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*Front page photo: Roshan Renewables Briquette trainee and Nigeria WAY clients at a technology fair in Toro LGA, Bauchi State.*

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THE NIGERIA WAY LEARNING SERIES

The WAY Learning Series is an ongoing initiative to share lessons learned as the project is being implemented, focusing on identifying and understanding factors that impact women’s business success and overall wellbeing in Bauchi State. Topics include women’s time use, girls’ self-perception after participating in skill-building opportunities, how cooperatives function as business platforms for women, and women’s perceptions of themselves as entrepreneurs.

The Learning Series is shared widely with the development community and project stakeholders, including partners, clients, and government.

About the Nigeria WAY Project

Youth Entrepreneurship and Women’s Empowerment in Northern Nigeria (Nigeria WAY) supports women and youth agro-processors in three value chains in Bauchi State: rice, soybean, and groundnut. The project focuses mainly on women and youth-led businesses, with activities to improve productivity, adopt environmentally sustainable business practices, and increase access to markets, financial services, market information, business networks, and partnerships.

Nigeria WAY collaborates with partner organizations operating in Bauchi State to mobilize clients into the activities supported by the project. The project operates in seven Local Government Areas (LGAs), specifically selected because of their
importance in Bauchi’s economy, feeding two key markets in Bauchi State – Bauchi and Azare – which bring together buyers, sellers, and processors for soybean, groundnuts, and rice, among other crops. However, businesses in Bauchi are primarily small and informal, and the market remains nascent, with government – not the private sector – as a primary driver.

In this socially conservative state, women and young people have faced many obstacles in achieving business success. Mobility and access to finance are limited for many women, and gender norms restrict the roles available to them. However, endemic poverty and family needs increase the need for their economic participation. With increased access to productive technologies and business services, greater financial inclusion, and inclusive community dialogues, Nigeria WAY supports women and youth-led businesses to transform their contribution to their households and communities and, ultimately, the Nigerian economy.

ACKNOWLEDGMENTS

<table>
<thead>
<tr>
<th>Authors</th>
<th>Salihu Samuel Wamdeo and Frances Fortune</th>
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<tr>
<td>Editor</td>
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Nigeria WAY is made possible with the generous support of Global Affairs Canada and is implemented by Mennonite Economic Development Associates (MEDA). Thanks to WAY’s many partners and MEDA’s generous private supporters.
NIGERIA WAY SMART INCENTIVES – THE INNOVATION FUND

The Nigeria WAY Innovation Fund is one of the “Smart Incentive” mechanisms that aims to promote new and innovative goods or services that support and target women and youth-led businesses in the agro-processing sector. The platform to deploy this mechanism is the Innovation or Technology Fair – public events promoting locally produced agrotechnologies. The Innovation Fund is a prize ranging from CA$100 to CA$500, targeting youth with creative ideas to address agro-processing needs of women in the rice, groundnut and soy value chains. These funds are administered to qualified winners who are selected in a public and competitive process by a panel at the Innovation Fair. The fabricators live and work in the communities they serve, and their proximity to clients and potential customers gives them access to regular feedback on their products. For this reason, the WAY team found local fabricators to be more adaptable to client needs, especially compared to larger equipment distributors which typically imported technology from overseas.

The overall objective of this learning paper is to determine the impact of the Innovation Fund on fledgling businesses owned by women and youth in the three value chains. Specific objectives are to assess:

- The type and characteristics of innovations introduced by the Innovation Fund
- The impact of these innovations on small businesses owned by women and the fabricators and
- The impact of this mechanism in stimulating market activities

Qualitative and quantitative data were collected in November 2022 through a series of Focus Group Discussions (FGDs) and a survey. FGDs were held in four locations with 34 women and youth agro-processors who had attended Innovation Fairs. A survey was conducted with 103 men, all local fabricators who had received innovation prizes. (For more information, see the Methodology section, below.)

The learning paper has four sections presenting the outcomes of this client-centred research. The Key Findings are presented in the first section. The second section presents the results of the data collected from women and youth businesses and fabricators. The third section speaks to the gendered impacts of the Innovation Fund and Innovation Fair. The fourth section is focused on sustainability of impact and conclusions.
METHODOLOGY

This study collected data on the experience of two groups who participated in Innovation or Technology Fairs: businesswomen engaged in agro-processing activities as part of their business\(^1\) and local fabricators who manufacturer agro-processing equipment.

Quantitative data for this learning paper was gathered from a survey of thirty questions administered to 103 male clients, all fabricators who received innovation prizes. These questions were administered digitally by nine trained enumerators using I-Form and then uploaded into excel for coding and analysis. The survey results are in Annex 2.

In addition to the survey, qualitative data was generated through focus group discussions (FGDs) held in four locations targeting 34 women and youth agro-processors, clients of the Nigeria WAY project who had attended the Innovation Fairs. The FGDs were recorded and transcribed and then coded in excel. The FGD results are in Annex 3.

Limitations in the data relate to the respondents’ experiences. All the men respondents are fabricators and those who won Innovation Fund prizes.\(^2\) The experience of those fabricators who did not win is not captured here. This may have an impact on business growth figures, as a sizable number of the men respondents used the prize money as capital to grow their business.

The women respondents represent a small group within the community who are clients of the Nigeria WAY project. All Nigeria WAY clients are engaged in agro-processing as part of their business activities and are members of Savings and Loans Groups (SLGs), which support them to build savings and provide access to credit to support their businesses. The women respondents have received several support services from the project to help them grow their business over the past three years.\(^3\) These two groups of respondents have a different experience than businesspeople who are not project clients.

The qualitative and quantitative data and first level analysis are provided in Annex 1.

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1. Read Perceptions of Women in Business in Bauchi State, Nigeria to learn more about businesswomen.
2. Access to the innovation fund as a prize was a competitive process which entailed being recognised in front of their peers by the Innovation Committee as performing exceptionally in manufacturing gender responsive technology. It also required them to use their own resources to develop the technology for display and demonstration at the Innovation Fair.
3. Capacity building activities include Business and Family support services intended to expand their capabilities in enterprises and entrepreneurial activities, may be recipients of a direct price discount (smart incentive) to incentive purchase of technologies for their business. They were invited to participate in technology and Innovation Fairs where technologies for processing are promoted.
KEY FINDINGS

The smart incentive mechanism being examined in this paper is the Innovation Fund, deployed through the Innovation Fairs in Bauchi state by the Nigeria WAY project (details of the methodology are included in Annex 1). Innovation Fairs were the primary delivery mechanism for the Funds.

These key findings are drawn from the results of surveys which are then analysed through MEDA’s gender equality and social inclusion (GESI) framework designed for market systems. Market systems are not gender neutral and the GESI framework allows understanding of how the impact for women businesses is different from men’s businesses. The GESI framework outlines three domains or areas of focus where change occurs; gains in one domain can contribute to strengthen gains in the other two domains. The illustration below shows the MEDA GESI framework, with the Nigeria WAY interventions in each domain.

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4 Market systems are comprised of supporting functions such as technology and innovation, skills and services, infrastructure and logistics, investment and inclusive finance and is embedded in an enabling environment constituted by informal and formal rules, social and gender norms as well as policies and programs, regulations, and standards.
The analysis was conducted by the Technology Coordinator, Mr. Salihu Samuel Wamdeo and the key findings are shaped by his rich experience and expert knowledge. Key findings are summarized below, with reference to the GESI framework.

**Finding 1: Women’s access to equipment and equipment providers increased**

Earlier research for Nigeria WAY found that few women had access to technology for their agro-processing activities. A previous learning paper on women’s time use identified access to technology as a fundamental challenge for women’s agro-processing businesses. Women in Bauchi typically use rudimentary, labour-intensive processing techniques to add value to their grain. This limits the amount of grain they can process and sell and negatively impacts on the quality and consistency of their product.

In FGDs for this study, women noted that the Innovation Fairs provide a unique opportunity for them to access resources and equipment necessary for their businesses. They could test and compare different types of equipment available to them and see first-hand the potential to reduce their labour and improve the quality of their products. In addition, the fairs are an important forum for women and fabricators to build business relationships that will outlast project activities.

**Finding 2: Increased women’s agency leads to technology innovation**

As noted earlier, Bauchi is a socially conservative state, and it has been unusual for women to speak in public forums. However, the Innovation Fairs have provided a unique opportunity for women to express their needs and give feedback to fabricators on how equipment could be adapted to their needs. Feedback included the need to reduce natural resource consumption, such as fuel or water; women are typically responsible for gathering such resources, which takes a significant portion of their day. Seeing the large number of women attending the fairs, many fabricators saw a business opportunity, and began adapting their equipment to accommodate this feedback.

Businesswomen reported that having their own ideas being incorporated into the design of equipment was an incentive to purchase the equipment, as it was more responsive to their needs.

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“We have seen enough technologies that de-pods groundnut, we now want a technology that can safely take off the coating of the peeled groundnut grain without doing damage to the groundnut.”

*Women at Warji Innovation Fair, expressing equipment adaptations they would like to see*
Finding 3: More inclusive enabling environment as suppliers recognize women as new market segment

The Innovation Fair and Innovation Fund have begun to shift attitudes within the agro-processing ecosystem in Bauchi State. Fabricators are beginning to appreciate women’s small businesses as a market segment for their agrotechnologies. A concrete example of the market potential emerged as fabricators began incorporating gender-sensitive considerations into the technology design. For the early Innovation Fairs, the project paid for transportation for fabricators to bring equipment to the fairs and bring it back to their shops. However, as fabricators began to listen to what women wanted, all the equipment they brought to the Innovation Fairs was sold and they no longer needed to transport anything back to their shops.

Fabricators experienced business performance changes including increased sales, increased creativity in their designs and increased operating capital. They
also reported that the innovation fairs have changed the business environment as it expanded their market share and made visible a market segment that had previously been unexploited. **Results from the survey showed fabricators having an average of 131% growth in working capital for their business since participating in the Innovation Fairs.** Recognising and patronising this market segment has improved the businesses of local technology fabricators who fabricate equipment for agro-processing.

## RESULTS

This section summarises the qualitative and quantitative data collected from women clients and men who fabricate agro-processing equipment. These results are presented under two main themes: characteristics of the technology innovations, and the impact on fabricator and women processors’ businesses.

### Innovation Characteristics

Local fabricators, usually men, are micro- or small business owners who have the skills and machinery necessary to manufacture agro-processing equipment. In the survey sample, 92% of the fabricators own the business premises where they do their work and 75% of them engage paid labour (93% men and 7% women) in their businesses. The Innovation Fairs showcased technology manufactured by fabricators responsive to businesswomen’s agro-processing needs.

Schumpeter defines innovation as the practical implementation of ideas that result in the introduction of new goods or services or improvement in offering goods or services. On Nigeria WAY, innovation is focused on the introduction of new agro-processing methods or an improvement over a conventional method. This includes improvement in the efficient use of natural resources (specifically water and fuel) during processing, changes that results in the reduction of time, cost and labour in processing, improvement in quality of the product and reduction of hazard to entrepreneurs.

During the Innovation Fairs, technologies were evaluated by a team of experts from various domains of innovation, including the University (design experts), the polytechnic (expert technicians), head of the Bauchi technology incubation centre (a public institution that incubates business start-ups), the National Youth Service Corps (Head of the Skill Acquisition and Entrepreneurship Development program), the patron of local artisans and fabricators in Bauchi and most importantly the voices and feedback of women entrepreneurs who are the end users of these innovations. Together they constituted the Innovation Steering Committee, which awarded the innovation prizes based on several criteria – environmental

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considerations, gender responsiveness, cost, originality and alignment with three value chains of the project (rice, groundnut and soy). Most of the winning equipment had multiple innovative characteristics as displayed in the table below:

- 52% of the assessed innovations directly impacted women entrepreneurs by reducing their time and labour in processing.
- 20% of the innovations relate to improving the product quality. Notable responses relate to reducing product breakage, increase in nutritional value and increase in product marketability.
- Reduction in the use of firewood and water was evident in 15% of the responses.
- In the “others” category, 90% of the responses related to increase in safety for women agro-processors.

<table>
<thead>
<tr>
<th>Innovative Characteristics of Winning Technologies</th>
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<tbody>
<tr>
<td>Reduces time</td>
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<tr>
<td>Increase end product quality</td>
</tr>
<tr>
<td>Reduces drudgery</td>
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<tr>
<td>Reduces natural resource consumption</td>
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<tr>
<td>Reduces cost</td>
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<tr>
<td>Others</td>
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</tbody>
</table>

Figure 2: Characteristics of assessed agro-processing innovations

The Focus Group Discussions (FGDs) with businesswomen attested to the innovative characteristics of these technologies, with 64% of FGD responses prioritizing design elements of the equipment and quality of the product.

Some responses noted reduction in natural resource consumption and reduction in time and labour for processing.

Fabricators can innovate across several dimensions to produce gender responsive technology which can directly impact on women agro-processors’ businesses. The impact is the reduction in the amount of time and effort spent in productive labour through labour-saving equipment, reducing processing costs and improving product quality.

“We saw a rice parboiling machine that does not need much firewood and smoke will not disturb you, you will do your work neatly and even wear fine clothes.”

“We also saw groundnut shelling machine, all you need do is pour your groundnut into it and it removes the pods.”
**Business Impact**

The study assessed the businesses of the end users of innovation to determine the impact of the innovation fund. The end users are businesswomen who are processing soy, groundnut or rice as part of their business activities.

In the FGDs, businesswomen overwhelmingly reported a positive impact of Innovation Fairs on their businesses. They reported that **being able to weigh in on the design of technology was an incentive to purchase this technology because it was more likely to be responsive to their needs and useful in their business activities.**

The survey recorded change at multiple levels of the market: almost two thirds of the fabricators (63%) surveyed claimed the Innovation Fairs had impacted their business performance, specifically noting changes in business operations including increased sales, fabrication styles and operating capital. One-third noted a change in the business environment most specifically market changes where a client segment of women and young people in agro processing is becoming more visible.

**i) Business Performance Changes**

Fabricators described three areas of change in business performance: increased sales, adaptive fabrication style and operating capital.

Specific business performance changes noted by the fabricators are displayed in the following graph. Overall, 59% of fabricators surveyed showed increased manufacturing activity, purchase of improved working tools and business expansion.

![Figure 3: Business Performance Changes Noted by Fabricators](image-url)
Other business changes in performance noted by fabricators are reusability, increase in end product nutrient, and reduced hazards.

a) Increased Sales
The increased production from Figure 3 points to increasing sales for the fabricators. The survey results showed that 82% of the fabricators sold their new technologies after they won the innovation prize and most of them sold between 1-50 pieces. This illustrates that currently there is an emerging market for new technologies that addresses the processing needs of women’s agri-businesses.

b) Adaptive Fabrication Style
All fabricators surveyed except one said the Innovation Fair had shaped their fabrication style or quality of technologies. Of these, 82% said the impact of the technology fair increased their creativity and learning. Fabricators demonstrated they could adapt their technology to specific criteria, including environmental considerations around reduced use of wood and water, gender responsive needs and cost.

In Nigeria WAY’s initial market assessment in 2017, fabricators did not regard women as a customer base for their businesses. Thus, generating discussion...
between women customers and fabricators, particularly around technologies which women need for their processing, has catalyzed greater creativity for fabricators. It has also served to connect fabricators to women as a market segment to increase their production.

"I was an apprentice before the award, so I was able to use the fund to open up my own business."

"It has changed my business capacity where I can now fabricate many tools."

"It has reshaped my business through critical thinking and creative way."

"I was able to buy more equipment to make my work faster and easier."

"I've seen changes through my customers because their number has increased."

"It has increased my business activities the fact that I have more operating capital than before."

As seen above, fabricators view the Innovation Fairs as a source of creativity and learning. On the one hand, they meet their fellow fabricators and see different types of technology that are being made. On the other hand, most of the discussion organized at Innovation Fairs was for businesswomen to give feedback on the design of the technology. Thus, feedback acts as a source of creativity and learning for fabricators.

c) Operating Capital

Figure 3 demonstrates that fabricators used the cash prize to add to their operating capital. They purchased working materials, and tools. Two factors from the Innovation Fair impacting on operating capital are the prize which amounted to, on average NGN 127,227 (CA $353) and the increase in sales the fabricators experienced.

The fabricators reported the amount of operating capital before their participation in the Innovation Fairs and after their participation. Analysis indicates an average increase of NGN 563,287, a 131% growth in operating capital primarily as a result of participating in the Innovation Fairs.

Innovation prize winners found a significant impact from both the cash prize and the opportunity to participate in the Innovation Fair.
ii) Business Environment Changes

Business environment refers to the business ecosystem around agro-processing specifically related to businesswomen in agro-processing which is the target of the Nigeria WAY project.

More than one in three (37%) of the fabricators surveyed said the primary impact of the Innovation Fair on their business was to increase the number of customers as displayed in Figure 6. **The Innovation Fair was the platform for the Innovation Fund mechanism, and it helped the fabricators to engage new market segments.**

![Changes in Business Environment](image)

*Figure 6: Changes in Business Environment*

Initial market assessments for Nigeria WAY indicated that fabricators did not consider women as a market segment for their businesses. The dominant perception, shaped by social and gendered norms in Bauchi, is that women are focused on the domestic sphere and reproductive work. However, the changes in the business environment noted by fabricators points to an increase in economic activity of women as vis a vis technology. The increased number of customers and expanding market reflects increasing market share of women in this agro-technology sector.

All the respondents reported positively about participation of women in the technology or Innovation Fairs. 76% of the fabricators claimed the participation of women agro-processors at the fairs is good for their businesses.

In gauging the fabricators’ perception on what the Innovation Fair adds to their communities, as in Figure 7, 80% claimed the Innovation Fair has promoted a culture of creativity and hard work within their communities whereas 20%
claimed the Innovation Fair promotes businesses and reduces women’s drudgery in agro-processing.

Figure 7: Added Value of Innovation Fair to Community

Women entrepreneurs in Bauchi inspecting a locally fabricated rice parboiler during an innovation fair
Women’s agro-processing businesses are mainly micro in scale, and typically were not very visible to other market actors. The Innovation Fairs have begun to make women’s MSMEs more visible, **stimulated the agro-processing ecosystem**, and helped to remove some obstacles linking technology providers and businesswomen needing to purchase technology thereby increasing women’s access to productive resources.

**Findings – Gendered Impact and Sustainability of the Innovation Fund**

This section contains the analysis of the data using MEDA’s Gender Equality and Social Inclusion (GESI) in Market Systems Framework. The GESI framework is based on the premise that market systems are not gender neutral. Using the GESI framework permits understanding of gendered impact of a specific mechanism and how it impacts in the marketplace. The analysis of the data is also informed by four years of field experience of the Technology Coordinator and key findings are shaped by this rich experience.

Overall, the Innovation Fund had the effect of improving business performance and the business environment for Fabricators of agro-processing equipment. Women’s bespoke needs for equipment design were a source of creativity and led to increased sales for fabricators. The Innovation Fairs generated business for fabricators and built market linkages with businesswomen.

The innovation fund has improved access to resources and agency for businesswomen, and created a space in the public domain, specifically in the market, for women to express their needs and contribute to the economy.

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7 Market systems are comprised of supporting functions such as technology and innovation, skills and services, infrastructure and logistics and investment and inclusive finance and is embedded in an enabling environment which is constituted by informal and formal rules, social and gender norms as well as policies and programs, regulations and standards.
<table>
<thead>
<tr>
<th>GESI Domains</th>
<th>Impact of Innovation Fund</th>
<th>Change Noted</th>
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<tbody>
<tr>
<td><strong>Access and Use:</strong></td>
<td>Improved access for women's businesses to equipment designed to support their agro-processing activities</td>
<td>Increased sales by fabricators means more equipment in the hands of women Initially women had few tools for agro-processing and few assets of equipment</td>
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<tr>
<td>- access to inputs, resources, employment,</td>
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<td>skill development, markets, climate</td>
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<td>adapted resources, information</td>
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<td>- group work, inclusive investment and</td>
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<td>financial products and services,</td>
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<td>gender-responsive market information</td>
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<td><strong>Agency and Rights:</strong></td>
<td>Gender-responsive technologies reduce women’s labour and drudgery in agro-processing activities, making workloads more manageable</td>
<td>Women’s increased ability to purchase equipment for agro-processing business activities Women’s increased voice, publicly expressing equipment design ideas More manageable workloads resulting from reduced drudgery</td>
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<td>- rights awareness, control over resources,</td>
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<td>manageable workloads, collective/</td>
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<td>individual decision-making power,</td>
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<td>freedom from Sexual and Gender-Based</td>
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<td>violence (SGBV)</td>
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<td><strong>Just and equitable enabling environment:</strong></td>
<td>Market linkages formed between women agro-processors and male manufacturers of agro-processing equipment</td>
<td>Awareness among fabricators that women constitute a viable market for their products Women’s unique business needs made visible</td>
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<tr>
<td>- promote gender equality and social</td>
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<td>inclusion within laws, social cultural</td>
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<td>norms, institutions, and procedures that</td>
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<td>guide behaviour and decisions</td>
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<td>- engage men, boys and decision makers</td>
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<td>*(e.g., traditional authorities,</td>
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<td>institutional stakeholders</td>
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<td>**Market linkages formed between women</td>
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<td>agro-processors and male</td>
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<td>Women’s equipment needs a source of</td>
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<td>creativity and income for fabricators</td>
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<td>Increased innovation in</td>
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<td>equipment fabrication, based on client</td>
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The women respondents and the fabricators stated that an Innovation Fair was a new type of event to them and had significant positive impact on their businesses. For women, their responses showed progress on each of the three GESI domains. Specifically, women felt included in an area where previously they were not invited. Technology is considered a ‘male domain’ and anything with an engine is automatically referred to men who, in a stereotypical and gendered viewpoint, have innate understanding of engines whereas women do not! Being asked to comment on technology design even of technologies they use on a daily basis was a unique and empowering experience.

Fabricators were surprised at the amount and quality of feedback which women offered on design elements of the equipment. Women’s agency was apparent, as when solicited they gave a lot of feedback about design elements of the technologies to the fabricators. This increase in women’s agency was facilitated by the Innovation Fair to which they were invited. Women also mentioned they were given access to relevant information about technologies to which previously they did not have access and even saw many new technologies for the first time. Women’s agency was apparent in how they managed technology purchase not only to do their own processing but to rent out for income generating. This was evident not only with engine driven technology such as grinders, but even with the smaller pieces of equipment. Since women were inputting into the design of equipment, they said this was an incentive for them to purchase the equipment. So their social inclusion increased their access to productive resources.

CONCLUSIONS

The objectives of this learning paper were to assess the type and characteristics of innovations introduced by the Innovation Fair and to assess the impact on small businesses owned by women and the fabricators.

The Innovation Fund was designed as a smart incentive to stimulate business opportunities where obstacles were evident. The Innovation Fair was the platform developed by the Nigeria WAY team to deploy the innovation fund. The GESI analysis in the key findings demonstrates how this client centred participative methodology such as the Innovation Fair can impact directly on the business ecosystem in Bauchi state.

In this instance, access to technology has been a constraint on women’s processing businesses. The market problem was that fabricators and agro-dealers did not perceive women as a viable market segment. Initial discussions with fabricators suggested that women had domestic needs which were an insignificant commercial opportunity for fabricators. Agro-dealers retailing equipment suggested that women customers were rare and they dealt mainly with men. Agro-dealers mainly sell equipment imported from other places, rather than from local fabricators.
Stimulating the agro-processing sector led to new and emerging business opportunities for fabricators in these peanut, rice and soy or food value chains. Fabricators are located close to where women are doing their agro-processing activities. Agro-dealers are mainly in urban areas which can be far from where women are working. Connecting fabricators with women agro-processors is about building market linkages that can be sustained over time as they build their business networks.

Public events where market linkages can be built, where fabricators can receive feedback on their designs can act as a source of creativity and learning for fabricators which has helped their businesses to grow and enhanced the visibility of women’s productive activities.

Like the Innovation Fair, designing activities where women can actively participate around issues affecting them such as agro technology can be instrumental for women’s agency and increasing access and reducing women’s social exclusion in the marketplace.

The Innovation Fairs were implemented by the Association of Small Scale Producers (ASSAPIN) in Bauchi. To increase the sustainability of the gendered impact of Innovation Fairs, a Memorandum of Understanding with Tertiary Education Trust Fund’s Centre of Excellence at the Federal Polytechnic Bauchi was signed. The Federal Polytechnic aims to provide technical assistance and institutional access to fabricators and in return, students from the institution, will be linked to fabricators and businesswomen with a focus on client centered outputs rather than only technology centred outputs from the learning institutions.

A fabricator displaying his manual oil extracting machine at a technology fair in Bauchi.
ANNEX 1: INNOVATION FAIR METHODOLOGY

The Innovation Fairs were implemented by the Association of Small Scale Producers (ASSAPIN) in Bauchi. To increase the sustainability of the gendered impact of Innovation Fairs, a MOU with Tertiary Education Trust Fund’s Centre of Excellence at the Federal Polytechnic Bauchi was signed. The Federal Polytechnic aims to provide technical assistance and institutional access to fabricators and in return, students from the institutions will be linked to fabricators and businesswomen with a focus on client centered outputs rather than only technology centred outputs from the learning institutions.

Innovation Fair implemented by ASSAPIN. It is a two-phased process which starts with identification of agro-processing challenges. This open field event is conducted in local communities where women and youth agro-processors outline their agro-processing problems to a group of local fabricators who are then given an agreed time to creatively fabricate technologies or products that responds to those problems.

The second phase is an exhibition of created products and technologies by the fabricators to women agro-processors who are their potential market and also to the Innovation Steering Team which constitute of members different domains of innovations (MEDA, institutions of higher learning, technology incubation centers and the National Youth Service Corps) within Bauchi State. This team evaluate and grade the exhibited innovations based on certain criteria including environmental considerations, gender responsiveness of technology, cost, originality and compliance with the MEDA target value chains. Winners from this process are then identified and awarded the innovation fund prize.

At the Innovation Fairs, the winners’ innovations are then auctioned to potential buyers who are expected to provide feedback to the local fabricator and other women processors at subsequent fairs. Thus, the innovation fund is not really a prize in the sense that fabricators committed resources of time, labour and materials in creating technology to be eligible for the Innovation Fund.
ANNEX 2: QUANTITATIVE SURVEY
DATA SUMMARY

Demographic – 101 male respondents all who won the Innovation prize at least once at a MEDA innovation Fair.

73 respondents belong to an alliance or business group that provides goods and services for fabricators and 28 do not. They are mainly the Association of Artisan and Fabricators, or a cooperative society such as those for blacksmithing or pot makers or welders. 93 of the respondents own a business premise where they do their work. 75 respondents provide jobs to others (non-family members) while 26 do not engage paid labour. Fabricator’s operating capital is small with 53% of the fabricators have NGN 100,000 or about $300 CAD and only 8% have above $CAD 1500.

<table>
<thead>
<tr>
<th>LGA</th>
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<tbody>
<tr>
<td>Bauchi</td>
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<tr>
<td>Dass</td>
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<tr>
<td>Ganjuwa</td>
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<td>Jama‘are</td>
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<tr>
<td>Katagum</td>
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<td>Toro</td>
<td>15</td>
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<tr>
<td>Warji</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>101</td>
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<table>
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<tr>
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<tr>
<td>60,000 - 100,000</td>
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</tr>
<tr>
<td>120,000 - 150,000</td>
<td>13</td>
</tr>
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<td>130,000 - 250,000</td>
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<td>550,000 - 1,000,000</td>
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<tr>
<td>&gt;1,000,000</td>
<td>3</td>
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<td></td>
<td>101</td>
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**Location of Fabricators**

**Working Capital of Fabricators**

Question 1: What type of technology do you fabricate?

79% of the survey respondents\(^8\) venture in agro-processing technologies (rice mills etc) while 13% and 8% are in agro-production (planters, harrowers, tillers etc) and non-agro products respectively.

53% of the survey respondents fabricate items for use in the three value chains, 21% were specific to rice processing and 13% each for processing soy and groundnut.

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\(^{8}\) Survey respondents represent are 30% (survey respondents 101/total innovation prize recipients 350 (101 men, 80 women) of the overall recipients of the innovation fund. In this sample of 103, 100% are fabricators (men).
Those who received the innovation prize are fabricators who manufacture equipment and technologies in the rice, soy and groundnut value chain. These winners of the innovation prize represent the sector where Nigeria WAY is working.

Most of the innovations that were rewarded at the fairs, were related to agrotechnologies and equipment that women use for processing in the soy, rice and peanut value chain. The innovative aspect is the gender responsive features of technology, a user designed approach adopted by the fabricators, and the minimizing negative environmental impacts and improving safety. These innovations were inspired by feedback from businesswomen to fabricators about using their equipment and their business needs.

Innovative aspects from the selection criteria are:

<table>
<thead>
<tr>
<th>Gender Responsive Technology</th>
<th>User Designed Approach</th>
<th>Environmental Impacts</th>
</tr>
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<td></td>
<td></td>
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</tbody>
</table>

The feedback from women about equipment needs changed over time and experience with Innovation Fairs. At the beginning women mentioned hot fires, smoke and how damaging it was their health. In giving this feedback to the fabricators, the fabricators designed a large fry pan which put a barrier between the frying heat and the woman frying. Over time, as women gained confidence and fabricators responded, their feedback began to focus more on their business needs rather than their health or daily usage.

Deduction: In the agro-processing sector, there are new and emerging business opportunities for fabricators in these three food value chains.

**Question 2: What equipment won you the Innovation Fund?**

![Innovative Characteristics of Winning Technologies](image-url)
Most of the equipment which won the innovation prize was for processing and had multiple innovative characteristics. The innovative characteristics of these technologies are listed in the chart above. 52% of the innovations directly impacted women entrepreneurs by reducing their time and labour in processing. Almost 20% of the innovations are related to improving the product quality. Notable responses relate to reduction in product breakages, increase in nutritional value and increase in product marketability. Reduction in the use of firewood and water was evident in 15% of the responses. In the other category, 90% of the responses related to increase in safety of women agro-processors.

Key findings: Local fabricators can produce gender responsive technologies that response to women processors needs.

**Question 3: How many of those technologies\(^9\) have you sold since you got the received the innovation fund? (3.2)**

![Number of Products Sold](image)

82% of the respondents sold their new technologies after they won the innovation prize. This illustrates that there is a market for new technologies that addresses the processing needs of women’s agri-businesses.

**Question 4: Has there been a change in your business since receiving the innovation fund (capacity, customers, labour)?**

Almost all the fabricators experienced change in their business except one.

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\(^9\) These technologies were informed by requests from women clients so are effectively new technologies.
Question 4a: Kindly explain how the innovation fund has helped change your business (capacity, customers, labour).

The 163 responses were organized into categories along two dimensions of change: i) business performance and how the fabricator saw that he was doing business differently including modes and styles of fabrication and ii) business environment related to aspects of the business ecosystem including increased number of customers.

63% of the respondents stated that this smart incentive changed their business performance. The other 37% said the innovation fund helped them to engage in new market segments. This confirms...
the capability of the innovation fund as a smart incentive to improve the business performance and business environment around entrepreneurs who are, in this instance, fabricators.

**Question 5: How has your participation in the Innovation Fair helped shaped your fabricated style or quality?**

82% of the surveyed fabricators claimed that participating in the Innovation Fairs positively changed the style and quality of their innovation. The result shows that the innovation fund helped fabricators to be more creative and that increased their learning for their business.

**Question 6: What do you think about participation of women in the Innovation Fair adds?**

All the respondents reported positively about participation of women in the technology or Innovation Fairs. 76% of the respondents claimed the participation of women agro-processors at the fairs is good for their businesses.
**Question 7: In your opinion what do you think this Innovation Fair adds to your community?**

In gauging the respondent’s perception on what the Innovation Fair adds to their communities, 80% claimed the Innovation Fair has promoted a culture of creativity and hard work within their communities. 20% also claimed their Innovation Fair promotes businesses. Only 2 responses noted that the innovation fairs reduces women’s drudgery in agro-processing.

![Bar chart showing responses to what the Innovation Fair adds to the community.](chart.png)

**What the Innovation Fair Adds to Your Community**

- Promotes creative culture
- Promotes businesses
- Promotes hard work and confidence among youth
- Reduces drudgery in agro-processing
ANNEX 3: QUALITATIVE DATA SUMMARY

Focus Group Discussions with Women Client participants at Innovation Fairs in 4 LGAs

1. Experience and expectations for the technology and Innovation Fairs

All of the women respondents in the FGDs had something to say about the technology and innovations fairs (n=34). Most of the women respondents had something positive to say about their experience at these public events and the responses can be categories into five areas.

64% or responses focused on types of technology and the design elements or quality of that product. Mainly when mentioning a type of technology women commented on the design elements they would like to see.

8% of the responses focused on the learning aspect of the technology fairs and the new information the technology fair provided to them and which they could share with family and peers.

6% of the responses focused mainly on the affordability of technologies for their level of processing in their business. Some mentioned using the equipment for their own business and as part of income generating, renting it to others.

24% of the respondent comments were highlighting the price discount they received from MEDA or their lack of preparedness for the technology at the fair (i.e. did not know it was occurring or having savings to purchase).

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10 Technology fairs are a subset of Innovation Fairs where women clients are given a paper voucher which is a coupon offering a discount for purchase of the technology from the vendor. Innovations fairs are a public event where clients are invited (and others can come) to view technologies that are displayed by fabricators. The fabricators are evaluated by a committee on the basis of detailed criteria as to the effectiveness of their innovation.
<table>
<thead>
<tr>
<th>Experience</th>
<th>% Age</th>
<th>Quote</th>
</tr>
</thead>
</table>
| Design of technology and changes suggested      | 64%   | “Aside the price, even if you can afford it, the parboiling machine is too big, you will not have space to keep it.”  
“We saw parboiling machine that does not need firewood and smoke will not disturb you, you will your neatly and even wear fine clothes.”  
“We also saw groundnut shelling machine, all you need do is pour your groundnut into it and it removes the pods.” |
| Other                                           | 24%   | “The fair is something new and we came unprepared to buy anything, I refused buying anything, however I was encouraged to buy which I did but kept it in my room without using it, at the long run I gave it to my sister who got married and she is enjoying it.”  
“I wasn’t aware and so I did not attend, however, I expect that I have some money with me any time a fair is organized so that I will pay some percentage while MEDA pays the rest.” |
| Affordability of technologies                   | 6%    | “They promised to bring qualitative technologies with no faults, however despite paying 35,000 naira, I had to further spend on repairs but the one I bought from the previous fair is more qualitative and still works fine.” |
| Learning and new information                    | 8%    | “Women told their husbands and sons about the tillers and they were bought, people almost fought just to have the tiller.” |
| Access to finance                               | 3%    | “Bankers were at the fair also, they advertise loan taking that you will pay in instalments.” |

2. Purchase of Technologies from Fair – In the focus groups, one locale, Bauchi LGA, indicated they had not purchased any technologies although they had wanted to purchase while 3 of the locales had purchased technologies from the fair. (market linkage)

3. Fabricator Claims of Technology at Fair – Only 3 of the locales had purchased technology at the fair and 2 of the three indicated that yes, the claims of the fabricator were well met while one group said no. (quality and follow on service – service related – women are demanding customers)

4. All of the FGD participants agreed that the technologies at the fair were tailored to their agro-processing needs. (gender responsive – helping fabricators to understand the market segment here women are in the three value chains)
5. All of the FGD participants agreed that they could operate the technologies and highlighted that training was also important. (market segment)

6. In terms of affordability there were 16 comments from respondents. 19% of responses suggested that the technologies were expensive and that they were not prepared with adequate cash to purchase. 81% of the respondents noted that prices of technology are rising and some gave suggestions about reducing size of some of the technologies (design elements) that would make them more workable (and affordable) for businesswomen.

7. The women respondents felt that their participation had improved the fair making it more progressive. Some mentioned that the improvement was related to effecting market linkages

8. The respondents felt that yes, they were able to express their needs including and importantly design elements of technologies (i.e. size of rice par boiler, groundnut milling machine) and channeling their complaints about machines and the quality back to fabricators.

9. Out of the 7 responses to the question of whether the fabricators consider your contributions at the fair half said no and half said yes. It was evident from their responses that market linkages were made but fabricators are not responding in full to women's comments and suggestions on design and on their needs. (sustainability aspects of a gendered approach – Federal Polytechnic – diffusion of innovations)

“Even if they do not consider our contributions, they (fabricators) are trying”

“Yes, the fabricators do listen to our complaints but they haven’t repaired the spoilt machines.”
Women agro-processors inspecting technologies at a Technology fair at Jama’are
Offices in Canada, the United States and around the world. Visit our website for a complete list.

1-800-665-7026
www.meda.org
meda@meda.org

Creating business solutions to poverty

Photo: Ukasha Safwan, a fabricator displaying his groundnut decorticulator and a planter at an innovation fair in Bauchi