



Foundation

White Paper

Breaking Barriers, Building Futures: Empowering Female Entrepreneurs in the Global South

20
23



In cooperation with:



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We wish all the entrepreneurs **all the best** for your journey ahead!

Monika Lessl,

Executive Director Bayer Foundation

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We extend our heartfelt appreciation to all applicants who participated in the Bayer Foundation Women Empowerment Award 2023. Your dedication to your respective cause, valuable insights and willingness to openly share your experiences played a pivotal role in the study's success. You are the true trailblazers, empowering and inspiring other women to be the driving force behind positive development in their communities.

Executive Summary

The purpose of this research is to discover the needs of and challenges faced by female entrepreneurs in the Global South, identifying strategic areas in which supporting organizations can provide more timely and effective support.

The Bayer Foundation Women Empowerment Award is designed to reward female entrepreneurs as role models and help them to scale their businesses. Previously the geographic scope was only in sub-Saharan Africa. This year's award scope was extended to the entire Global South, enabling us to support five award recipients per region. In total, the award provided **15 outstanding female entrepreneurs** with the tools and resources they need to amplify their innovations and drive social change through their innovative health, nutrition and agricultural solutions.

The research findings were obtained through a survey of nearly one thousand applicants for the 2023 award located across the Global South. The survey included a combination of open-ended and multiple-choice questions, providing data in both a structured and narrative format.

Based on the data gathered, the subsequent analysis was organized into two sections.

Firstly, the structured background information was used to generate a comprehensive profile of the applicants, including their countries of origin, impact areas, needs and wishes, business models, and technologies.

Secondly, we conducted an in-depth analysis of the free-form text responses, aiming to extract narratives that shed light on the challenges faced by applicants, their motivations for applying, the impact they had achieved, and the support they required. We employed natural language processing techniques, including understanding and generation methods, to analyze and categorize these narratives. By identifying semantic similarities among responses, we were able to uncover recurring themes within the dataset. Additionally, we examined the narratives related to the challenges confronted by female entrepreneurs, employing multidimensional scaling techniques to explore the interrelationships between different challenges.

In the context of this award, the term “Global South” encompasses a wide range of low- and middle-income countries in Asia, Latin America and Africa.

Our analyses of this year's responses provided us with three key insights:

1. The predominant challenge encountered by female entrepreneurs is gender-based discrimination

Unlike in the previous year, when the main challenge was by far financial constraints, this year's applicants struggle most with gender-based discrimination. This difference compared with our 2022 report might be due to the extended scope of our award to cover Asia and Latin America, where gender-based discrimination could be perceived more challenging than in Africa. It is the number one challenge across the three regions, hindering business development and leaving female entrepreneurs at a disadvantage.

2. The key to solving the challenges faced by female entrepreneurs is supporting business development

The obstacles faced by the applicants are also reflected in their motivation for applying for the award. A large number of applicants expressed how being a female entrepreneur exacerbates many of the difficulties experienced by entrepreneurs in general. The research revealed that the primary motivation of the applicants across the Global South was the attractive prospect of business development support and training; this was followed by the opportunities for networking, mentorship, and collaboration offered to successful participants.



3. Regional differences need to be factored into support system design

Our analyses showed clear regional differences, highlighting the importance of taking into account regional cultural context. For example, financial constraints are considered to be a much more significant challenge in Africa than in Asia Pacific and Latin America. It was also apparent that Latin American applicants have a smaller need for mentorship compared with the other regions. However, they expressed a higher need for support in the areas of visibility, recognition and credibility. These insights of regional differences need to be integrated by supporting organizations – including educational institutions, foundations, accelerators, incubators, other funders and governments – to design efficient and successful programs for social entrepreneurs.

In conclusion, the research provides valuable guidance on the creation of effective support systems tailored to the unique challenges faced by female entrepreneurs in their respective regions. Our findings show that applicants are best supported by strengthening the business development curriculum,

establishing a community program for both new and past award recipients, and cultivating networking opportunities. These support systems play a crucial role in empowering women as leaders in the business world and fostering innovation on a larger scale.



Introduction

The Global South faces several challenges, including climate change, global food and energy crises, as well as the added burdens of slow post-pandemic economic recovery and rising inflation.¹

The severity of current global risks is reflected in the United Nations' 2030 Agenda for Sustainable Development, which sets a deadline for the alignment of global living conditions. This year's Sustainable Development Goals Report made it clearer than ever: At the current rate of progress, the goals will not be achieved on time. We need to change.² The eradication of poverty and addressing other forms of deprivation is closely intertwined with approaches aimed at enhancing healthcare and education, diminishing disparities, and stimulating economic development.³

This aligns with Bayer Foundation's vision – to catalyze advances in science and social innovation for a world with “Health for all” and “Hunger for none”, by supporting people who can shape a better and fairer tomorrow and enabling them to unlock their full potential.⁴ For this reason, we established an award in 2021 for members of society who are frequently deprived, but often have great hidden potential – **female entrepreneurs**.

Source: ¹ <https://unctad.org/news/south-south-cooperation-offers-solutions-solidarity-global-challenges>
² <https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf>
³ <https://sdgs.un.org/goals>
⁴ <https://www.bayer-foundation.com/about>



Female entrepreneurs play a crucial role in tackling global challenges through entrepreneurship and innovation. In developing countries, female entrepreneurship is on the rise, with approximately 8 to 10 million small and medium-sized enterprises having at least one female owner.⁵ Achieving gender employment equality can boost long-term GDP per capita by nearly 20%⁶, promoting resource, funding accessibility and market equality for all.⁷ Furthermore, it is proven that women in leadership roles contribute to sustainability, efficient resource management, and climate resilience⁸ – essential factors in mitigating global risks. While women in advanced economies are likely to start businesses to take advantage of opportunities, those in developing nations are often motivated by necessity due to local circumstances.⁹ These women are catalysts for change and supporting them is crucial to achieving a brighter future for all.

Yet, despite their determination to fight poverty and drive development in their regions, female entrepreneurs face substantial societal and financial barriers. For example, more than one billion women in developing economies lack basic bank access, and 40% of countries impose gender-based property ownership restrictions. As a result, women-led businesses often rely on personal savings or spousal support for financial stability.¹⁰ According to research conducted by Boston Consulting Group in 2018,¹¹ when it comes to the efficiency of converting investment into revenue, startups led or co-led by women prove to be more financially sound. Female entrepreneurs generated 78 cents for every dollar of funding, surpassing their male counterparts, who generated just 31 cents. This clearly indicates that the economic outcomes of female-led startups can be improved significantly if the founders receive targeted business support.

Bayer Foundation's Women Empowerment Award was conceived with the intention of rewarding female entrepreneurs as role models and helping them to scale their businesses to drive regional and global development.

The award comprises a cash prize of EUR 25,000 as well as non-financial support, including networking opportunities, participation in events and an empowerment program, to accelerate the growth and influence of female-led businesses.

Source: ⁵ <https://www.worldbank.org/en/topic/gender/publication/female-entrepreneurship-resource-point-introduction-and-module-1-why-gender-matters>

⁶ Steven Michael Pennings, A Gender Employment Gap Index (GEGI): A Simple Measure of the Economic Gains from Closing Gender Employment Gaps, with an Application to the Pacific Islands (Washington DC: World Bank, 2022).

⁷ Jay E. Lee, Marriage and Misallocation: Evidence from 70 Years of U.S. History (London: LSE Department of Economics, 2021), https://jayejungle.github.io/website/jay_paper.pdf

⁸ International Labour Organization, "Gender Equality and Green Jobs" [Policy Brief], 2015, https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_360572.pdf

⁹ Candida G. Brush and Sarah Y. Cooper, Female entrepreneurship and economic development: An international perspective, *Entrepreneurship & Regional Development*, 2, 1-2 (2021).

¹⁰ <https://www.credit-suisse.com/about-us/news/en/articles/news-and-expertise/entrepreneurial-gender-gap-funding-is-still-a-struggle-202201.html>

¹¹ <https://www.bcg.com/publications/2018/why-women-owned-startups-are-better-bet>

Female entrepreneurs we have supported in past years not only enhanced their business performance and expanded their businesses, but also allocated time and resources to personal development and expanding their networks. The winners' innovations have brought great advances to their operating regions, especially in the realms of agriculture and healthcare.

Receiving the award has raised awareness and opened up fresh prospects for numerous recipients, particularly in the form of expanded networks and additional funding for their businesses. Examples of such opportunities include admission to the Google for Startups Growth Academy:

AI for Health¹², funding through the Catalyst Fund¹³ and partnerships with businesses in their respective networks. Widening the applicant pool to the entire Global South greatly enriched the research insights gathered, providing varied perspectives on female entrepreneurs' needs and motivations as well as the challenges they face in different regions. Obtaining these insights is vital for Bayer Foundation to adapt our support system best suited to the recipients.

Building on the successes of previous applicants, broadening the scope of the award to cover the entire Global South resulted in 948 applications in just two months in 2023. A panel of senior Bayer business executives and external advisors selected five winners from each of the three regions of Asia Pacific, Latin America, Africa and Middle East. All were chosen for their innovation, solid business model and their commitment to their community.

Women striving to make their way in the business world need support – we not only listen to their needs, but provide tailored support to accelerate their impact and business growth.

This white paper is divided into three parts. Firstly, we elaborate on the methodology used in our research. The second part outlines the research findings and is split into an analysis of the applicant profiles and a narrative analysis of the open-ended questions using an AI-based natural language processing algorithm. The third and final part discusses the insights, deriving assumptions on the best way to provide support to the female entrepreneurs and outlining a vision of how the research will be carried forward.

Source: ¹² <https://startup.google.com/programs/growth-academy/ai-for-health/emea/>
¹³ <https://www.thecatalystfund.com/>



Participating in the Bayer Foundation Women Empowerment Award 2022 opened up new opportunities for Zuri Health. We formed partnerships with **pharmaceutical and telecommunication companies**, expanded to new countries and increased our revenue to \$1.5 million.

The program also provided a **supportive community of female entrepreneurs**, and we plan to enter 20 new markets by year-end. We are grateful for the support of this empowering community of women, which played a crucial role in our success.

Daisy Isiaho, CEO and co-founder of Zuri Health

Methodology

The Bayer Foundation Women Empowerment Award 2023 received a total of 948 submissions, double the previous year's figure. One applicant was excluded from the analysis because of the male identification and the responses of 15 applicants who failed to answer all five open-ended analysis questions were discarded. Additionally, one duplicate entry from an applicant was removed from the analysis. The remaining 931 applicant responses formed the basis for the analysis.

Both structured information (such as headquarter country and number of employees) and narrative-form text responses (such as challenges and motivations) were used in the analysis.

The structured background information was employed to generate a comprehensive profile of the applicants, including their countries of origin, impact areas, needs and wishes, sector focus, business models and technologies.

The free-form text responses to the five open-ended questions in the questionnaire were analyzed to identify narratives concerning challenges overcome, impact achieved, motivations for applying, challenges faced, and support needed.

Narrative questions

“What are the main challenges your company is solving?”

“How much impact have you already made and how do you measure it?”

“What is your motivation for participating in the Bayer Foundation Women Empowerment Award?”

“What are the main challenges or barriers you have faced as a female entrepreneur?”

“Beyond financial support, what other elements can we offer you to help you address these barriers?”

Natural language processing, understanding and generation techniques were used for the narrative analysis of the open-ended questions. This method clustered responses based on the semantic similarity of their content, leading to the emergence of recurring narratives. Each narrative was quantified in terms of the share of applicants expressing it, enabling us to draw conclusions on the importance of certain factors.

The percentage of these narratives expressed indicates how frequently a particular topic was mentioned by the female entrepreneurs. For instance, we examined the question: “What are the main challenges your company is solving?” To visualize the applicants’ responses, we created several different chart types (e.g., bar charts). These charts were designed to show both

individual mentions of smaller narratives, such as the challenges of not being seen or taken seriously as a female entrepreneur, and overall narrative themes, including gender-based challenges.

In addition, the narratives regarding the challenges faced by female entrepreneurs were examined using multidimensional scaling, which helped to organize data based on similarity. This method was used to understand the relationship between different challenges. In the resulting two-dimensional charts, the distance of the obstacles indicates the frequency of mentions by the applicants.

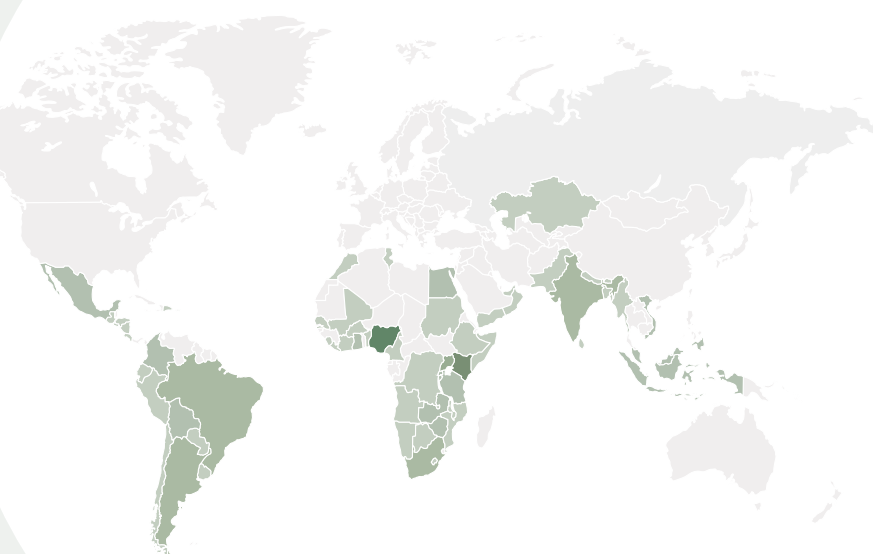


Results

Profile Analysis:

The application process for the Bayer Foundation Women Empowerment Award 2023 included several multiple-choice questions to gather background information on the applicants and their businesses

Geographical footprint



(Figure 1)

Number of applicants

1 170

Country	Number of applicants	Share of applicants (%)
Nigeria	170	18.3
Kenya	114	12.2
India	75	8.1
Uganda	58	6.2
South Africa	46	4.9
Brazil	45	4.8
Argentina	41	4.4
Mexico	32	3.4
Ghana	27	2.9
Tanzania	24	2.6
Rwanda	23	2.5
Colombia	23	2.5
Cameroon	18	1.9
Bolivia	18	1.9
Pakistan	17	1.8
Zambia	15	1.6
Indonesia	14	1.5
Zimbabwe	12	1.3
Egypt	12	1.3
Costa Rica	11	1.2
Malawi	10	1.1
Peru	9	1.0
Chile	9	1.0
Others	108	11.6
Total	931	100

(Table 1: Geographical distribution of applicants)

The insights provided us with information on their geographical distribution, the market areas in which the female entrepreneurs are active, the technologies integrated into their businesses, the business models they employ, and the level of market readiness displayed by the businesses.

For this year's award, applications were extended to cover the Global South. Despite being open to the entire Global South, the majority of applications (64%) came from Africa, the focus region in previous years. Latin American applicants constituted 22% of the total, while Asia Pacific represented the smallest proportion of 14% (Figure 2). Consistent with the previous year, Nigeria remained the most well-represented country, accounting for 18.3%

of the applicants, followed by Kenya, India, Uganda and South Africa (Table 1). When examining female entrepreneurship on a global scale, Nigeria's prominent position is evident, especially when considering its population size. Among South American countries, Brazil and Argentina ranked sixth and seventh in terms of application numbers.

What region do our applicants come from?

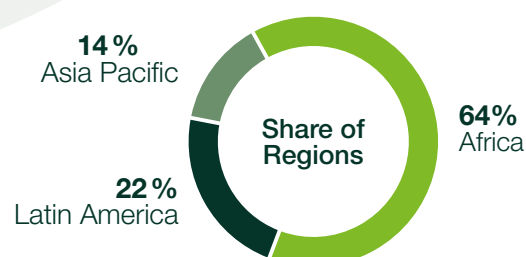


Figure 2: Regional distribution of applicants

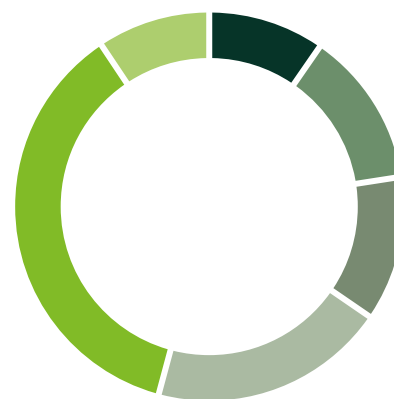
Markets and Technologies

Healthcare and agriculture emerged as the predominant markets in which our applicants operate, closely followed by food & beverage, social communities and education. This distribution tracks with the challenges for low- and middle-income countries, which we described earlier. It is important to note that some applicants are engaged in more than one of the markets shown. When considering regional differences in market engagement, Asia Pacific and Africa are particularly active in the healthcare and agriculture sectors. Female entrepreneurs in Latin America demonstrate a focus on the healthcare and food & beverage markets (Figure 3).

The results indicate a diverse distribution of business stages among the applicants. As shown in Figure 4, 36% of the businesses have reached the revenue stage, while 20% are positioned in the pre-revenue phase. The seed stage is occupied by 13% of the applicants, closely followed by the development stage. Additionally, 10% have already progressed to the expansion stage, while 9% are still at the idea stage – the earliest stage of business development.

Most of the applicants' businesses serve three countries or fewer (85%). Only a small number of businesses cater to four to ten countries, or even more.

What company stage are the applicants' businesses at?



■ Idea stage	9 %
■ Seed stage	13 %
■ Development stage	12 %
■ Pre-revenue stage	20 %
■ Revenue stage	36 %
■ Expansion stage	10 %

Figure 4: Applicants' businesses by company stage

How many applicants from each region are engaged in the top five markets?

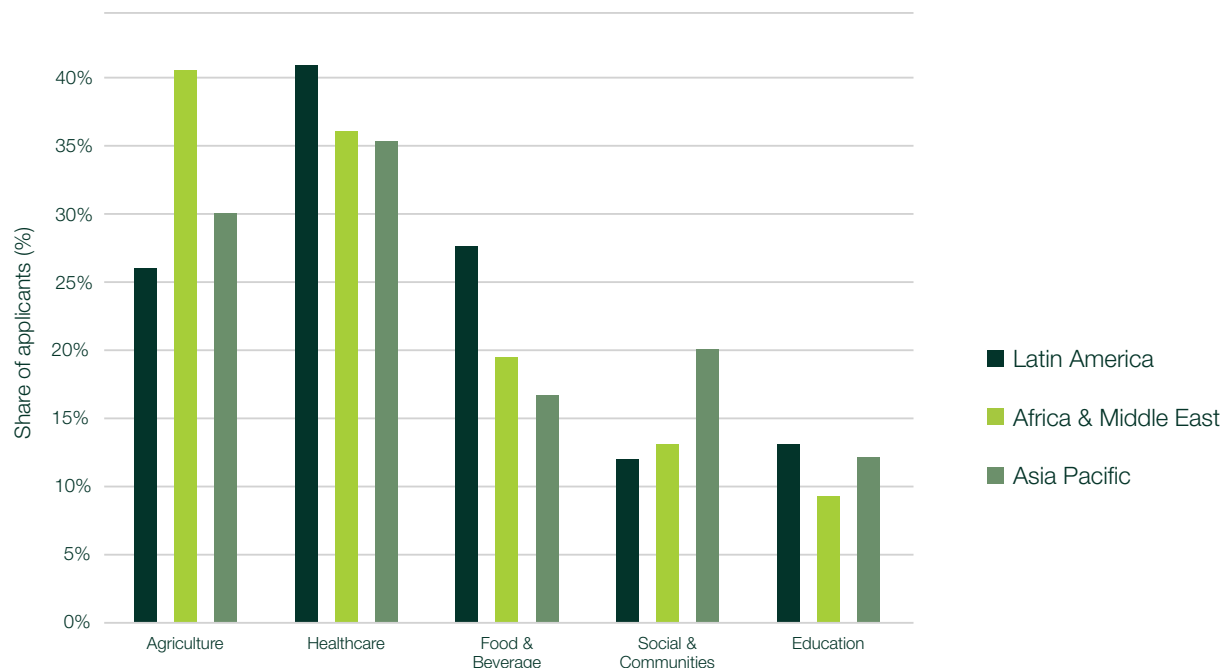


Figure 3: Market distribution of applicants' businesses in the top 5 markets

Our analysis revealed that the applicants employ different technologies within their businesses, with digital health emerging as the top choice for 22% of the respondents (Figure 5). Following closely behind are the technological categories of platforms, marketplaces and dashboards, waste management, artificial intelligence, and machine

learning as well as biotechnology. Digital health technologies and platforms are particularly prominent in Africa. In the Asia Pacific region, the dominant technology in use is artificial intelligence and machine learning, while Latin America takes a clear lead in the use of biotechnology (Figure 6).

Which technologies do they use?

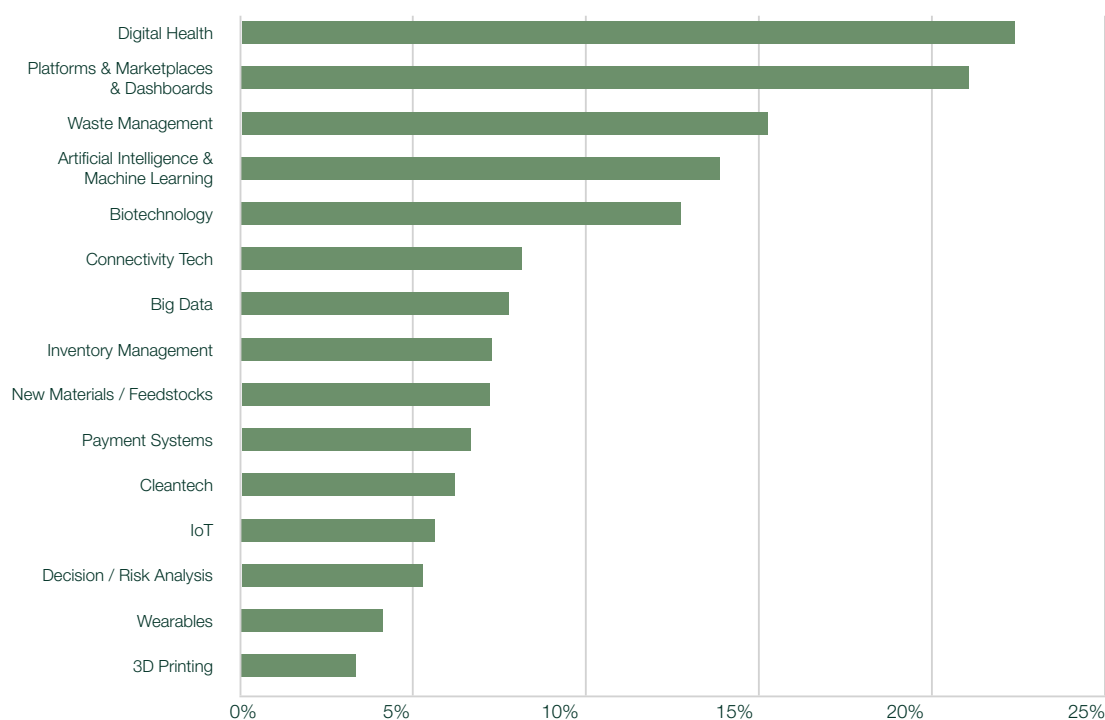


Figure 5: Technologies used by the applicants' businesses

How many applicants in each region use the top five technologies?

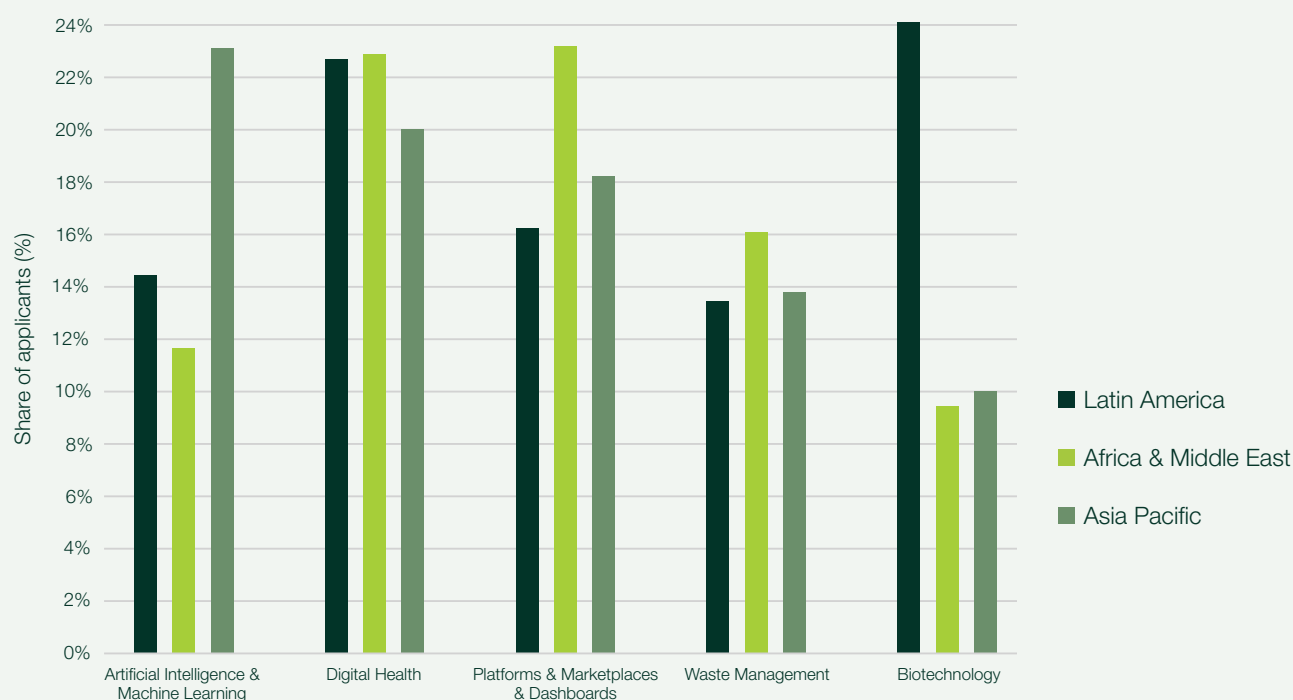


Figure 6: Share of applicants' businesses using the top 5 technologies



Business Models

The question on business models was presented in multiple-choice format. The findings are presented as the percentage of votes, rather than as a percentage of all candidates. As seen in the previous year, both business-to-consumer (B2C) and business-to-business (B2B) models took the lead (Figure 7), accounting for 51% and 45% respectively. They were followed by more

specialized business models, such as manufacturing (21%), subscription models (14%) and marketplace models (11%). Importantly, it should be noted that some applicants use multiple business models, since manufacturing, for example, can be conducted B2C and B2B.

Share of Applicants Applying Different Business Models

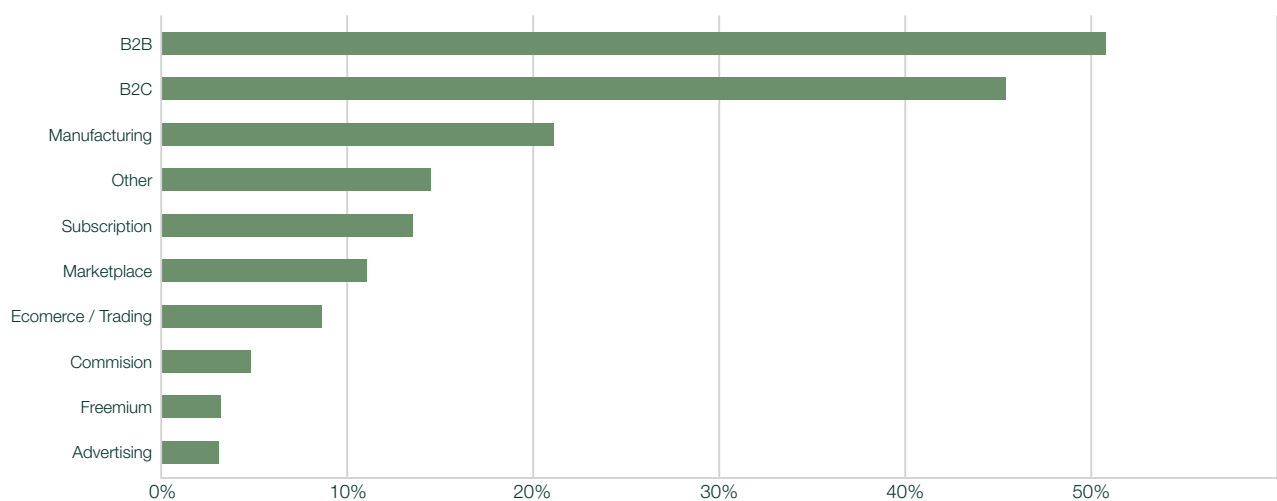


Figure 7: Business models applied by the applicants

Results

Narrative Analysis:

The award application process included five open-ended questions. These questions aimed to explore the challenges the applicants face within

their company and as a female entrepreneur, the impact they have made, their motivation for applying to the award and the support they require.

What are the main challenges your company is solving?

Supporting smallholder farmers and enhancing agricultural production was the challenge most applicants indicated that their companies are solving, with 22% of the respondents mentioning it. However, when categorizing the different challenges into distinct themes, the main theme that emerged was healthcare access, quality and health awareness. This encompassed elements such as improving access to environmentally friendly menstrual hygiene products and producing natural medicine for ailments. The second most prevalent theme revolved around poverty alleviation and development, addressing issues like creating local employment opportunities and enhancing the affordability and accessibility of nutrition and health products. The third most frequently mentioned theme was sustainable agriculture and food production, which includes initiatives such as the promotion of hydroponic systems and support for smallholder farmers.

Our research also identified other significant challenge areas being solved, including food security and nutrition, environmental conservation and pollution reduction, gender equality and empowerment, as well as business-related challenges.

When examining the various regions involved in our research, distinct differences between the main challenges of each region emerged. In the Asia Pacific region, the predominant challenge concerned addressing poverty alleviation and supporting development. Moving over to Africa, the primary focus areas frequently centered on improving healthcare access, enhancing healthcare quality and awareness, and promoting sustainable practices in agriculture, food production, and food security. Meanwhile, in Latin America, the prevailing challenges related to the themes of healthcare access, poverty alleviation, and food security.

Regional comparison of themes in challenges solved

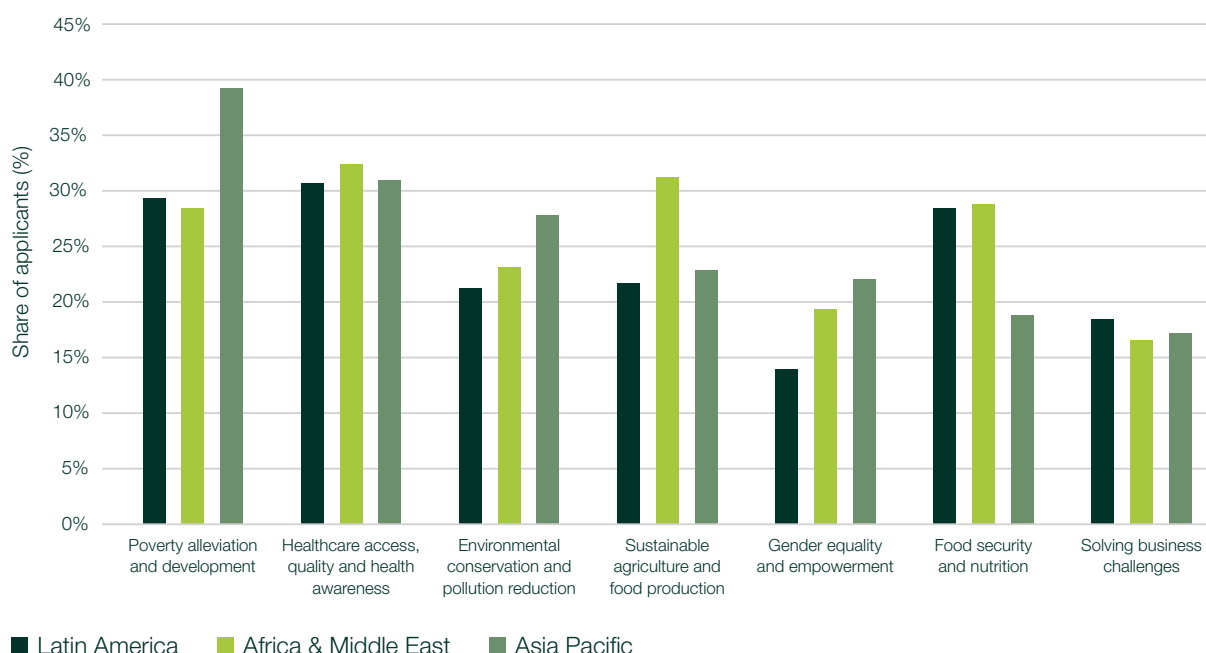


Figure 8: Regional comparison of themes in challenges solved by applicants

Along which dimensions have you made an impact?

The impact the female entrepreneurs have on their operating regions is remarkable. The area of impact most frequently mentioned related to supporting farmers and improving agricultural production.

The improvement of healthcare services, accounting for 37% of mentions, was the most frequently cited impact area when clustering the impact areas thematically. This was closely followed by the theme of enhancing community well-being and social impact, which includes contributing to child welfare and the creation of income-generating opportunities for households. Other notable impact themes included support for farmers and agricultural initiatives, the promotion of sustainability and environmental practices, the empowerment of women with opportunities, the stimulation of business growth and economic development, and, finally, the provision of education

and training services. Five percent of applicants said that they have yet to make an impact in their respective regions.



We are working to offer skills for the emotional and economic independence of our women, through new knowledge that allows them **to improve their livelihoods, their diet and that of their family as well as their future.** This is a process that cannot and should not be done individually. That is why we work on different axes to improve their capacities in an integral way.

An applicant from Colombia, Latin America

Examined from a regional perspective, improving healthcare services was the dominant impact area. It should be noted that applicants from the Asia Pacific region have made a significant impact in the area of empowering women and providing them with opportunities. At the same time, supporting farmers and improving agricultural production seems to be less significant in the Latin America region than in Asia Pacific and Africa. Promoting business growth and economic development is an area impacted more by applicants from the Asia Pacific region and Latin America than those from Africa.



... we have taught our technique and have **trained 308 women** from coastal communities, **benefiting 1040 families** in Honduras and Costa Rica. 20,800 pounds of fish skin have been transformed. **Income has increased by 38%** in coastal community cooperatives. We create positive change through transformation, producing a **synergy of inclusive economic growth and environmental action**.

An applicant from Honduras, Latin America

Regional comparison of themes in areas of impact

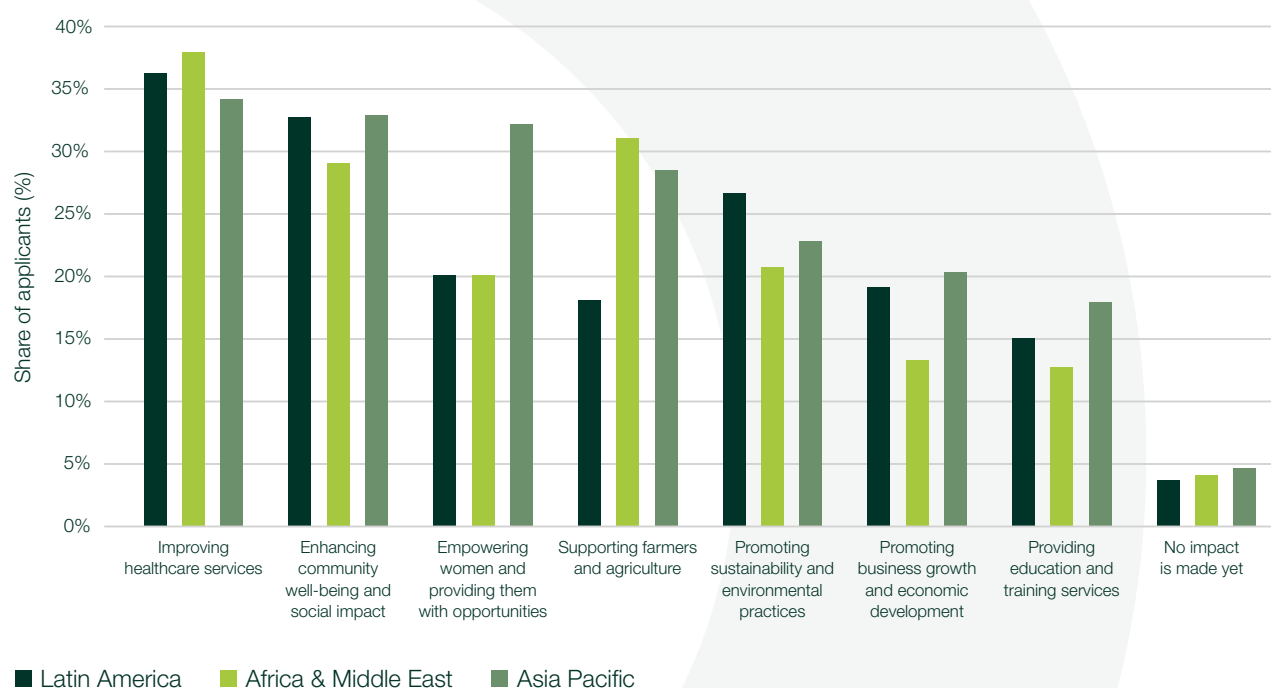


Figure 9: Regional comparison of themes in areas of impact of applicants

What is your motivation for participating in the Bayer Foundation Women Empowerment Award?

As we have applicants from many different regions and backgrounds, they naturally also cited different motivations for applying for the award. When categorizing these motivations into themes, one stood out prominently, with 60% of applicants highlighting it as their main motivation: the opportunity for business growth and support. Several other significant themes also emerged as strong motivating factors. These included global collaboration and networking, the desire to create a meaningful social impact and contribute to community support as well as a commitment to women's empowerment and gender equality. (Figure 10) Surprisingly, financial support, while essential, ranked lower among motivations, with overall 19% of applicants citing it as a driving force behind their application. Closely behind were motivations related to healthcare access and environmental conservation. Looking at the different motivations for participating in the Bayer Foundation Women Empowerment Award on a regional level, business growth and support was the most dominant theme in all regions. But again, there were some specific regional characteristics. For example, the networking aspect was especially important for Asian entrepreneurs, while gender equality, healthcare access and quality as well as environmental conservation were of less importance for African entrepreneurs compared

with the other regions. On the other hand, receiving financial support was of much higher relevance in Africa than in Latin America or Asia.

Regional comparison of themes in applicant motivations

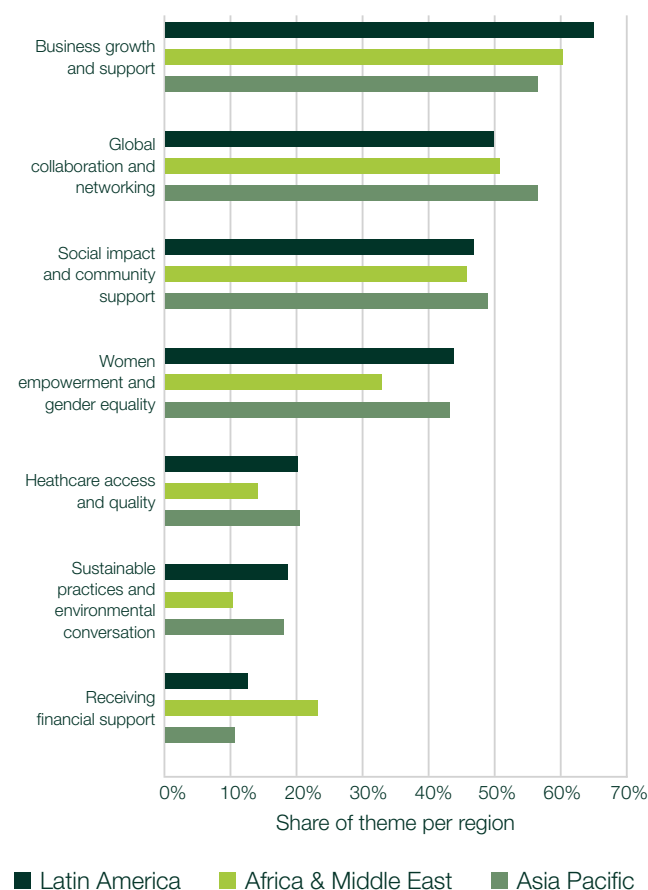


Figure 10: Regional comparison of themes in applicant motivations



I want to be able to **learn more ways we can grow the business** to a scalable point. **Interacting with women** in the same space and **exchanging ideas** will open us up to picking key lessons that will expand our boundaries. I am optimistic about the impact we will make, and the prize will enable us to get into **more towns in Kenya and beyond**.

An applicant from Kenya, Africa

What are the main challenges or barriers you have faced as a female entrepreneur?

Our applicants face a variety of internal, external, material and financial as well as cultural and social challenges. Our research showed that the most common challenges faced by the female entrepreneurs relate to **gender-based discrimination**. Struggling with gender-based challenges, such as gender bias in fundraising or physical and verbal harassment, was mentioned by 66% of applicants. At the same time, applicants also expressed that they experience similar challenges to those faced by entrepreneurs in general. The second most prevalent type of challenge, mentioned by 40% of our female entrepreneurs, pertained to **financial constraints**. These challenges are closely intertwined with factors such as a lack of financial resources, limited access to loans and the consequent inability to grow business.

Additional barriers highlighted by our applicants included difficulties in scaling their businesses and navigating the terrain of business development, work-life balance struggles, limited access to essential resources and the complexities of operating in challenging environments, such as in the post-COVID-19 landscape and conflict zones.

Regardless of the applicants' geographic origin, gender-based discrimination consistently emerged as the main challenge confronting female entrepreneurs. However, this issue seems to be less pronounced in Africa. In line with the above-mentioned theme of financial support as a motivation in Africa, these entrepreneurs also considered financial constraints much more of a challenge than those in the Asia Pacific or Latin America regions.

Regional comparison of themes in challenges faced

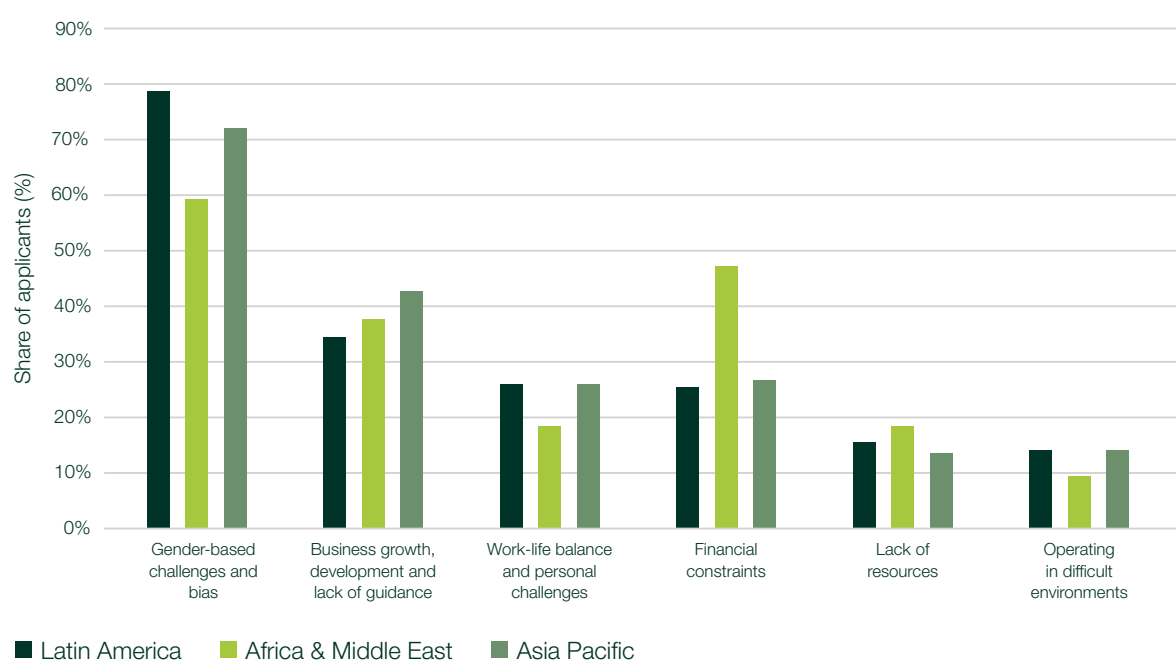


Figure 11: Regional comparison of themes in challenges faced

The relationships between the barriers mentioned by the applicants were examined using multi-dimensional scaling. In the resulting two-dimensional charts (Figure 12 and 13), barriers that are frequently mentioned together in a single response appear close to each other. The sizes of the bubbles represent the share of applicants expressing the respective challenge. Along the axes of internal or external obstacles and material and cultural obstacles, the previously stated challenge themes are reflected.

Overall, we identified three clusters among the responses given. One of the main obstacles to business growth, mentioned by 68.7% of the applicants, related to gender-based challenges and bias in a multitude of situations. These challenges could either be internal in nature, for example balancing work and family life, or external, for example physical and verbal harassment or male-dominated industries. Mentioned by 61.8% of applicants, resource constraints still pose a major challenge for many female entrepreneurs. The theme

of resource constraints, including a lack of funds, lack of mentoring or limited chances for networking, represents a significant challenge that is based on hard, material limitations on the internal enterprise growth. The third cluster comprises challenges related to working in an uncertain and unsupportive institutional environment, which is indicative of systemic or macroeconomic shortcomings, such as the slow recovery from COVID-19 and poor institutional guidance and support. Such obstacles were encountered by 25.8% of all applicants.



One of the most significant challenges we're facing as a startup and as female entrepreneurs is a **lack of funding**. The most significant or vital component of launching a business is **finding investors**, and not everyone is fortunate enough to locate investors.

An applicant from Morocco, Africa

Multidimensional scaling showing the relation between challenges

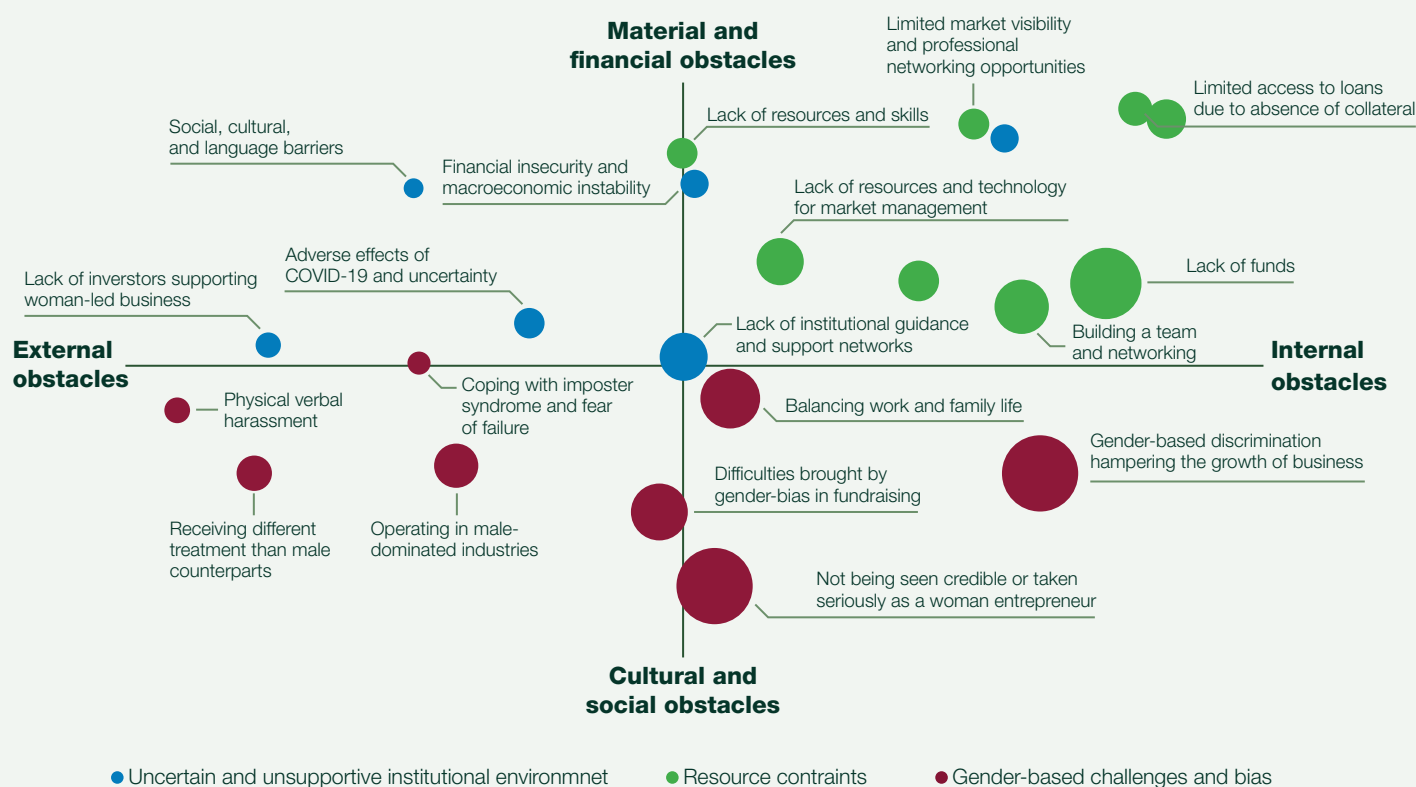


Figure 12: The relationship between the applicants' challenges displayed using multidimensional scaling



Multidimensional scaling showing the relation between challenges

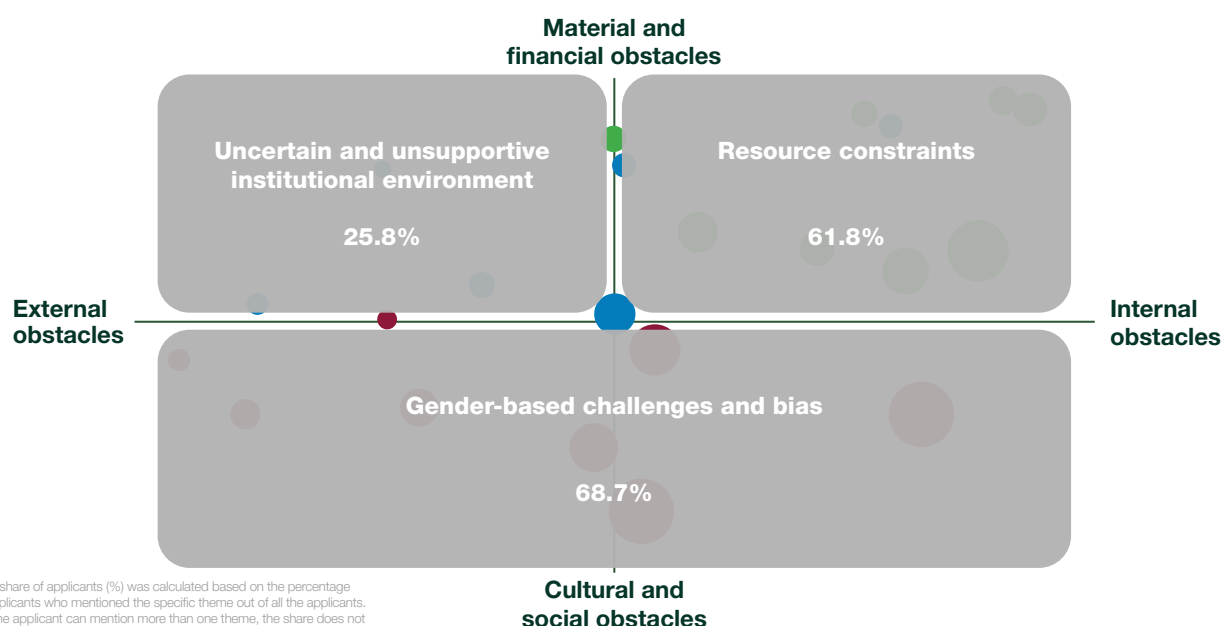


Figure 13: The relationship between the applicants' challenges displayed using multidimensional scaling

Beyond financial support, what other elements can we offer you to help you overcome these barriers?

The purpose of this question was to help pinpoint the most appropriate support system Bayer Foundation could offer the award recipients and keep refining its accelerator program. As a singly mentioned item, the importance of access to mentorship and networking opportunities was emphasized by 39% of applicants, positioning these aspects as the primary support needs beyond financial support. When clustering the

areas of support mentioned into broader themes, it became apparent that the most dominant theme centered on business development and skills enhancement. Mentorship, networking and partnership opportunities closely followed as other key pillars of support. Applicants also mentioned need for support in areas such as gaining access to resources, securing visibility and recognition as well as actively advancing gender equality and raising awareness.

Regional comparison of themes in support needed

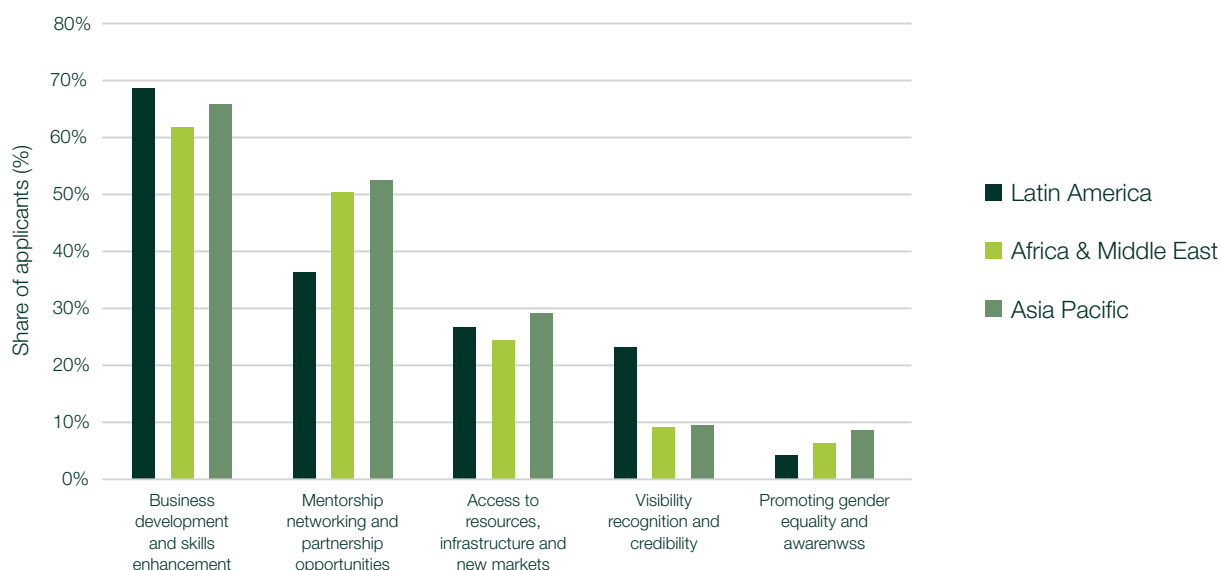


Figure 14: Regional comparison of themes in support needed by applicants

Naturally, as our applicants come from different regions, the needs of the female entrepreneurs slightly differed. However, across the board, business development and skills enhancement was the theme most frequently selected as requiring support in order to overcome the above-mentioned obstacles. In addition, Latin American female entrepreneurs, who had a smaller need for mentorship and networking than applicants from the other regions, expressed a greater need for support in the areas of visibility, recognition and credibility

– which were deemed less important in the Asia Pacific and Africa regions. The findings above shed light on our applicants' backgrounds and give deeper insights into the challenges solved by the applicants, the impact made, their motivation for applying, the challenges they face and the support they require. Based on these findings, below we consider the regional differences, discuss differences between this and the last year's findings and describe the implications of the research on the support we provide to recipients.



We would be very grateful if we **could receive training** and advice and accompaniment **on how to run a company globally** with the fair trade philosophy, which aims to cross borders, sharing with the world the sustainability and richness that many countries have (as Bolivia), and that is difficult to show.

An applicant from Bolivia, Latin America



Discussion

Gender discrimination and financial constraints are the dominant challenges for female entrepreneurs in the Global South.

The challenges faced by female entrepreneurs are diverse, ranging from gender-based discrimination to operating in difficult environments. The applicants expressed how being a female entrepreneur exacerbates many of the major difficulties experienced by entrepreneurial businesses in general. It is also possible that the personal issues mentioned by some candidates are the product of an environment where gender bias prevails.

Improving healthcare, reducing poverty, supporting agriculture and increasing food security are the major challenges being solved by applicants, as reflected in the search area for this award. Accordingly, most applicants reported having made an impact in the areas of healthcare, social well-being and agriculture.

While gender bias was the most common challenge overall, financial constraints were also a dominant challenge especially in Africa. Other aspects that set African applicants apart included the strong focus on sustainable agriculture, and a weaker focus than the other regions on tackling challenges related to business growth.

As previous years' awards focused on Africa, we can pick out some differences in the results within this specific region. In 2022, the main challenge for African applicants was a lack of funds, which was mentioned by 67% of the applicants, while in 2023 this factor declined to 48%. Gender-based challenges, which already played an important role in 2022, were of utmost importance to applicants in 2023. This indicates a possibly worsening environment for female entrepreneurs in terms of gender equality though the sample size are limited (around 500 each year) and the one year time span might be too short to draw the conclusion. The focus areas of applicants in both years were agricultural sustainability and food production and security. While the main impact areas of the applicants' businesses in 2022 were nutrition, training and increasing agricultural yields, applicants in 2023 were pursuing improvements in agriculture, the empowerment of women and generating income opportunities. Positive changes made in terms of environmental sustainability were only a significant feature in applicants' responses in 2023.

Applicants in Asia Pacific had a stronger focus on the topic of nutrition and healthcare than those from other regions. They were less likely than the others to mention financial constraints and lack of resources as challenges, instead emphasizing gender-based challenges and bias as well as challenges related to business growth and lack of guidance.

Both applicant groups from Africa were motivated by the opportunity to support other women: the 2022 group through raising awareness of female-led enterprises and the 2023 group by promoting gender equality.

Applicants in Latin America stood out for their emphasis on poverty alleviation as a challenge they tackle, with a smaller share of these entrepreneurs focused on agriculture, food security and nutritional challenges. A larger proportion of applicants in this region reported being motivated by empowering women and having made an impact in promoting gender equality than in the other regions. Whereas improving visibility and recognition was more important for applicants from Latin America, they were looking for networking and collaboration opportunities to a lesser extent than applicants from other regions.

Bayer Foundation seeks to support the recipients in these challenges by providing them with an appropriate support system with more than financial incentives. The matrix visualization in Figure 15 illustrates the correlation between the challenges encountered by applicants (displayed in columns) and the specific types of support they are seeking besides financial support (represented in rows). The size and color intensity of the bubbles

visualize the number of applicants who mentioned the corresponding themes, offering insights into the alignment between the challenges and support needs mentioned in the responses.

It is striking that, regardless of the challenge faced by the applicants, support was most in demand in the areas of business development and skills enhancement. Mentorship, networking and partnerships was the second most asked for support system across all challenges. Support with regard to promoting gender equality, or visibility and recognition seems to be of lesser importance than other factors. It is reassuring that, although a gender lens and taking into account regional needs and the local context are important when designing support mechanisms, business development should always be front and center for the female entrepreneurs. After all, having a successful business is crucial for long-term sustainable growth.

Regional comparison of themes in support needed



Figure 15: Alignment of challenges and support needed by applicants

The goal of the Bayer Foundation Women Empowerment Award is to empower female entrepreneurs to accelerate change in their respective home regions by providing them with an effective support system. Looking at the success stories of previous years, we can clearly identify the key elements for enabling more female entrepreneurs to experience similar successes. Considering their needs beyond financial support and acknowledging regional differences, we aim to tailor the support given to recipients of the Women Empowerment Award in the following ways:

- // Continuously **strengthening the business development curriculum**
- // **Establishing** a structured **community program** among new and previous award recipients
- // Conducting (virtual) **networking events**, including with local investors
- // **Providing more benefits** to the broader community beyond the finalists and winners, such **as a platform for exchange** among all applicants, including access to local investors

This research will lay the groundwork for the continuous improvement of our accelerator program, tailoring to the needs of female entrepreneurs with

a timely manner, benefiting current recipients and future applicants alike. The insights have equipped us with an understanding of other relevant information to be incorporated into the award accelerator program in 2024. Bayer Foundation aims to cross-check its results with relevant literature, reports and academic partners, to continuously improve its thought leadership in the area of supporting female entrepreneurship and attract like-minded partners to join force on providing more financial and non-financial support to female entrepreneurs.

On a broader scale, the insights from this research contribute to an understanding of trends in the socioeconomic context of the Global South. Through our efforts, we hope to increase all readers' awareness of the fact that women still face major challenges and gender-based discrimination when founding and growing their business. This might change the perception of female entrepreneurs and the unused potential they represent. Additionally, we aim to inspire further research and specific action to benefit female entrepreneurs in the Global South in the future. We are excited to witness the promising future of the Bayer Foundation Women Empowerment Award and are delighted to play a small but solid part in the success stories yet to be written and shared by female entrepreneurs.



The Awardees of the Bayer Foundation Women Empowerment Award 2023

Awardees Africa



Jocelyne Agbo
Farm On Wheels

Farm On Wheels is a social enterprise that works with smallholder rural farmers, enabling them to increase their production capacity, yield and income.



Madhvi Dalal
PadMad

PadMad is a social business based in Kenya, committed to improving Period Dignity through education, economic empowerment as well as manufacturing long-lasting, biodegradable and reusable products that have a positive and sustainable environmental and health impact.



Maryanne Gichanga
AgriTech Analytics

AgriTech Analytics integrates AI-powered satellite analytics driven by ML algorithms and data from our IoT sensor to halt and reverse soil degradation, crop pests and diseases to end hunger in Africa. The sensor directly captures soil health parameters (pH, moisture, temperature and NPK), and detects crop pests and diseases. For example, the device scans crops' leaves and stems, and our tool compares them to satellite imagery analytics. This integration gives more than 98% accurate reports to farmers via phone.



Christina Mawuse Gyisun
Sommalife

Sommalife is a growing social enterprise in Ghana that uses software technology to provide access to markets for smallholder farmers and enhance transparency in environmental conservation. As part of our operations, we provide rural women who make shea products with resources, so they can improve the quality and volume of their output to meet international standards. We have grown from 500 women producers to 21,000 producers across the five northern regions in Ghana.



June Muchuku
Plumbee Wholefoods Ltd

Plumbee is a Kenyan homegrown company that was officially registered in 2021, with a mission to tackle childhood malnutrition by providing high-quality, affordable and nutritious food products to low-income and underserved households. The company collaborates with smallholder women farmers in the processing of food for children.

The Awardees of the Bayer Foundation Women Empowerment Award 2023

Awardees Latin America



Elisa Violeta Bertini
Puna Bio

Puna Bio uses extremophiles – microorganisms sourced from La Puna, the highest and driest desert on Earth – to develop biological inputs for agriculture that increase yields, reduce carbon emissions and restore degraded soil.



Ingrid Briggiler
Nume

Nume supports women's health so they can achieve their maximum potential. It is the patients' virtual gynecologist.



Cristina Campero Peredo
PROSPERiA

PROSPERiA is a social impact spinoff from the MIT Media Lab, created to democratize access to healthcare in emerging markets through solutions based on artificial intelligence. Currently, we are focused on building a future where data and AI will allow the prevention of blindness for everyone. Our AI-based solution allows for the early detection of visual complications through risk assessment calculators, non-invasive fundus cameras, retinal image analysis and personalized recommendations.



Daniella Castro Araújo
Huna

Huna provides AI-powered digital solutions to add value to existing check-up protocols and routine exams for the early detection of female diseases by unlocking the hidden potential of blood analytes. Huna's patented model can accurately detect the first signs of breast cancer (up to 90% success) by considering a woman's age and routine blood biomarkers. Huna has set its sights on the validation and rollout of an affordable breast cancer risk-assessment instrument to fast-track mammogram access.



Sávia Gavazza
Pluvi

Pluvi is a Brazilian startup incubated at the Tech Hub of the Federal University of Pernambuco, under the mentorship of Prof. Savia Gavazza. We specialize in rainwater harvest for drinking purposes. We operate in rural and urban areas, using our own sustainable technology to harvest rainwater, and store and treat it at the time of consumption, without using chemicals. Our mission is to take clean water to all people using rainwater and contribute to universal access to drinking water.

The Awardees of the Bayer Foundation Women Empowerment Award 2023

Awardees Asia Pacific



Divya Munot
Bamboostan

We believe in the power of bamboo to change the world. As ecosystem builders, we are dedicated to unlocking the true potential of this versatile and sustainable resource. We empower farmers, factories and sellers to connect, grow and scale their businesses sustainably, and create a greener future for all.



Akshita Sachdeva
Trestle Labs

Trestle Labs is an assistive technology company, empowering the blind and visually impaired community to access inclusive education and employment by building solutions that help them listen, translate, digitize and audio'tize any kind of printed, handwritten or digital content independently across 60 global languages. Launched in July 2019, its solution Kibo (Knowledge in a Box) is now empowering 70,000+ visually impaired individuals across 25 countries and has made 500+ institutions inclusive.



Fariel Salahuddin
UpTrade- Goats for Water

UpTrade- Goats for Water is a social enterprise that enables smallholder rural, off-grid farming communities to meet their farming and household needs using livestock as currency.



Tiffany Tong
Aloi

Aloi is a loan journey insight platform, especially focused on serving agri-producers and electric public transportation providers. Our digital token technology automates collecting trustable information on loan end-use, repayments and payments. Our vision is to help decentralize climate finance by increasing the attractiveness of green micro-businesses in emerging markets for investments.



Ayesha Zulfikar
Bioniks

Bioniks is a social enterprise empowering lives and turning disability into new possibilities by providing the most advanced, AI-powered bionic prostheses for all age groups. At Bioniks, we provide bionic prostheses for children as young as three-and-a-half years old, while the starting age for prostheses globally is eight. Furthermore, Bioniks is working on empowering people with limb differences and other different disabilities with the help of futuristic technology (e.g., robotic gloves, exoskeletons, etc.).

Annex

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 [Website](#)

 [LinkedIn](#)

Women Empowerment Award Jury (2023):

LATAM

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Frank de Meijer

APAC

Sarena Lin, Lavanya Jayaram, Madelon Bangma

AFRICA & ME

Monika Lessl, Frank Aswani, Hafsah Jumare

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Bayer Science and Education Foundation:

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