointly funded development projects in the Niger Delta = (no data available)

35.
- Increase in budget allocation to social sectors =55.4% increase in Okrika LGA; 600% increase in Akuku-Toru LGA
- Number of publications produced by the government about public spending and investment in development = (no data available)*

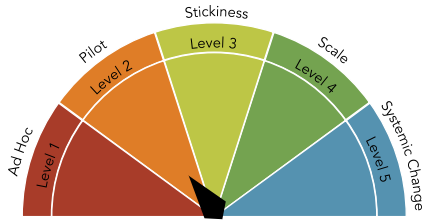
36.
- Partnerships resulting from forums / studies = 2 new partnerships and 1 existing partnership
- Amount of international development invested in the Niger Delta = $44.2 million from international donors such as USAID, DFID, GIZ, UNICEF, and Rotary International

37.
- Amount of government funding allocated to market development = NGN 2 million allocated through FADAMA grants
- Amount of government allocations for development projects = NGN 4.8 million through FADAMA grants and LCBP in-kind support

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

INFRASTRUCTURE

Innovation 11: WASH Value Chain Development



				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Infrastructure								1.6
Innovation 11: WASH				2.8	2.4	2.5	2.9	2.6
Empowering existing:	Social Entrepreneurs	38	Communities have access to clean affordable water	3	2.5	3	4	3.1
		39	Government actively addreses consituents need for access to WASH	2	2	1	2	1.8
		40	Communities recognize importance of WASH	3.5	3	3	3.5	3.3
Catalyzing new:		41	Entrepreneurs and SMEs see opportunities in providing services around WASH/Health	2.5	2	3	2	2.4

38.
- Amount saved on purchasing clean water by using BSF = NGN 2,800 every month per family
- Amount saved on medication and hospital bills by using BSF = NGN 4,000 every month
- Number of BSFs purchased = 94 BSFs

39.
- Amount of government funding allocated for WASH projects = NGN 3,766,200 from Delta State Ministry of Environment
- Number of LGAs implementing WASH projects 11 LGAs through UNICEF and Dodo River Projects

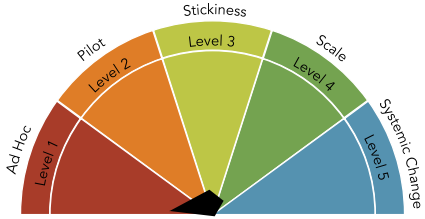
40.
- Number of WASH and Energy Efficiency related advocacy efforts completed = 87 ATED visitors and 2 tour groups
- Amount invested in WASH education for communities through extension programs and education classes = $1.33 Million

41.
- New WASH businesses = 37 businesses established
- People paying for WASH training = 15 individuals

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

INFRASTRUCTURE

Innovation 12: Power Value Chain Development



				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Infrastructure								1.6
Innovation 12: Power				1.5	1	1	1	1.1
Empowering existing:	Power Value Chain Actors	42	Current power providers increase reliability and affordibility of energy supply to underserved markets	1.5	1	1	1	1.1
		43	Governments actively address constituent's need for access to power	1.5	1	1	1	1.1
Catalyzing new:		44	New low-cost innovative energy solutions are available	1.5	1	1	1	1.1
		45	Cross sector actors work together to deliver power	1.5	1	1	1	1.1

42.
- Total decrease in electricity costs by amount and percentage (no data available)*

43.
- Number of power-related advocacy efforts undertaken and completed (no data available)*
- Percentage increase in government funding allocated to create access to power (no data available)*

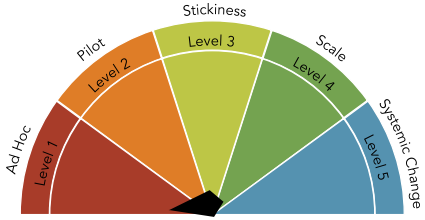
44.
- Increase in number and percentages of customers/ purchasers of new power technologies (no data available)*
- Increase in number and percentage of power service providers and technologies operating in the Niger Delta (no data available)*

45.
- Total amount of power sector investment (no data available)*;
- Number of jobs created by power service providers (no data available)*

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

INFRASTRUCTURE

Innovation 13: Transportation Systems Value Chain Development



				Coordinated Strategy/ Implementation Plan	Network	Human Capital	Resources	Total Maturity Score
Infrastructure								1.6
Innovation 13: Transport (Roads/ Waterways/ Public transportation systems				1.6	1	1	1	1.2
Empowering existing:	Transportation, Logistics, & Supply Chain Actors	46	Cross sector actors support communities by providing safe & reliable roads and transportation systems	1.5	1	1	1	1.1
		47	Governments proactively address constiuents' need for safe & reliable transportation	2	1	1	1	1.3
Catalyzing new:		48	Cross sector actors work together to improve transportation infrastructure	1.5	1	1	1	1.1
		49	Private sector actors see opportunitiesand start new businesses to provide services around transportation	1.5	1	1	1	1.1

46.
- Number of kilometers of new and improved roadways (no data available)*
- Increase in percent of funding allocated to transportation infrastructure (no data available)*

47.
- Number of infrastructure advocacy efforts undertaken and complete on behalf of constituents transportations needs (no data available)*
- Number of transportation infrastructure projects implemented (no data available)*

48.
- Total increase in percentage and amount of transportation sector investment (no data available)*
- Number and value of contracts with transportation suppliers (no data available)*

49.
- Number of jobs created by infrastructure projects (no data available)*

* Data to support this indicator has not been collected by the current NDPI/ PIND M&E system, but it is an IGD recommendation to collect this data moving forward.

APPENDIX B: RATE OF ADOPTION SUMMARY TABLES AND ASSUMPTIONS

Aquaculture Rate of Adoption Assumptions

			Cumulative				
	Total Market Potential	Market Growth Rate	Period1	Period2	Period3	Analogous Systems	Key Assumptions
Aquaculture							
UUFFA	821 [1]	30% [2]	80 [3]	100 [3]		Corn, Bale Hay, AI, Accelerated program, Electric knife, UPC	1. UUFFA membership population data provided by NDPI / PIND. 2. UUFFA population grew 16% until 2013. After the 2013, membership grew 32%. An adjusted estimate of growth was assumed to be 30%. 3. PIND M&E reports indicate 100% adoption rate of training participants.
Delta State	6,618 [4]	18% [5]	320 [6]	444 [6]	2000 [7]		4. Market population calculated from 2009 Ministry of Agriculture census of 3784 aquaculture farmers in Delta state. A 16% growth rate was applied each year until 2013. 5. Assumed growth rate of 16% based on growth rate of UUFFA prior to 2013 with an adjusted estimate of growth as 18% to account for heavy presence of PIND activities in the state. 6. Each adopting farmer indicated that they shared with an average of 4 individuals. This factor was applied to Delta state adoption data collected by PIND to find a base number of farmers exposed to improved practices. 7. Cumulative PIND aquaculture program data available at report publication.
Niger Delta	6,618 [8]	16% [9]	320 [10]	444 [10]	2000 [10]		8. Market population calculated from 2009 Ministry of Agriculture census of 3784 aquaculture farmers in Delta state because a regional market potential number was not available. A 16% growth rate was applied each year until 2013. 9. Assumed growth rate of 16% based on growth rate of UUFFA prior to 2013. 10. Each adopting farmer indicated that they shared with an average of 4 individuals. This factor was applied to cumulative demo pond data. adoption data collected by PIND to find a base number of farmers exposed to improved practices.

UUFFA Rate of Adoption Estimations

	Period / Forecasting Scenarios	Past UUFFA Data	Estimated From Past UUFFA Data	Corn	Bale hay	Artificial insemination	Accelerated program (educational innovation)	Electric knife	Universal Product Code (UPC)	Market Potential
DATA INPUTS	**Total Market Potential**	N/A	821	821	821	821	821	821	821	
	Parameter p	N/A	0.097	0.039	0.010	0.014	0.003	0.115	0.008	
	Parameter q	N/A	0.051	1.005	0.519	0.437	0.913	0.275	0.181	
	2013	0	0	0	0	0	0	0	0	821
	2014	80	104	41	10	15	3	123	8	1,067
RATE OF ADOPTION ESTIMATES (OUTPUTS)	**2015**	180	234	134	28	41	9	299	20	1,387
	2016		397	324	60	83	22	540	37	1,804
	2017		604	682	112	149	48	862	61	2,345
	2018		867	1,307	196	252	98	1,284	95	3,048
	2019		1,203	2,290	328	407	196	1,830	141	3,963
	2020		1,636	3,680	533	637	381	2,537	204	5,152
	2021		2,192	5,464	846	974	726	3,449	289	6,697
	2022		2,911	7,635	1,318	1,460	1,354	4,626	404	8,706
	2023		3,841	10,276	2,017	2,153	2,469	6,148	557	11,318
	2024		5,046	13,564	3,041	3,132	4,377	8,117	761	14,714
	2025		6,609	17,746	4,521	4,501	7,498	10,669	1,033	19,128

Delta State Aquaculture Rate of Adoption Estimations

	Period / Forecasting Scenarios	Past PIND Data	Estimated From Past PIND Data	Corn	Bale hay	Artificial insemination	Accelerated program (educational innovation)	Electric knife	Universal Product Code (UPC)	Market Potential
DATA INPUTS	**Total Market Potential**	N/A	6,618	6,618	6,618	6,618	6,618	6,618	821	
	Parameter p	N/A	0.056	0.039	0.010	0.014	0.003	0.115	0.008	
	Parameter q	N/A	1.000	1.005	0.519	0.437	0.913	0.275	0.181	
	2012	0	0	0	0	0	0	0	0	821
	2013	320	433	298	73	107	20	882	7	952
RATE OF ADOPTION ESTIMATES (OUTPUTS)	**2014**	764	1,324	921	194	277	62	2,023	17	1,105
	2015	2,764	2,986	2,130	390	536	145	3,426	30	1,281
	2016		5,736	4,273	695	919	306	5,083	46	1,487
	2017		9,566	7,622	1,164	1,476	615	6,983	67	1,724
	2018		13,827	11,992	1,866	2,268	1,196	9,123	93	2,000
	2019		17,708	16,579	2,898	3,369	2,264	11,510	126	2,320
	2020		21,188	20,709	4,380	4,869	4,166	14,168	167	2,692
	2021		24,763	24,571	6,455	6,869	7,395	17,136	218	3,122
	2022		28,772	28,663	9,281	9,477	12,493	20,470	281	3,622
	2023		33,387	33,292	13,011	12,801	19,748	24,238	359	4,201
	2024		38,732	38,630	17,777	16,943	28,766	28,522	453	4,873
	2025		44,930	44,814	23,668	21,995	38,495	33,418	568	5,653

Niger Delta Aquaculture Rate of Adoption Estimations

	Period / Forecasting Scenarios	Past PIND Data	Estimated From Past PIND Data	Corn	Bale hay	Artificial insemination	Accelerated program (educational innovation)	Electric knife	Universal Product Code (UPC)	Market Potential
DATA INPUTS	**Total Market Potential**	N/A	6,618	6,618	6,618	6,618	6,618	6,618	821	
	Parameter p	N/A	0.056	0.039	0.010	0.014	0.003	0.115	0.008	
	Parameter q	N/A	1.000	1.005	0.519	0.437	0.913	0.275	0.181	
	2012	0	0	0	0	0	0	0	0	821
	2013	320	435	303	74	109	20	898	7	969
RATE OF ADOPTION ESTIMATES (OUTPUTS)	**2014**	764	1,339	943	199	284	63	2,077	17	1,143
	2015	2,764	3,045	2,195	402	553	149	3,550	31	1,349
	2016		5,912	4,437	722	956	316	5,324	48	1,592
	2017		10,030	8,005	1,216	1,546	638	7,402	70	1,878
	2018		14,866	12,830	1,963	2,392	1,245	9,797	99	2,216
	2019		19,595	18,198	3,068	3,581	2,367	12,537	135	2,615
	2020		24,049	23,369	4,672	5,218	4,381	15,667	181	3,086
	2021		28,691	28,391	6,945	7,431	7,850	19,250	238	3,642
	2022		33,948	33,781	10,089	10,363	13,463	23,372	310	4,297
	2023		40,085	39,948	14,326	14,170	21,778	28,137	398	5,070
	2024		47,308	47,165	19,874	19,020	32,752	33,672	508	5,983
	2025		55,825	55,663	26,939	25,084	45,510	40,126	643	7,060

Cassava Rate of Adoption Assumptions

			Cumulative				
	Total Market Potential	Market Growth Rate	Period1	Period2	Period3	Analogous Systems	Key Assumptions
Cassava							
Ubulu Uku	1,000 [1]	12% [2]	200 [3]			Corn, Accelerated program, Electric knife, Tractor, Freezer	1. Population of Ubulu-Uku Farm Association. 2. Average Delta growth rate calculated from 2004-2007 production area numbers found in PIND Cassava Value Chain Strategic Framework, with the accepted assumption that there are 100 smallholder cassava farmers per 1 ha of productive land. 3. Though the Ubulu-Uku pilot project has not completed a full season, NDPI / PIND project managers estimated 200 of the 229 farmers trained, adopted the improved cassava farming practices, leading to an 87% adoption rate.
Delta State	100,100 [4]	12% [5]	200 [6]	1392 [6]			4. Delta State market population numbers from 2007 found in PIND Cassava Value Chain strategic Framework. 5. Calculated average Delta growth rate from 2004-2007 production area numbers found in PIND Cassava Value Chain Strategic Framework, with the accepted assumption that there are 100 smallholder cassava farmers per 1 ha of productive land. 6. Each adopting farmer indicated that they shared with an average of eight individuals. This factor was applied to Delta state adoption data collected by PIND to find a base number of farmers exposed to improved practices. An 87% adoption rate was then applied.
Niger Delta	1,125,390 [7]	1.10% [8]	292 [9]	1574 [9]			7. Cumulative Niger Delta market population numbers from 2007 found in PIND Cassava Value Chain Strategic Framework. 8. Calculated average Niger Delta growth rate from 2004-2007 production area numbers found in PIND Cassava Value Chain Strategic Framework, with the accepted assumption that there are 100 small holder cassava farmers per one ha of productive land. 9. Each adopting farmer indicated that they shared with an average of eight individuals. This factor was applied to Delta state adoption data collected by PIND to find a base number of farmers exposed to improved practices. An 87% adoption rate was then applied.

Ubulu Uku Rate of Adoption Estimations

	Period / Forecasting Scenarios	Past Ubulu Uku Data	Estimated From Past Ubulu Uku Data	Corn	Accelerated program (educational innovation)	Electric knife	Tractor	Freezer	Market Potential
DATA INPUTS	**Total Market Potential**	N/A	1,000	1,000	1,000	1,000	1,000	1,000	
	Parameter p	N/A	0.200	0.039	0.003	0.115	0.007	0.023	
	Parameter q	N/A	0.212	1.005	0.913	0.275	0.118	0.138	
	2014	0	0	0	0	0	0	0	1,000
RATE OF ADOPTION ESTIMATES (OUTPUTS)	**2015**	200	224	43	3	129	8	26	1,120
	2016		469	133	9	290	18	58	1,254
	2017		722	303	21	481	30	98	1,405
	2018		975	598	43	699	45	145	1,574
	2019		1,225	1,040	86	937	62	201	1,762
	2020		1,473	1,571	167	1,192	83	267	1,974
	2021		1,725	2,053	312	1,460	108	345	2,211
	2022		1,986	2,422	567	1,742	137	436	2,476
	2023		2,263	2,744	985	2,038	171	541	2,773
	2024		2,561	3,079	1,605	2,354	212	663	3,106
	2025		2,888	3,450	2,399	2,693	258	803	3,479

Delta State Cassava Rate of Adoption Estimations

	Period / Forecasting Scenarios	Past PIND Data	Estimated From Past PIND Data	Corn	Accelerated program (educational innovation)	Electric knife	Tractor	Freezer	Market Potential
DATA INPUTS	**Total Market Potential**	N/A	100100	100,00	100,100	100,100	100,100	100,100	
	Parameter p	N/A	0.005	0.039	0.003	0.115	0.007	0.023	
	Parameter q	N/A	1.000	1.005	0.913	0.275	0.118	0.138	
	2013	0	0	0	0	0	0	0	100,100
	2014	200	540	4,350	294	12,887	807	2,623	112,112
RATE OF ADOPTION ESTIMATES (OUTPUTS)	**2015**	1,592	1,681	13,275	890	29,022	1,800	5,854	125,565
	2016		4,012	30,302	2,063	48,189	3,009	9,781	140,633
	2017		8,661	59,841	4,329	69,958	4,470	14,502	157,509
	2018		17,706	104,117	8,634	93,810	6,222	20,125	176,410
	2019		34,692	157,258	16,668	119,295	8,310	26,768	197,580
	2020		64,844	205,489	31,277	146,148	10,787	34,562	221,289
	2021		113,605	242,437	56,798	174,338	13,711	43,652	247,844
	2022		181,506	274,662	98,623	204,048	17,148	54,195	277,585
	2023		257,669	308,249	160,660	235,626	21,174	66,368	310,895
	2024		325,100	345,358	240,158	269,527	25,874	80,365	348,203
	2025		379,504	386,823	324,793	306,281	31,345	96,403	389,987

Niger Delta Cassava Rate of Adoption Estimations

	Period / Forecasting Scenarios	Past PIND Data	Estimated From Past Data	Corn	Accelerated program (educational innovation)	Electric knife	Tractor	Freezer	Market Potential
DATA INPUTS	**Total Market Potential**	N/A	1125390	1125390	1125390	1125390	1125390	1125390	
	Parameter p	N/A	0.001	0.039	0.003	0.115	0.007	0.023	
	Parameter q	N/A	1.000	1.005	0.913	0.275	0.118	0.138	
	2013	0	0	0	0	0	0	0	1,125,390
	2014	292	594	44,145	2,981	130,787	8,192	26,624	1,137,769
RATE OF ADOPTION ESTIMATES (OUTPUTS)	**2015**	1,866	1,787	129,742	8,702	279,872	17,374	56,501	1,150,285
	2016		4,178	285,712	19,611	439,855	27,641	89,800	1,162,938
	2017		8,952	537,682	40,247	600,193	39,091	126,640	1,175,730
	2018		18,453	858,978	78,758	749,595	51,827	167,083	1,188,663
	2019		37,240	1,118,584	148,896	879,169	65,956	211,116	1,201,739
	2020		73,953	1,211,526	270,975	984,625	81,586	258,643	1,214,958
	2021		144,055	1,228,322	466,311	1,066,388	98,826	309,470	1,228,322
	2022		271,973	1,241,834	734,227	1,128,009	117,785	363,305	1,241,834
	2023		485,543	1,255,494	1,013,923	1,174,179	138,566	419,758	1,255,494
	2024		785,761	1,269,304	1,200,850	1,209,326	161,266	478,352	1,269,304
	2025		1,090,650	1,283,267	1,271,482	1,236,998	185,976	538,533	1,283,267

Palm Oil Rate of Adoption Assumptions

			Cumulative				
	Total Market Potential	Market Growth Rate	Period1	Period2	Period3	Analogous Systems	Key Assumptions
Palm Oil							
EziOrsu	109 [1]	3% [2]	1 [3]	3 [3]		Corn, Accelerated program, Food processor, Lawn mower, Power leaf blower, Vacuum cleaner	1. Market population data found in Ezi-Orsu membership data or PIND Capacity building survey 2. Growth rate estimated from population growth rate in Nigeria (NIFOR Oil Palm Sector Overview). 3. Data from number of MAH's purchased and in use.
Imo State	70,000 [4]	3% [5]	1 [6]	25 [6]	50 [6]		4. Market population data derived from Oil Palm Grower Association of Nigeria listing 200,000 people employed in Imo state palm oil sector and 35% of those being smallholder farmers and plantation owners. 5. Growth rate estimated from population growth rate in Nigeria (NIFOR Oil Palm Sector Overview). 6. Each purchased MAH is assumed to benefit 25 other climbers and farmers. This factor was applied to Imo-state MAH purchase data collected by PIND to find a base number of farmers benefitting from improved technology.
Niger Delta	1,400,00 [7]	3% [8]	12 [9]	300 [9]	325 [9]		7. Market population data provided by NDPI. 8. Growth rate estimated from population growth rate in Nigeria (NIFOR Oil Palm Sector Overview). 9. Each purchased MAH is assumed to benefit 25 other climbers and farmers. This factor was applied to cumulative MAH purchase data collected by PIND to find a base number of farmers benefitting from improved technology

Ezi Orsu Rate of Adoption Estimations

	Period / Forecasting Scenarios	Past Ezi Orsu Data	Estimated From Past Ezi Orsu Data	Corn	Accelerated program (educational innovation)	Food processor	Lawn mower	Power leaf blower (gas or electric)	Vacuum cleaner	Market Potential
DATA INPUTS	**Total Market Potential**	N/A	109	109	109	109	109	109	109	
	Parameter p	N/A	0.012	0.039	0.003	0.018	0.007	0.013	0.021	
	Parameter q	N/A	1.000	1.005	0.913	0.563	0.310	0.315	0.209	
	2013	0	0	0	0	0	0	0	0	109
	2014	1	1	4	0	2	1	1	2	112
RATE OF ADOPTION ESTIMATES (OUTPUTS)	**2015**	4	4	13	1	5	2	3	5	116
	2016		9	29	2	10	3	6	9	119
	2017		19	54	4	17	5	9	13	123
	2018		37	88	8	28	7	13	18	126
	2019		64	118	15	42	10	19	23	130
	2020		99	133	28	60	14	25	30	134
	2021		127	138	48	81	19	33	37	138
	2022		141	142	77	101	24	43	45	142
	2023		146	146	111	120	32	54	53	146
	2024		151	151	138	134	40	66	63	151
	2025		155	155	152	145	50	79	72	155

Imo State Palm Oil Rate of Adoption Estimations

	Period / Forecasting Scenarios	Past PIND Data	Estimated From Past PIND Data	Corn	Accelerated program (educational innovation)	Food processor	Lawn mower	Power leaf blower (gas or electric)	Vacuum cleaner	Market Potential
DATA INPUTS	**Total Market Potential**	N/A	70000	70000	70000	70000	70000	70000	70000	
	Parameter p	N/A	0.000	0.039	0.003	0.018	0.007	0.013	0.021	
	Parameter q	N/A	1.000	1.005	0.913	0.563	0.310	0.315	0.209	
	2012	0	0	0	0	0	0	0	0	70,000
	2013	1	11	2,797	189	1,312	492	937	1,524	72,100
	2014	26	32	8,277	555	3,366	1,146	2,182	3,374	74,263
RATE OF ADOPTION ESTIMATES (OUTPUTS)	**2015**	76	75	18,344	1,257	6,510	2,010	3,816	5,595	76,491
	2016		161	34,837	2,590	11,189	3,141	5,934	8,231	78,786
	2017		333	56,622	5,084	17,896	4,609	8,645	11,321	81,149
	2018		678	76,030	9,650	27,014	6,497	12,060	14,898	83,584
	2019		1,363	85,353	17,673	38,531	8,902	16,289	18,982	86,091
	2020		2,717	88,674	30,779	51,717	11,928	21,419	23,579	88,674
	2021		5,366	91,334	49,569	65,074	15,684	27,493	28,674	91,334
	2022		10,439	94,074	71,097	76,902	20,270	34,487	34,230	94,074
	2023		19,766	96,896	88,448	86,205	25,762	42,296	40,190	96,896
	2024		35,629	99,803	97,666	93,069	32,191	50,720	46,476	99,803
	2025		58,919	102,797	102,131	98,207	39,526	59,491	52,998	102,797

Niger Delta Palm Oil Rate of Adoption Estimations

	Period / Forecasting Scenarios	Past PIND Data	Estimated From Past PIND Data	Corn	Accelerated program (educational innovation)	Food processor	Lawn mower	Power leaf blower (gas or electric)	Vacuum cleaner	Market Potential
DATA INPUTS	**Total Market Potential**	N/A	1400000	1400000	1400000	1400000	1400000	1400000	1400000	
	Parameter p	N/A	0.000	0.039	0.003	0.018	0.007	0.013	0.021	
	Parameter q	N/A	1.000	1.005	0.913	0.563	0.310	0.315	0.209	
	2012	0	0	0	0	0	0	0	0	1,400,000
	2013	12	93	55,950	3,778	26,244	9,834	18,746	30,484	1,442,000
	2014	312	282	165,536	11,100	67,321	22,925	43,641	67,489	1,485,260
RATE OF ADOPTION ESTIMATES (OUTPUTS)	**2015**	637	662	366,883	25,141	130,191	40,202	76,316	111,910	1,529,818
	2016		1,425	696,748	51,791	223,777	62,817	118,684	164,621	1,575,712
	2017		2,953	1,132,443	101,685	357,916	92,175	172,891	226,421	1,622,984
	2018		6,008	1,520,607	192,993	540,273	129,944	241,203	297,959	1,671,673
	2019		12,105	1,707,065	353,456	770,619	178,039	325,787	379,648	1,721,823
	2020		24,240	1,773,478	615,574	1,034,338	238,567	428,378	471,585	1,773,478
	2021		48,275	1,826,682	991,384	1,301,487	313,688	549,850	573,477	1,826,682
	2022		95,430	1,881,483	1,421,934	1,538,041	405,403	689,747	684,600	1,881,483
	2023		186,279	1,937,927	1,768,963	1,724,094	515,230	845,913	803,795	1,937,927
	2024		355,290	1,996,065	1,953,318	1,861,371	643,812	1,014,403	929,521	1,996,065
	2025		649,292	2,055,947	2,042,613	1,964,144	790,513	1,189,821	1,059,960	2,055,947

Peace building Rate of Adoption Assumptions

			Cumulative				
	Total Market Potential	Market Growth Rate	Period1	Period2	Period3	Analogous Systems	Key Assumptions
Peacebuilding							
P4P	39,200,000 [1]	2.90% [2]	120 [3]	1248 [3]	3851 [3]	Accelerated program, Flouridated water, Foreign language, cell telephone, telephone	1. Market population derived from total population projected from 1991 Census (UNDP HDR Report) 2. Growth rate estimated from population growth rate in Niger Delta (UNDP HDR Report). 3. Cumulative P4P Individual member data accounted for adoption data points

P4P Rate of Adoption Estimations

	Period / Forecasting Scenarios	Past P4P Data	Estimated From Past P4P Data	Accelerated program (educational innovation)	Population using flouridated water (community adoption)	Foreign language (educational innovation)	Cell telephone	Telephone	Market Potential
DATA INPUTS	**Total Market Potential**	N/A	39200000	39200000	39200000	39200000	39200000	39200000	
	Parameter p	N/A	0.000	0.003	0.265	0.003	0.005	0.008	
	Parameter q	N/A	1.000	0.913	0.335	0.619	0.506	0.082	
	2012	0	0	0	0	0	0	0	39,200,000
	2013	120	530	105,682	10,681,185	137,145	189,986	302,526	40,336,800
	2014	1,248	1,604	310,398	21,502,726	362,359	480,280	636,183	41,506,567
RATE OF ADOPTION ESTIMATES (OUTPUTS)	**2015**	3,851	3,769	702,829	30,697,429	728,595	919,473	1,003,128	42,710,258
	2016		8,115	1,447,576	37,308,973	1,318,781	1,577,661	1,405,600	43,948,855
	2017		16,823	2,841,642	41,593,336	2,260,064	2,553,679	1,845,910	45,223,372
	2018		34,251	5,392,190	44,382,352	3,740,774	3,982,082	2,326,438	46,534,850
	2019		69,106	9,872,353	46,397,706	6,024,130	6,036,233	2,849,622	47,884,360
	2020		138,760	17,183,339	48,066,644	9,442,097	8,920,038	3,417,952	49,273,007
	2021		277,805	27,642,950	49,601,899	14,335,528	12,836,299	4,033,960	50,701,924
	2022		554,812	39,573,516	51,101,679	20,895,456	17,918,688	4,700,206	52,172,280
	2023		1,104,589	49,108,128	52,610,160	28,901,823	24,127,735	5,419,267	53,685,276
	2024		2,187,801	54,102,867	54,147,319	37,516,210	31,150,636	6,193,725	55,242,149
	2025		4,292,117	56,492,240	55,722,543	45,472,869	38,396,169	7,026,150	56,844,171

APPENDIX C: FINANCIAL RESOURCES CATALYZED INTO THE NIGER DELTA

	Source of Funding	Amount NGN	Amount USD
Economic Development	TEXMACO MAH Investment	NGN 18,000,000	
	FADAMA Grant for Local Farmers rovided by LGAs	NGN 2,000,000	
	MARKETS2 (USAID)*		USD 12,500,000
	MADE (DFID)*		USD 21,584,000
Peacebuilding	P4P Chapter Fundraising		USD 15,000
	Peace Map Functionality		USD 18,000
	Imo State Government	NGN 800,000	
CSO/NGO	CAPABLE CSO Grants	NGN 2,000,000	
	Challenge Funds	NGN 2,000,000	
	ADVANCE (USAID)*		USD 25,000,000
	SACE (USAID)*		USD 19,200,000
	Technical Assistance Fund	NGN 5,000,000	
SMEs	Angel Investors	NGN 20,000,000	
	Poultry Investments through Business Linkages	NGN 108,000,000	
Policy & Institutions	NDDC Counterpart funding provided by IDEATO North LGA	NGN 15,000,000	
	Infrastructure Projects	NGN 1,350,000,000	
	NDDC Amount Set Aside	NGN 2,300,000	
	Local Government Councils	NGN 45,000,000	
	LCBP		USD 89,000
	LEAD (USAID)*		USD 4,500,000
WASH	Low Cost Sanitation Training Contributed by CAWST		USD 43,899
	Delta State Government	NGN 3,766,200	
	UNICEF Training	NGN 5,100,000	
	UNICEF Program		USD 400,000
	Dodo Bio-sand Filter Project		USD 130,000
	WASH in Schools		USD 800,000
	Triple Quest for LAPDO	NGN 600,000	
	Sum	**NGN 1,579,566,200**	**USD 84,279,899**
	In Dollars @ 1 NGN = .005 USD	USD 7,897,831	
		Total	**USD 92,177,730**

* Numbers listed are commitment figures for matching funds rather than actuals spent.

Loans provided through PIND programs

Loan		Amount Naira	Amount USD
Economic Development	Fish Farmers Loans	NGN 56,200,000.00	
	Aquaculture Actors Loans	NGN 31,100,000.00	
	MSDF Grants		USD 119,917.00
Peace Building	Egbokodo Itsekiri Micro Credit Scheme	NGN 1,500,000.00	
	CMADI- PLACE Community		USD 2,624.00
SMEs	Secured through BSPs in Business Linkages	NGN 34,500,000.00	
	Sum	**NGN 123,300,000**	**USD 122,541**
	In Dollars @ 1 NGN = .005 USD	USD 616,500.00	
		Total	**USD 739,041.00**

APPENDIX D: COMMON CHARACTERISTICS OF ENTREPRENEURS (INNOVATORS AND EARLY ADOPTERS) IDENTIFIED BY OTHER LEADING ORGANIZATIONS

A number of leading organizations in the social enterprise sector such as Ashoka, The Schwab Foundation, and Echoing Green, have focused on the cultivation of social entrepreneurs around the world. Over time, they have identified a number of characteristics common to these individuals. Many authors have also followed the journeys of successful social entrepreneurs, giving special attention to their common traits and abilities. For example, in How to Change the World: Social Entrepreneurs and the Power of New Ideas, David Bornstein chronicled the stories of ten social entrepreneurs from around the world, across sectors, and throughout history including Florence Nightingale, Bill Drayton, Muhammad Yunus, Fábio Rosa, Javed Abidi, and J.B. Schramm, just to name a few.

ASHOKA	
• A New Idea • Creativity • Total Absorption / Opportunity	• Social Impact • Ethical Fiber • Absolute Trust
SCHWAB	
• Innovation • Dedication • Self-Sustainability • Direct Social Impact	• Spread • Replicability • Accountability • Roadmap
ECHOING GREEN	
• Dissatisfaction With the Status Quo • Passion to Implement • Healthy Impatience • Concern with Detail • Focus on Reducing Risk	• Hiring Smart • Passionate Work Ethic • Work = Fun! • Fire in the Belly!
BORNSTEIN	
• Restlessness • Determination • Persistence • Ability to Learn From Failure • Belief in the Power of Small Ideas to Grow Into Great Changes and Movements • Strong Ethical Impetus	And a Willingness to: • Self –Correct • Share Credit • Break Free of Established Structures • Cross Disciplinary Boundaries • Work Quietly

Source: Gifford, Adrienne and Sayre, Michael. A Strategic Approach to Supporting Impact Investing in Mexico: U.S.- Mexico Foundation, 2013.
BORNSTEIN (Chapter 18, 2007, pp. 238-261)

APPENDIX E: IGD QUALITATIVE OUTCOMES FRAMEWORK - DEFINITIONS

Knowledge	Attitude	Capacity
Awareness Change in awareness of an issue or priority (new, renew, increase, decrease)	**Sense of empowerment** Change in the extent that people feel valued and/or empowered	**Social capital** Change in social capital enhances ability to leverage relationships and influence others
Knowledge Change in knowledge leads to decisions and choices based on facts and information	**Attitude** A shift in attitude, position or norm	**Skills/practice** Change in ability to perform an activity without assistance, put knowledge into practice
Understanding of context Change in understanding of the context enhances ability to see relationships, linkages, dimensions, dynamics and systems	**Motivations** Alignment of motivations and incentives towards a common/ shared goal	**Creative capacity** Change in ability to innovate on existing processes or approaches to deliver added value
	Aspirations Change in aspirations leads to greater sense of hope, pride or possibility	**Resources** Enhanced capacity to mobilise resources (human, technological, financial, information, public/civic)

Discourse	Action	Policies & Legislation
Dialogue & deliberation Change in participation in dialogue & deliberation	**Behaviour** Observable changes in attitude or belief via body language, facial expressions and mannerisms	**Policies & legislation** A change to policy, both positive and negative, including addition of new policies and removal or amendment of existing policies
Media & new media Change in media & new media narratives	**Participation** A change in participation (new people, greater numbers, diversity)	**Conditions** A change to the operating environment that either facilitates or inhibits activities or behaviour
	Action A change in levels of activity (increase, decrease eg violence, productivity, advocacy etc)	**Systems** Change at the systemic level, such as access to resources or markets
	Activism/Advocacy A change from reacting to situations or issues to taking a proactive stance or role or sustaining a commitment to action	**Leadership & status** Changes in who is represented at leadership level as well as examples set by leaders
		Consequences A change in both expected and unexpected outcomes, positive and negative

APPENDIX F: MAPPING OF PIND PROGRAMS / INTERVENTIONS TO IGD METHODOLOGY

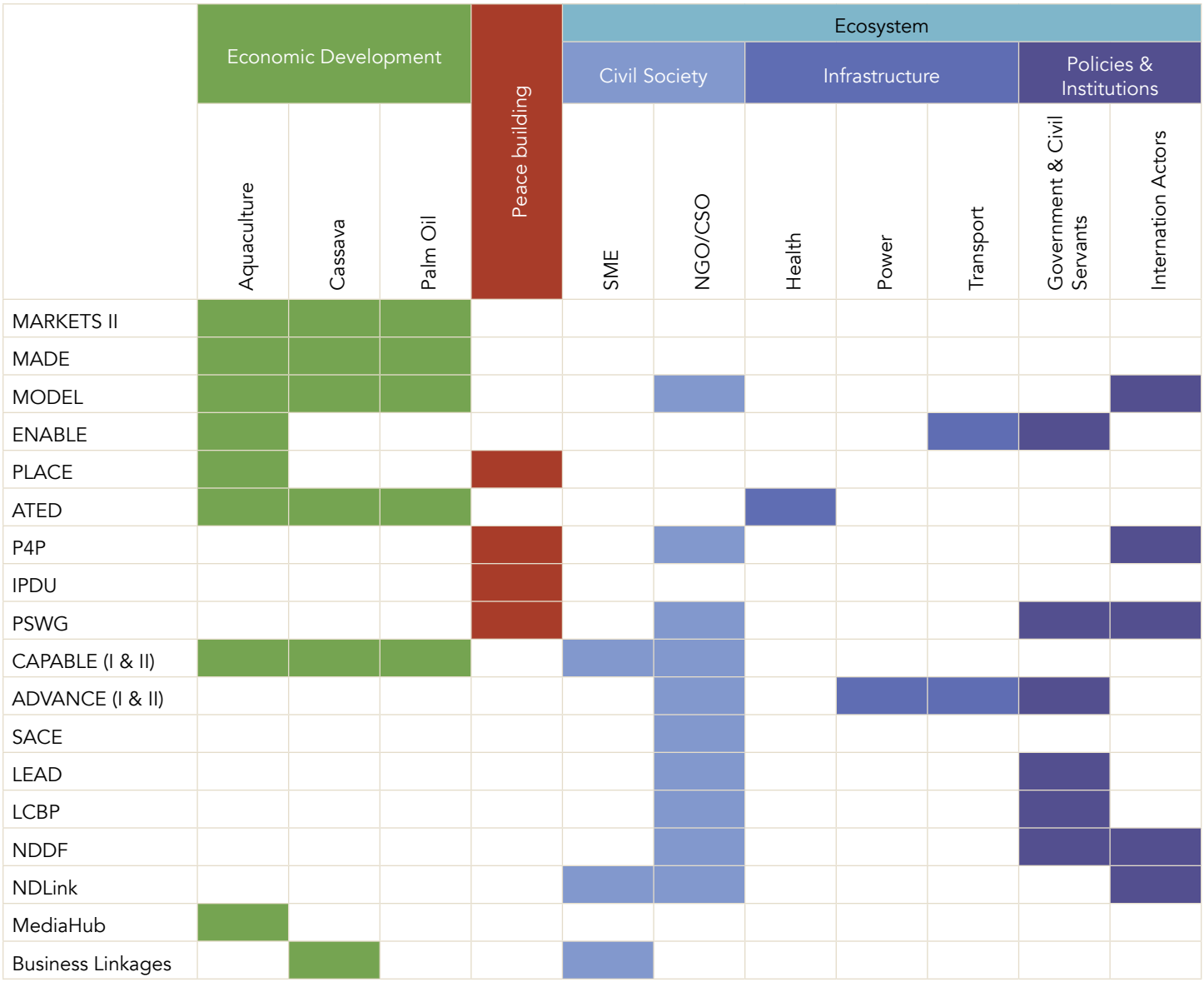
Progress Achieved Towards the 11 Systemic NDPI Outcomes

Internally, NDPI identified 11 systemic outcomes it hopes to achieve across its four major programs. In an effort to align the findings of this assessment, in particular to align the 50 unique impacts identified by IGD to existing approaches and methods, IGD mapped each of the 50 impact statements into the 11 NDPI systemic outcomes. Due to the inter-related and over-lapping nature of these outcomes, many of the IGD impact statements align to more than one of the 11 systemic outcomes. In the far right hand column of the table below, we have shown how many statements have been mapped into each systemic outcome. By averaging the maturity scores of each of the impact statements that were mapped into each systemic outcome, IGD is able to provide NDPI with the below findings which are very consistent with the findings in this report despite looking at the results from a somewhat different angle (programmatically versus by innovation area). In sum, in its first five years, NDPI has achieved the greatest level of impact and made the most progress towards systemic change in the area of capacity building, which is nearing scale.

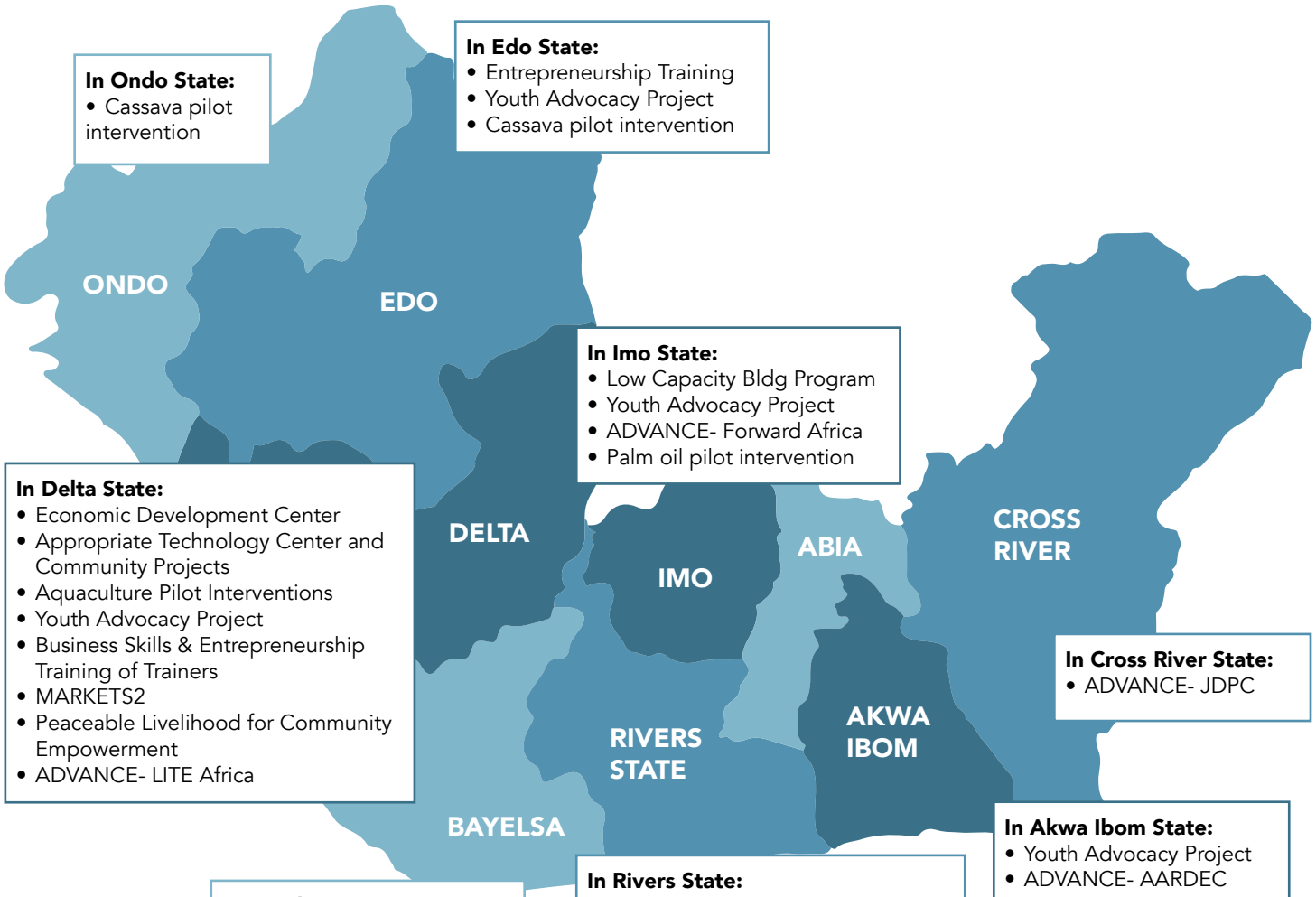
Program Area	NDPI Systemic Outcome	Maturity Score Average	Total Statements
Economic Development	1: Improved knowledge, attitudes, and practices of market players increases productivity and competitiveness	2.8	19
	2: Increased quality and availability of support services facilitates new pro-poor growth opportunities	2.2	20
	3: The adoption of more efficient technologies expands market potential	2.4	16
	Subtotal: Economic Development	2.4	55
Peace building	4: Coordinated early warning and response to local conflicts prevents escalation of violence	3.4	3
	5: Stakeholders empowered with improved understanding of conflict to generate effective solutions	3.4	4
	6: Stakeholders network with each other for collective action to facilitate peace	3.0	4
	Subtotal: Peace building	3.3	11
Capacity Building	7: Civil society institutions are empowered to expand their opportunities and diversify their funding resources	3.5	2
	8: Development institutions are accountable to their constituents and address their needs in a participatory manner	4.1	2
	Subtotal: Capacity Building	3.8	4
Analysis & Advocacy	9: Investors and policymakers make their decisions based on appropriate, timely, and accurate information	2.1	4
	10: The public and private sector collaborate for more synergies to facilitate pro-poor development	1.8	7
	11: Available resources for economic development and diversification increases	2.0	17
	Subtotal: Analysis & Advocacy	2.0	28
	Total Average Maturity of All NDPI/PIND Impacts- Programs	2.9	98

Incorporation of Partner Program Activities

NDPI and PIND also engage many partners who have their own programs, which align to PIND goals and innovation areas of focus. The following graph displays how those projects are incorporated into this assessment.



Location of PIND Interventions and Activities



In Ondo State:
- Cassava pilot intervention

In Edo State:
- Entrepreneurship Training
- Youth Advocacy Project
- Cassava pilot intervention

In Imo State:
- Low Capacity Bldg Program
- Youth Advocacy Project
- ADVANCE- Forward Africa
- Palm oil pilot intervention

In Delta State:
- Economic Development Center
- Appropriate Technology Center and Community Projects
- Aquaculture Pilot Interventions
- Youth Advocacy Project
- Business Skills & Entrepreneurship Training of Trainers
- MARKETS2
- Peaceable Livelihood for Community Empowerment
- ADVANCE- LITE Africa

In Cross River State:
- ADVANCE- JDPC

In Akwa Ibom State:
- Youth Advocacy Project
- ADVANCE- AARDEC

In Bayelsa State:
- Appropriate Technology Community Projects with Keffes and Dodo River RDCs
- ADVANCE- BANGOF and NCDF

In Rivers State:
- Local Capacity Building Program
- Appropriate Technology Community Projects
- Port Harcourt Economic Development Center
- Palm oil pilot intervention
- Leadership Empowerment and Advocacy & Development
- ADVANCE- CIEPD

Regional Scope:
- Social Sector Investment Fund
- Small Research Grants Program
- Partners for Peace (P4P)
- Economic Value Chains
- MODEL CAPABLE
- Business Linkage
- ND-Link
- Strengthening Advocacy & Civic Engagement (SACE)

APPENDIX G: LIST OF INTERVIEWEES

ORGANIZATION	INTERVIEWEE
Academic Associates PeaceWorks	Judith Burdin Asuni, Dr.
Academic Associates PeaceWorks	Uche Ifukor
ACCORD	Patrick Emmanuel
ATED- WASH	Nancy Gilbert
Biotech Development Network	Ifeanyi
BRACED	Chuks Ofulue
BRAFIN	Emmanuel
Centre LSD	Osasah Monday
CMADI-Egbokodo PLACE Community	Focus Group Discussion
Coastal and Marine Areas Development Initiative (CMADI)	Henry A. Erikowa
DAI Staff	William Grant
DDI- Business Linkages	Ayodele Bamidele
DFID-DAI- MADE	Terry Lacey
DFID-ENABLE- Adam Smith Intl	Bose Paul-Obameso
DFID-ENABLE- Adam Smith Intl	Syed Abu Sufian
DFID-MADE	QaziYawar Naeem
Eziorsu Oil Palm Farmers Association	Focus Group Discussion
Fabricator	Christian Eleboh
Fish Mammies	Rosalyn
Fish Smokers	Focus Group Discussion
Focus Hub	Godson Ohuruogu
Gonchuks	Godwin Ojobu
Grand Cereals	Tope Banjo
Imo State Directorate for Employment	Hon. Remy Chukwunyere
Justice, Development and Peace Commission	Father Bekomson
LAPO	Johnson Spinosa
LCBP Community	Ikechuku
LITEAfrica	Ifeoma Olisakwe
LITEAfrica	Iheanyichukwu Iheke
LITEAfrica	Ihekaibe Chinyere
LITEAfrica	Jerry Nwigwe
Mercy Corps	Lisa Inks
Ministry of Agriculture	Dr. Martin Fregene
Ministry of Niger Delta Affairs	J. Ayo Fadola
Morgan Smart Development Foundation	Oluwasegun Ajibola Olanrewaju
ND PSWG- Kebetkache Women Development & Resource Centre	Emem J. Okon
NDDC	Alfred Mulade, Dr.
NDPI Staff	Eniola Mafe

NDPI Staff	Heather Kulp
Nigeria Institute for Oil Palm Research	Celestine Ikuenobe, Dr.
NSRP	Chitra Nagarajan
NSRP	Kimairis Toogood, Dr.
P4P	Nate Haken
P4P	Patricia Taft
P4P	Mike Gonzalez
P4P	Nkasi Wodu
P4P Central Working Committee	Focus Group Discussion
P4P Members	Focus Group Discussion
PIND Staff	Africas Lawal
PIND Staff	Bose Eitokpah
PIND Staff	Dara Akala
PIND Staff	Ese Emerhi
PIND Staff	Faith Ehebhamen
PIND Staff	James Elekwachi
PIND Staff	Md. Asad-Ur-Rahman Nile
PIND Staff	Misan Edema-Sillo
PIND Staff	Precious Chidi Agbunno
PIND Staff	Sam Ogbemi Daibo
PIND Staff	Sola Afolayan
PIND Staff	Sylvester Okoh
PIND Staff	Yela Alagoa
PLACE Community	Focus Group Discussion
Port Harcourt University	Steve Wordu, Dr.
SACE	Focus Group Discussion
Search for Common Ground	Obinna Chukwuezie
SHERDA	Samuel Dare, Dr.
Social Action	Ken Henshaw
TedEx Youth	Ebenezar Wikina
TEXMACO	Engr. Ikechukwu T. Umeaku
Thai Farms	Louw Burger
Ubulu Uku Cassava farmers	Focus Group Discussion
USADF-DDI	Adamu Garba
USADF-DDI	Latifat Eigbedion
USAID	Adamu Igoche
USAID- MARKETS2- Chemonics	Emeke Ile
USAID- MARKETS2- Chemonics	Farouk Kurawa
USAID- MARKETS2- Chemonics	Harvey Schartup
USAID-RTI/ LEAD LGA network	Focus Group Discussion
UUFFA	Focus Group Discussion
West Africa Development	Vernice Guthrie

ZAL Consulting	Zigha
	Akamune Ogheneobukome Rhoda
	Debetimi
	Ebulkar
	Tsemaine

APPENDIX H: LIST OF DOCUMENTS REVIEWED

	DOCUMENT TITLE
1	2010 NDPI Annual Report
2	2011 NDPI Annual Report
4	2012 NDPI Annual Report
5	2013 NDPI Annual Report
6	2014 PIND Annual Report
7	2015 NDPI Annual Report
8	NDPI Lookback - Summary of Stakeholder Responses - DRAFT (1)
9	NDPI Lookback Report - Final
10	NDPI PSR - Aggregate Key Findings Synthesized v3 (141020) (3) (1)
11	NDPI PSR - Core Team Mtg - Conclusions and Recommendations v3 (141020) (3) (1)
12	NDPI Monitoring Evaluation Progress Report 13 March 2015
13	PIND Quarter 1 2014 M&E Report
14	PIND Quarter 1 2015 M&E Report
15	PIND Quarter 2 2014 M&E Report
16	PIND Quarter 2 2015 M&E Report
17	PIND Quarter 3 2014 M&E Report
18	PIND Quarter 4 2014 M&E Report
19	Final NDPI Dashboard Q2 2015
20	Final NDPI Dashboard Q1 2015
21	PIND Cumulative M&E Results_V02_20150930
22	Adamu Garba & Latifat Eigbedion, DDI (18 May 2015) Interview Notes A. Knott
23	Adamu Garba & Latifat Eigbedion; USADF-DDI (18 May 2015) Interviewer A. Gifford & A. Knott
24	Adamu Igoche; USAID (19 May 2015) Interviewer A. Gifford & A. Knott
25	Akamune Ogheneobukome Rhoda, UUFFA (21 May 2105) Interview Notes A. Knott
26	Akamune Ogheneobukome Rhoda; UUFFA (21 May 2105) Interviewer A. Gifford & A. Knott
27	ATED Team (20 May 2015) Interviewer A. Gifford & A. Knott
28	Ayodele Bamidele; DDI Consulting (29 May 2015) Interviewer A. Gifford
29	Biotech Development Network (22 May 2015) Interviewer A. Gifford & A. Knott
30	Bose Paul-Obameso; ENABLE (19 May 2015) Interviewer A. Gifford & A. Knott
31	Celestine Ikuenobe Dr. ; NIFOR (18 May 2015) Interview Notes A. Knott
32	Celestine Ikuenobe, Dr. ; NIFOR (18 May 2015) Interviewer A. Gifford & A. Knott
33	Christian Eleboh; Palm Oil Fabricator (12 Aug 2015) Interview Notes A. Gifford
34	Christian Eleboh; Palm Oil Fabricator (12 Aug 2015) Interview Notes A. Knott
35	Chuks Ofulue; BRACED (11 Aug 2015) Interview Notes A. Knott
36	CMADI (08AUG2015) Interview Notes A. Gifford
37	CMADI (22 May 2015) Interviewer A. Gifford & A. Knott
38	Debetimi (26 May 2015) Interview Notes A. Gifford
39	Debetimi (26 May 2015) Interview Notes A. Knott

40	Ebenezer Wakina, Tedx Youth (25 May 2015) Interview Notes A. Gifford
41	Ebulkar; Fish Smoker (22 May 2015) Interview Notes A. Knott
42	Ebulkar; Fish Smoker (22 May 2015) Interviewer A. Gifford & A. Knott
43	Emen Okon; ND Chapter of PSWG (26 May 2015) Interviewer A. Gifford & A. Knott
44	Emen Okon; ND PSWG (26May 2015) Interview Notes A. Gifford
45	Emmanuel; BRAFIN (10 Aug 2015) Interview Notes A. Gifford
46	Eziorsu Palm Oil Farmers Association (11 Aug 2015) Interview Notes A. Gifford
47	Father Bekomson; Justice, Peace and Development Commission (28 May 2015) Interview Notes A. Knott
48	Godson Ohuruogu; FocusHub (25 May 2015) Interview Notes A. Knott
49	Gonchucks (8 Aug 2015) Interview Notes A. Gifford
50	Harvey Schartup, Farouk Kurawa, & Emeke Ile; USAID-MARKETS2 (18 May 2015) Interview Notes A. Knott
51	Harvey Schartup, Farouk Kurawa, & Emeke Ile; USAID-MARKETS2 (18 May 2015) Interviewer A. Gifford & A. Knott
52	Ifeanyi; Biotech Development Network (22 May 2015) Interview Notes A. Knott
53	Ifeoma Olisakwe, Jerry Nwigwe, Ihekaibe Chinyere, & Iheanyichukwu Iheke; LITE Africa (22 May 2015) Interviewer A. Gifford & A. Knott
54	Ikechuku & Stanley; LCBP (13 AUG 2015) Interview Notes A. Gifford
55	Ikechuku & Stanley; LCBP (13 Aug 2015) Interview Notes A. Gifford
56	J. Ayo Fadola; Ministry of Delta Affairs (19 May 2015) Interview Notes A. Knott
57	J. Ayo Fadola; Ministry of Delta Affairs (19 May 2015) Interviewer A. Gifford & A. Knott
58	Johnson Benosi; LAPO (10 Aug 2015) Interview Notes A. Gifford
59	Johnson Spinosa; LAPO (10 Aug 2015) Interview Notes A. Knott
60	Judith Burdin Asuni,Dr. ; AAPW (22 May 2015) Interviewer A. Gifford & A. Knott
61	Ken Henshaw; Social Action (13 AUG 2015) Interview Notes A. Gifford
62	Ken Henshaw; Social Action (13 Aug 2015) Interview Notes A. Knott
63	Kimairis Toogood, Dr. & Chitra Nagarajan; NSRP (28 May 2015) Interview Notes A. Gifford
64	LEAD LGA Beneficiaries(26 May 2015) Interviewer A. Gifford & A. Knott
65	LEAD LGA Training Group (26 May 2015) Interview Notes A. Gifford
66	LEAD Program Team (26 May 2015) Interview Notes A. Gifford
67	LEAD Project Team (26 May 2015) Interviewer A. Gifford & A. Knott
68	Louw Burger; Thai Farms (14 Aug 2015) Interview Notes A. Gifford
69	Louw Burger; Thai Farms (14 Aug 2015) Interview Notes A. Knott
70	Mercy Corps (29 May 2015) Interview Notes A. Gifford
71	Mike Gonzalez & Nkasi Wodu; P4P (13 Aug 2015) Interview Notes A. Gifford
72	Ministry of Agriculture (23 May 2015) Interview Notes A. Gifford
73	Ministry of Agriculture (23 May 2015) Interview Notes A. Knott
74	Monica, Rosemary, & Peter; SACE (12 Aug 2015) Interview Notes A. Knott
75	Morgan Smart Foundation (22 May 2015) Interview Notes A. Gifford
76	Nancy Gilbert; ATED (21 Aug 2015) Interview Notes A. DeVries
77	NDPI-PIND Analysis & Advocacy Team (5 May 2015) Interview Notes IGD
78	NDPI-PIND Capacity Building Team (14 May 2015) Interview Notes IGD
79	NDPI-PIND Economic Development Team(15 May 2015) Interview Notes IGD
80	NDPI-PIND Peacebuilding Team (5 May 2015) Interview Notes IGD

81	Obinna Chukwuezie; Search for Common Ground (25 May 2015) Interview Notes A. Gifford
82	Oluwasegun Ajibola Olanrewaju, Morgan Smart Development Foundation (22 May 2015) Interviewer A. Gifford & A. Knott
83	Osasah Monday, Victor Oluyde, & Otive Igbuzor; Centre LSD (19 May 2015) Interview Notes A. Knott
84	Osasah Monday, Victor Oluyde, & Otive Igbuzor; Centre LSD (19 May 2015) Interviewer A. Gifford & A. Knott
85	P4P Central Working Committee (26 May 2015) Interview Notes A. Knott
86	P4P Central Working Committee (26 May 2015) Interviewer A. Gifford & A. Knott
87	Patrick Emmanuel;ACCORD (26 May 2015) Interview Notes A. Gifford
88	Qazi Yawar, DFID-MADE (18 May 2015) Interviewer A. Gifford & A. Knott
89	Remy Chukwunyere Hon. ; Imo State Directorate for Employment (28 May 2015) Interview Notes A. Knott
90	ROSALYN; FishMammies (9 Aug 2015) Interview Notes A. Gifford
91	Sam Daibo (18 May 2015) Interview Notes A. Gifford
92	Samuel Dare Dr. ; SHERDA (25 May 2015) Interview Notes A. Knott
93	Steve Wordu; Port Harcourt University (14 Aug 2015) Interview Notes A. Knott
94	Terry Lacey, DFID-MADE Part 1 (18 May 2015) Interviewer A. Gifford & A. Knott
95	Terry Lacey, DFID-MADE Part 2 (18 May 2015) Interviewer A. Gifford & A. Knott
96	TEXMACO (11 Aug 2015) Interview Notes A. Gifford
97	Tope Banjo, Grand Cereals (28 May 2015) Interviewer A. Gifford & A. Knott
98	Tope Banjo; Grand Cereals (28 May 2015) Interview Notes A. Knott
99	Tsemaine (21 May 2015) Interview Notes A. Gifford
100	Ubulu-Uku Cassava Farmers (20 May 2015) Interview Notes A. Knott
101	Ubulu-Uku Cassava Farmers (20 May 2015) Interviewer A. Gifford & A. Knott
102	Ubulu-Uku Cassava Farmers (21 May 2015) Interview Notes A. Knott
103	UUFFA Fish Farmers (20 May 2015) Interviewer A. Gifford & A. Knott
104	UUFFA FishSmokers (9 AUG 2015) Interview Notes A. Gifford
105	Vernice Gurthrie; West Africa Development (19 MAY 2015) Interviewer A. Gifford & A. Kuch
106	Vernice Guthrie; West African Development (19 May 2015) Interview Notes A. Knott
107	Yela Alagoa (6 Aug 2015) Interview Notes A. Gifford
108	Zigha; ZALConsulting (29 May 2015) Interviewer A. Gifford
109	CAPABLE Crown-Agents
110	ENABLE-PIND MoU
111	P4P_Qualitative_Research_Report__1_
112	Report of CAPABLE CSOs Collaboration, Networking and Interactions
113	SACE ND RFA Program Description
114	SACE-FY 2014 Annual Report
115	Youth-Assessment-Report
116	Aleru Darlene Nkechinyere (14 May 2015) Interviewer G. McAuliffe.
117	ANDREW ADU Part 1 (9 May 2015) Interviewer G. McAuliffe.
118	ANTHONIA CHUKWUNWEIKE (9 May 2015) Interviewer G. McAuliffe.
119	AUGUSTINE OKAFOR (May 2015) Interviewer G. McAuliffe.
120	Augustine Omani (9 May 2015) Interviewer G. McAuliffe.
121	AYODELE BAMIDELE (10 May 2015) Interviewer G. McAuliffe.
122	BEN EZE (19 May 2015) Interviewer G. McAuliffe.

123	BENJAMIN AKPOBASA (May 2015) Interviewer G. McAuliffe.
124	BLESSING HITLER (11 May 2015) Interviewer G. McAuliffe.
125	BORVE PAAGO-IMABEL (18 May 2015) Interviewer G. McAuliffe.
126	BOSE Part 1 (23 May 2015) Interviewer G. McAuliffe.
127	BOSE Part 2 (23 May 2015) Interviewer G. McAuliffe.
128	BRIDGET AFFIAH. (10 May 2015) Interviewer G. McAuliffe.
129	CASSAVA FARMERS ASSOCIATION (11 May 2015) Interviewer G. McAuliffe
130	CHIEF DAMIAN NWACHUKWU UMUAGWO, PALM OIL MILLERS COOPERATIVE SOCIETY (12 May 2015) Interviewer G. McAuliffe
131	CHIEF FRANCIS OMO AGEGE (17 May 2015) Interviewer G. McAuliffe
132	CHRISTIAN ELEBOH (12 May 2015) Interviewer G. McAuliffe
133	DEBORAH EFFIONG & LIVINGSTONE MEMBERE Part 1 (16 May 2015) Interviewer G. McAuliffe.
134	DEBORAH EFFIONG & LIVINGSTONE MEMBERE Part 2 (16 May 2015) Interviewer G. McAuliffe.
135	DENNIS Flemming (21 May 2015) Interviewer G. McAuliffe.
136	EBENEZAR WIKINIA Part 1 (18 May 2015) Interviewer G. McAuliffe.
137	EBENEZAR WIKINIA Part 2 (18 May 2015) Interviewer G. McAuliffe.
138	EGONDU ESINWOKA-OGBALOR & IFEANYA AJAEGBO (13 May 2015) Interviewer G. McAuliffe.
139	EJIRO ESHARETURI & TEDDY FOH (10 May 2015) Interviewer G. McAuliffe.
140	EJIRO OTIVE-IGBUZOR (16 May 2015) Interviewer G. McAuliffe.
141	FISH FARMERS CAFAN (9 May 2015) Interviewer G. McAuliffe.
142	GLORIA EREMIONKHALE (May 2015) Interviewer G. McAuliffe.
143	GODSON OHURUOGU, SHARON UDOKANMA GEORGEWILL, & MAVEN HARRY (May 2015) Interviewer G. McAuliffe.
144	HENRY ERIKOWA Part 1 (11 May 2015) Interviewer G. McAuliffe.
145	HENRY ERIKOWA Part 2 (11 May 2015) Interviewer G. McAuliffe.
146	HENRY ERIKOWA Part 3 (11 May 2015) Interviewer G. McAuliffe.
147	LILIAN AMANGBO (14 May 2015) Interviewer G. McAuliffe.
148	MICHAEL GONZALEZ (16 May 2015) Interviewer G. McAuliffe.
149	MILLICENT NWAEBILI (9 May 2015) Interviewer G. McAuliffe.
150	MOSES AMAGBOR JOHNSON & OLUMIDE JUDE (19 May 2015) Interviewer G. McAuliffe.
151	MOSES OBI (9 May 2015) Interviewer G. McAuliffe.
152	NANCY GILBERT (May 2015) Interviewer G. McAuliffe.
153	Obinna Chukwuezie & Pantaleon Nzubechi Uwaleme (16 May 2015) Interviewer G. McAuliffe.
154	OREVA USOLO (12 May 2015) Interviewer G. McAuliffe.
155	PALM FRUIT FARMERS (9 May 2015) Interviewer G. McAuliffe.
156	PATRICK EMMANUEL & ANDY OGBUIGWE Part 1 (May 2015) Interviewer G. McAuliffe.
157	PATRICK EMMANUEL & ANDY OGBUIGWE Part 2 (May 2015) Interviewer G. McAuliffe.
158	REMY CHUKWUNWERE (16 May 2015) Interviewer G. McAuliffe.
159	ROSE OBI (8 May 2015) Interviewer G. McAuliffe.
160	SACE TEAM (17 May 2015) Interviewer G. McAuliffe.
161	SAMUEL DARE (12 May 2015) Interviewer G. McAuliffe.
162	TOPE BANJO Part 1 (11 May 2015) Interviewer G. McAuliffe.
163	TOPE BANJO Part 2 (11 May 2015) Interviewer G. McAuliffe.

164	VIVIAN EKAMAH OTHUKE Part 1 (7 May 2015) Interviewer G. McAuliffe.
165	VIVIAN EKAMAH OTHUKE Part 2 (8 May 2015) Interviewer G. McAuliffe.
166	ADVANCE Evaluation Final Report
167	ADVANCE Final Report_May 31 2013
168	CAPABLE-Post Presentation Revised Report of Participatory Evaluation_First Phase_August 7, 2013
169	IPDU Pilot-CSN Non-Violent Elections--Final Report
170	LCBP CLOSE OUT REPORT 1 of 2
171	LCBP CLOSE OUT REPORT 2 of 2
172	LEAD Stakeholders Review meeting of June 5 2014 report
173	NDDF-SUMMARY-REPORT-2013
174	Peacebuilding Results Progress Report (2012-2014)
175	UUFFA Capacity Assessment Final report - D1
176	Accord-PROJECT DEVELOPMENT SUMMARY for PIND
177	ADVANCE Extension final concept approved by board May 10, 2012
178	CAPABLE Final Concept approved by boards in May 2012
179	CAPABLE Final Concept for Phase 2 February 2015
180	LEAD Cost Extension Request August 12 2014111
181	LEAD_Concept Note_II_Rivers State_June 04
182	CMADI Pre-award Assessment report_June 17 2013
183	EngineersWithoutBordersNigeria Capacity Assessment Report_August to September 2012
184	EPOFPA (Palm Oil) Capacity Assessment Report
185	UUFFA Revised Capacity Assessment Report, December 9, 2011
186	UUFFA Exit Diagnostic Report - 2013
187	Aquaculture-Value-Chain-Analysis
188	Cassava-Value-Chain-Analysis
189	Niger-Delta-Poultry-VC-Analysis-Branded
190	Palm-Oil-Value-Chain-Analysis
191	Techno-Economic Assessment of Chorkor Fish Smoking

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