CGIAR Technical Reporting has been developed in alignment with the CGIAR Technical Reporting Arrangement. This Initiative report ("Type 1" report) constitutes part of the broader CGIAR Technical Report. Each CGIAR Research Initiative submits an annual "Type 1" report, which provides assurance on Initiative-level progress towards End of Initiative outcomes.

The CGIAR Technical Report comprises:
- Type 1 Initiative, Impact Platform, and Science Group Project (SGP) reports, with quality assured results reported by Initiatives, Platforms and SGPs available on the CGIAR Results Dashboard.
- The Type 3 Portfolio Performance and Project Coordination Practice Change report, which focuses on internal practice change.
- The Portfolio Narrative, which draws on the Type 1 and Type 3 reports, and the CGIAR Results Dashboard, to provide a broader view on Portfolio coherence, including results, partnerships, country and regional engagement, and synergies among the Portfolio’s constituent parts.

The CGIAR Annual Report is a comprehensive overview of CGIAR’s collective achievements, impact and strategic outlook, which draws significantly from the Technical Report products above. For 2023, the Annual Report and Technical Report will be presented online as an integrated product.
**Section 1: Fact sheet and budget**

<table>
<thead>
<tr>
<th>Initiative name</th>
<th>Market Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiative short name</td>
<td>Market Intelligence</td>
</tr>
<tr>
<td>Initiative Lead</td>
<td>Matty Demont (<a href="mailto:m.demont@cgiar.org">m.demont@cgiar.org</a>)</td>
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<tr>
<td>Initiative Co-Lead</td>
<td>Vivian Polar (<a href="mailto:vpolar@cgiar.org">vpolar@cgiar.org</a>)</td>
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<td>Science Group</td>
<td>Genetic Innovation</td>
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<td>Climate marker adaptation score</td>
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</table>

**SUMMARY**

These scores are derived from Initiative proposals, and refer to the score given to the Initiative overall based on their proposal.

1. The Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) markers refer to the OECD DAC Rio Markers for Climate and the gender equality policy marker. For climate adaptation and mitigation, scores are: 0 = Not targeted; 1 = Significant; and 2 = Principal.

2. The CGIAR Gender Impact Platform has adapted the OECD gender marker, splitting the 1 score into 1A and 1B. For gender equality, scores are: 0 = Not targeted; 1A = Gender accommodative/aware; 1B = Gender responsive; and 2 = Principal.

3. This amount includes carry-over and commitments.

4. This amount is an estimation of the 2024 annual budget allocation, as of the end of March 2024.

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**EXECUTIVE SUMMARY**

The CGIAR Research Initiative on Market Intelligence aids CGIAR and its partners in maximizing investment returns in crop breeding, seed systems, and other initiatives across the five CGIAR Impact Areas through reliable and forward-looking market intelligence. In 2023, the Initiative made great progress along its theory of change. To enable genetic innovation to respond to the complexities of the current global landscape influenced by various megatrends, the Initiative generated market intelligence across multiple dimensions, and transferred and customized this intelligence to multiple users and stakeholders. To achieve this multidimensional goal, the Initiative invested in building transdisciplinary teams to drive institutional and cultural change at the grassroots level of genetic innovation. Throughout 2023, social and biophysical scientists successfully collaborated to generate more than 500 seed product market segments (SPMSs) and 294 target product profiles (TPPs) at the subnational level based on market intelligence, in collaboration with Accelerated Breeding. This process was scaled to national partners through transdisciplinary product design teams (PDTs), which identified national SPMSs and TPPs nested in the CGIAR subregional SPMSs and TPPs. To create an enabling environment for varietal turnover in SPMSs served by breeding pipelines, an innovative transdisciplinary collaboration was set up to conduct a unique meta-experiment across six sites in five countries between CGIAR Centers and partners, involving private sector actors, which aimed at testing the behavioral conditions needed for farmers to replace their varieties and consumers to substitute the products in their diets. Transfer of market intelligence is being facilitated by the Global Market Intelligence Platform (GloMIP), the Market Intelligence brief (MIB) series, the Market Intelligence bulletin, and the POTs in CGIAR-NARES-SME networks. These efforts aim to not only reach CGIAR and NARES partners but also private sector actors and NGOs.
Section 2: Progress on science and towards End of Initiative outcomes

Initiative-level theory of change diagram

This is a simple, linear, and static representation of a complex, non-linear, and dynamic reality. Feedback loops and connections between this Initiative and other Initiatives’ theories of change are excluded for clarity.
Summary of progress against the theory of change

Increasingly, complex megatrends necessitate (1) generating and synthesizing market intelligence across multiple dimensions and (2) transferring it while catering to users. Therefore, the CGIAR Research Initiative on Market Intelligence built multidisciplinary teams to foster institutional change (EOIO 4) from the bottom up within Genetics innovation by using these WPs—WP1, WP2, and WP3—with WPs focused on operationalizing Market Intelligence bulletin of (EOIO 2). These joint efforts generated more than 500 SPMS and 244 regional TPPs based on market intelligence, in collaboration with Accelerated Breeding. Led by Accelerated Breeding’s WP3 TRANSFORM, this process was scaled in CGIAR-NARES-SME networks (EOIO 1) through transdisciplinary efforts, such as the Groundnut FDT in Tanzania and the Rice FDT in Ethiopia. This helped NARES partners define national SPMS and TPPs, which CGIAR aggregates into its regional SPMS and TPPs. This continuous process of refinement and revision ensures that NARES are involved early on in TFP design and that national priorities are reflected in CGIAR breeding pipelines. To test the behavioral conditions required for adoption of products by farmers and consumers, WP3 implemented an innovative, transdisciplinary collaboration that coordinated a unique market experiment across six sites between CGIAR Centers and partners, involving private sector actors.

The co-implementation of activities across WPs 1–3 by CGIAR and partners supports scaling of standards for the implementation of market intelligence and behavioral intelligence, in genetic innovation and sharing of market and behavioral intelligence in CGIAR-NARES-SME networks (EOIO 1). The latter is facilitated by (1) CGIAR (launched in 2023 [see Key Results Story), (2) the WP3 Portal introduced in 2022 (featuring five new briefs in 2023), and (3) a new quarterly Market Intelligence bulletin. These joint efforts generated evidence that the CGIAR Research Initiative on Market Intelligence reaches CGIAR and NARES partners (EOIO 1), the private sector (seed industry), and NGOs (EOIO 3).

Impact: contributed substantially to operationalizing Market Intelligence’s theory of change and Genetic Innovation's pipeline by connecting and supporting information flow between WPs, initiatives, and partners. (The GLIMPES) interoperability with the Breeding Portal developed by Accelerated Breeding created powerful functional relationships supporting: (1) transdisciplinary teams to design TPPs that align with stakeholders’ demand and tap into impact opportunities in the SPMS (EOIO 4); (2) breeders to prioritize and allocate investment efforts to breeding pipelines commensurate with a broader set of impact opportunities and projected benefits across the five Impact Areas and align better to national and investor priorities to reach the largest numbers and the most marginalized beneficiaries (EOIO 2); (3) seed system actors to use the Product Catalog to produce varieties better serving farmers, processors, and consumers in each SPMS (EOIO 3); and (4) investors to prioritize and target their investments in genetic innovation.

To scale institutional innovation, information on attitudes and incentives of breeders and social scientists regarding the use of market intelligence for breed decision-making was collected through in-depth interviews and ongoing survey experiments (EOIO 4). Similarly, a study to understand how market intelligence influences investment in breeding pipelines was designed and data collection is in progress. Collaboration with the CGIAR Impact Platforms on Climate, Poverty, and Gender supports the Platforms and Market Intelligence’s alignment to the Impact Areas. In collaboration with the Gender Impact Platform and Genetic Innovation Initiatives, the team developed the Genetic Innovation Gender Strategy identifying priority areas and entry points for advancing gender intentionality in breeding decision-making. Furthermore, the team published a special issue on gender-intentional crop breeding led with six papers reflecting on the different experiences and pathways through which gender was incorporated in breeding program operations and decision-making in the global South. These papers and experiences were presented through a series of sessions during the Gender Conference in India, highlighting a presentation that summarizes findings across experiences.

EOIO 1: CGIAR and national partners share institutional standards and market and behavioral intelligence.

A quarterly Market Intelligence email bulletin was launched in 2023 to update more than 1,000 CGIAR partners on market intelligence findings. Market Intelligence Brief (EOIO 1), published in 2022, was viewed 218 times on GOSpace. GLIMPES became accessible mid-2023 as a global public, sharing more than 500 SPMS across 20 CGIAR crops. We scaled market segmentation beyond CGIAR to include vegetable SPMS. Regional market intelligence bulletin of (output 2) was published in 2023. NARES can consult these regional TPPs to inform national TPPs and vice versa. CGIAR scientists, breeders, management, donors, and NGOs started using GLIMPES in decision-making (see Key Result Story). We developed the functionality in GLIMPES to submit and synthesize market intelligence contributions to inform the sourcing of market intelligence and its use in TPP design and prioritization of advancements.

Experiments to generate evidence on demand-side strategies to accelerate varietal turnover were implemented in 2023, so that findings can be shared with CGIAR and national partners by the end of the Initiative to inform prioritization processes of breeding pipelines.

EOIO 2: Research leaders and investors make investment decisions in genetic innovation using GloMIP and the Investor Dashboard.

Although targeted for 2024, substantial progress was made in 2023. Donors and NGOs expressed interest in GloMIP; they were familiarized with the tool and used it to inform investment decisions (see Key Result Story). Preliminary analyses were shared. GloMIP was used for priority setting in W3 investments, such as the AGOR Alliance 2; Root, Tubers, and Banana (RTB) Breeding, and Accelerated Varietal Improvement and Seed Systems in Africa (AVISA).

EOIO 3: Seed industry and NGOs use market and behavioral intelligence.

Although targeted for 2024, good progress was made in 2023. CMMYTN convened a workshop to present recent research and plan future research that responds to the maize seed industry’s needs (impact was not documented until 2023). Representatives from eight seed companies (111 agro-dealers, government institutions, development organizations, and farming organizations attended. CMMYTN scientists showed how to use videos in communication about maize seed. Seed companies have started experimenting with videos to communicate technical information as well as testimonials about their seed varieties on social media. Another company mentioned making their pallets more attractive to farmers by leveraging the feedback in the workshop. After highlighting the importance of marketing, several seed companies confirmed increased interaction with agro-dealers to promote their products. Lastly, one company mentioned shifting their product portfolio and introducing an early-maturity variety, leveraging recent findings from concept testing in Kenya and Uganda and a study assessing seed sales. Finally, seed industry, NGOs, and other seed promotion partners collaborated with WP3 to identify strategies to increase varietal turnover. Close collaboration to test these strategies is expected to yield relevant results, ensuring adoption of findings. Finally, the NGO Semilla Nueva used GloMIP to identify impact opportunities for addressing malnutrition.

EOIO 4: Transdisciplinary teams across CGIAR and partners co-implement market and behavioral intelligence and co-design of target product profiles.

GLIMPES currently hosts more than 500 SPMS across crops and subregions targeted by CGIAR and NARES. Access to information on grower requirements (where and how the crop is grown) and end-user requirements (what the crop is used for) is key for co-designing TPPs. Opportunities were identified for market intelligence to inform TPP refinement by generating evidence on consumer and processor requirements. Transdisciplinary teams across CGIAR have developed TPPs using a template co-developed with Accelerated Breeding for 17 out of 24 CGIAR crops (EOIO 1). 294 TPPs (94 percent aligned to active breeding programs) were uploaded in the Breeding Portal by 2023. Grower requirements (where and how the crop is grown) and end-user requirements (what the crop is used for) is key for co-designing TPPs using PTODS across CGIAR Centers (such as AfricaRice) and NARES (e.g., in Nigeria, Cote d’Ivoire, Ghana, Guinea, and Madagascar).

A two-day training workshop was conducted for East African countries (48 women and 70 men) to gain knowledge in market intelligence survey design and implementation, country-specific tools to implement the processor survey were conducted in Uganda and Tanzania with the respective NARES teams. Coordination across various CGIAR Centers and partners, directly involved private sector actors in a data experiment, providing useful insights in transdisciplinary collaboration. To foster transdisciplinary teamwork and identify bottlenecks and constraints in this process, we qualitatively and quantitatively investigated current attitudes and institutional incentives by breeders and social scientists to use market intelligence for breeding decisions. Also, the team reviewed the literature on experiences in transdisciplinary team building laying the foundation for the design of more inclusive processes of TPP design. The Genetic Innovation Gender strategy, which identified key priority research areas, considers transdisciplinary research fundamental. The special issue on gender-intentional crop breeding highlights the importance of partners in examining how breeding priority setting and TPP design can address gender and transdisciplinarity.
The CGIAR Research Initiative on Market Intelligence’s internal pipeline shows how its global vision is operationalized into local action by generating segmented market intelligence (Work Package [WP] 1) to inform product design (WP2), in crop breeding pipelines (Accelerated Breeding) serving subregional market segments, supported by (1) enabling conditions in terms of behavioral nudges (WP3) and seed systems (Seed Equal), (2) investment prioritization tools (WP4, Impact Opportunities portal, and upcoming Investor Dashboard in GloMIP), and (3) institutional scaling and MELIA (WP5).

WP1: Market intelligence

Work Package 1 progress against the theory of change

In 2023, WP1 produced 35 knowledge products, one innovation, three capacity-sharing activities, and 19 evidence-informed discussions targeting CGIAR-NARES-SME networks, and NGOs and SMEs operating in the seed industry, contributing to EOIOs 3 and 4. The peer-reviewed MB Series, launched in 2022, features five new briefs (output 1). MB1 demonstrated how market intelligence can contribute to demand-led breeding, arguing for increased investment in short-maturity maize in East Africa. A quarterly Market Intelligence bulletin was launched and disseminated by email to more than 1,000 recipients, providing rapid updates on recent market intelligence findings to CGIAR-NARES-SME networks.

WP1 continued to lead the refinement of the SPMS database, reported as an innovation in 2022 and now publicly accessible in GloMIP. SPMSs identify requirements for growers (where and how the crop is grown) and end-users (what the crop is used for). In 2023, the SPMSs for potatoes, sweet potatoes, maize in West and Central Africa, bean, wheat, and rice underwent substantial revision through engagement in CGIAR-NARES-SME networks. Segmentation activities were further scaled to include vegetables (peppers and tomatoes), adding more than 100 segments and resulting in a total of 500-plus SPMSs in crops and subregions where CGIAR and NARES currently target investments.

Video-based product concept testing (VPCT), developed in 2022 for maize and wheat, was scaled in 2023 to sorghum (n=1100) and groundnut (n=2200) in Tanzania to understand farmer requirements for seed products to inform future market segmentation. Future segments include biofortified beans and forage hybrids (CIAT), and low-glycemic index rice (IRRI).

WP1 provides the foundation for advancing new discussions on gender equality in the design of new seed products. Among gender-relevant criteria used for defining SPMSs are production system, end use, maturity, and product type. Entry points for gender include (1) prioritization of SPMSs that target women farmers and/or consumers, and (2) targeted gender research in the SPMSs (such as potatoes and sweet potatoes in Africa, and rice in Uganda).

Sankalp Bhosale (IRRI, Deputy Head of Rice Breeding Innovations Department) presents GloMIP results to NARES and other stakeholders in eastern Africa to identify impact opportunities for rice in the BMGF-funded W3 Accelerating Genetic Gain in Rice (AGGRi) Alliance Phase 2 project. [Refer to EOIO 2].

Credit: Matty Demont (IRRI)
In 2023, WP2 made significant progress toward its outputs and outcomes, and the EOIOs. The Genetic Innovation Gender Strategy, developed in 2021, formed the basis for standardizing the protocol for gender-intentional TPP design (output 1) in collaboration with Fairtrade Africa.

Transdisciplinary teams across CGIAR have designed TPPs using a standardized template co-developed with Accelerated Breeding for 17 CGIAR crops (EOI 1), such as maize (63 TPPs), wheat (53), and rice (44). A total of 294 TPPs have been uploaded to the Breeding Portal by Accelerated Breeding and in GloMIP (output 2), with 94 percent aligned to active breeding pipelines, enabling assessment of the reach of the TPPs' essential improved traits in terms of impact opportunities.

Collaborative efforts with Accelerated Breeding and national partners led to the design of national TPPs for CGIAR crops by transdisciplinary PDTs (outcome 1 and EOI 4). With approval from national partners, these national TPPs will be made available on the Breeding Portal and GloMIP in 2024 for use in breeding decisions (outcome 2). For instance, AfricaRice and NARES established transdisciplinary teams in Nigeria, Cote d’Ivoire, Ghana, Guinea, and Madagascar to validate TPPs, and design gender-intentional TPPs for regions in East and Southern Africa, as well as West and Central Africa. Approximately 22 percent of the 294 TPPs have at least one essential improved trait that significantly impacts women, such as reduced labor (drudgery) and improved nutrition (output 2). The highest number of gender-intentional TPPs have been developed for rice (22), followed by wheat (11). The development of these gender-intentional TPPs involved a qualitative survey through focus group discussions in Cote d’Ivoire, and varietal characterization studies focusing on the entire rice production process. These studies involved extensive literature reviews to determine traits complementary to those in TPPs, focusing on the preferences of women, men, and other stakeholders.

In 2023, WP3 made significant progress toward its outputs, and some progress toward its outcomes and the EOIOs. Testing various demand-side strategies (such as seed trial packs, consumer-targeted activities, nudges, crop insurance, and agronomic advice) for accelerating varietal turnover at the farmer level across six studies in five countries generated 11 knowledge products (such as a policy note, journal article, conference paper, brief, blog, and working paper), seven capacity-sharing activities (such as a stakeholder participatory workshop), one innovation, and five other outputs (output 1). In 2024, midline data will be available on the effects of these strategies in subsequent seasons. Testing these strategies jointly with seed promotion partners (outcome 1 and EOI 3) enabled collecting information on the constraints that these partners face in applying those strategies, and in promoting new products (output 2).

Through a unique way of collaborating across CGIAR Centers, the WP3 team produced a meta-analysis plan and 10 knowledge products based on both quantitative and qualitative baseline data to generate global behavioral intelligence on accelerating varietal turnover (output 3). Qualitative research findings were presented at the CGIAR Gender Conference and the first Genetic Innovation webinar. In collaboration with Seed Equal, these activities are starting to shift baseline seed promotion actors toward a more demand-driven approach, and influence actions by Ugandan policymakers.

Finally, WP3 conducted and published qualitative baseline research on how to accelerate varietal turnover for both women and men, highlighting reasons that women face more challenges than men in accessing seeds, and identifying gendered trait preferences (both emphasize the importance of traits related to production, but women place greater emphasis on traits related to processing and consumption, and men on marketing-related traits). WP3 research implemented jointly with Seed Equal revealed gender gaps; women agri-entrepreneurs receive lower prices than men, and their seed quality is perceived to be inferior.
WP4: Pipeline investment cases

The Initiative developed GloMIP to provide market intelligence insights at scale (output 3) across three portals: Market Segments, Target Product Profiles, and Target Products Profiles. These portals empower stakeholders with easy access to information and user-friendly analytic tools on market segments, TPPs, breeding pipelines, and impact opportunities. GloMIP further enables breeding leads and donors to align breeding programs to the five Impact Areas and prioritize the most impactful efforts (outcome 1 and 2). We presented GloMIP at various workshops, meetings, and events such as the International Rice Congress. Finally, GloMIP is the public portal of an Innovation Package with the Breeding Portal and easy access to information and user-friendly analytic tools on market segments, TPPs, breeding pipelines, and impact opportunities. These portals are implemented breeding decision-making and prioritize the most impactful efforts (outcome 1 and 2). WP4 delivered five innovations.

WP4’s gender achievements include: (1) incorporating 52 gendered development indicators in GloMIP; (2) mapping gender-relevant traits and impact pathways from genetic innovation to benefits to rural women, and (3) piloting impact models and metrics.

WP5: Institutional scaling and MELIA

WP5 designed qualitative and quantitative baseline investigations of the current attitudes and institutional incentives to use market intelligence information (output 1); data analysis will be completed in 2024. These studies include gender analysis to understand (1) how gender affects the decisions made by breeders; and (2) how gender analysis information is considered and used for decision-making in breeding. The design and advancement of institutional innovations that facilitate and promote the use of market intelligence information (outputs 2 and 3) were postponed to 2024.

To advance gender intentionality in breeding decision-making (output 4), a gender strategy that identifies priority areas of work and aligns to the Genetic Innovation theory of change was developed in collaboration with the Gender Impact Platform. Furthermore, a special issue on gender-intentional crop breeding was published, representing a first step toward developing a network of partners with experience addressing gender intentionality in breeding decisions. Papers and experiences from the gender researchers working with Market Intelligence, Seed Equal, and other bilateral projects and partners were presented through a series of sessions at a gender conference in India, including a presentation that summarized findings.

We designed a study to understand how market intelligence influences investment in breeding pipelines (output 5), and data collection is in progress. The study on the potential impact of market-smart varieties (output 6) was postponed, and the team is exploring merging it with the Genetic Innovation Impact Assessment.

In adaptive planning and learning to achieve internal integration and external coordination with other CGIAR actors and partners (output 7), significant progress was made through a joint Market Intelligence-Seed Equal reflection workshop, where issues of general coordination across the portfolio of Genetic Innovation Initiatives were discussed. Finally, the 2023 MELIA workshop prepared the team for the 2023 annual report and 2024 planning.
## Work Package progress rating summary

<table>
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<tr>
<th>WORK PACKAGE</th>
<th>PROGRESS RATING &amp; RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Progress rating</strong>&lt;br&gt;In 2023, 58 products were reported for WP1, exceeding the combined targets for outputs 1 and 2. In addition, gains are being made toward demonstrating progress on EOIOs 3 and 4.</td>
</tr>
<tr>
<td>2</td>
<td><strong>Progress rating</strong>&lt;br&gt;WP2 met its output targets and is on track to meet its outcomes. Working across Centers, at least 294 TPPs have been uploaded to Breeding Portal by Accelerated Breeding and GloMIP, making them widely available to breeders, investors, and other stakeholders. Of these TPPs, 22% have at least one essential improved trait significantly impacting women. In collaboration with Accelerated Breeding, transdisciplinary PDTs have been established with NARS partners to design national TPPs.</td>
</tr>
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<td>3</td>
<td><strong>Progress rating</strong>&lt;br&gt;WP3 met its 2023 output targets by generating and publishing behavioral intelligence on accelerating varietal turnover, setting up the foundations with seed promotion partners for generating behavioral intelligence on promoting new products, generating several outputs providing global behavioral intelligence outside of the six WP3-funded experiments, and developing a methodology for a meta-analysis of various sources of behavioral intelligence. However, budget reductions—impacting WP3 and WP5 relatively more than other WPs, in line with the action proposed for Risk 2 in the Risk Report—led team members to remove qualitative midline data collection and stakeholder engagement activities, such as workshops with seed promotion partners, from the 2023 work plan. As a result, some of the targeted outcomes for 2024 might be delayed.</td>
</tr>
<tr>
<td>4</td>
<td><strong>Progress rating</strong>&lt;br&gt;WP4 met its 2023 output targets by successfully convening several Centers to deliver novel applications of methods, metrics, and tools (output 1, target 2023), which can be used to build pipeline investment cases (output 2, target 2024) and the Investor Dashboard (output 4, target 2024). It delivered GloMIP (output 3, target 2023), which is being used by CGIAR breeders to align breeding pipelines to the five Impact Areas (outcome 1) and by donors to prioritize investments (outcome 2). GloMIP also enabled WP4 and other WPs to make progress in EOIOs 1 and 2 (see key result story).</td>
</tr>
<tr>
<td>5</td>
<td><strong>Progress rating</strong>&lt;br&gt;While significant progress has been made in designing and establishing research, and advancing learning processes, three out of the seven outputs had to be postponed for 2024. This was due to the budget reduction experienced by the Initiative in 2023, which was largely endured by WP3 and WP5 (see action for Risk 2 in the Risk Report). To cope with this problem, a tandem system was established so that outputs 2 and 3 will start operation in Q3-2024 once outputs 1 and 4 are completed. Output 5 was also reduced due to budget cuts. To cope with this change, the team is exploring how to best merge the output with the Genetic Innovation–level Impact Assessment plans.</td>
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### Definitions

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<td>Annual progress slightly falls behind Plan of Results and Budget and Work Package theory of change in key areas.</td>
<td>Annual progress clearly falls behind Plan of Results and Budget and Work Package theory of change in most/all areas.</td>
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</table>

Study participant in Kenya is blind tasting ugali made from a new maize variety, to test whether increasing farmers’ familiarity with the taste of new varieties increases their interest in growing that variety.

Credit: CGIAR research initiative on Market Intelligence
Section 4: Key results

This section provides an overview of results reported by the CGIAR Research Initiative on Market Intelligence in 2023. These results align with the CGIAR Results Framework and Market Intelligence’s theory of change. Source: Data extracted from the CGIAR Results Dashboard on 29 March 2024.

Overview of reported results

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<td>Innovation use</td>
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<td>Capacity sharing for development</td>
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<td>Innovation development</td>
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Market Intelligence generated 273 results in 2023, with a strong focus on knowledge products (such as generating new market intelligence evidence), capacity sharing (such as supporting institutional change), and innovation development (such as new standards and methods for market and behavioral intelligence research and investment prioritization). Good progress was made in its outcomes, as evidenced by the increasing use of its innovations (see Innovation Readiness below; data extracted from PRMS on 12 March, 2024).

Contributions to the UN Sustainable Development Goals

In a world affected by several megatrends, Market Intelligence systematically generates and synthesizes evidence across the five CGIAR Impact Areas to support demand-driven, inclusive, and impactful genetic innovation. To mainstream gender intentionality, 20 percent of its results have a principal focus on gender equality, youth, and social inclusion.

Number of innovations by readiness level

As a new CGIAR Research Initiative, in its first two years, Market Intelligence generated a solid innovation pipeline, with several innovations reaching readiness levels of 8 and beyond (data extracted from PRMS on 12 March 2024). GloMIP is a notable example, having reached a level of 8 in only six months (see Key Results Story).

In the past, breeding pipeline investment efforts were often allocated based on the area cultivated in the market segment, as a proxy for market size. However, the contribution of crop breeding to the alleviation of impact challenges in the global South is more complex and cannot be captured through a single indicator, due to the multidimensionality of sustainable development. Therefore, Market Intelligence focuses on multiple SDGs, such as SDGs 1, 2, 5, 12, and 13, which are closely related to the five CGIAR Impact Areas.
Market Intelligence’s data and knowledge production and dissemination (such as through presentations at international conferences, its innovative MIB Series, and blog posts) has dramatically increased in 2023.

In its first year, the Initiative invested substantial resources in setting up engagements with breeding networks and capacity sharing focused on the Market Intelligence framework. In 2023, the focus shifted to delivery.

Market Intelligence is foremost a global Initiative, exemplified by the global focus of almost 60 percent of its results. Starting with a focus on Impact Challenges across the five Impact Areas in the global South, it then invests in targeted market and behavioral intelligence research to help breeding pipelines deliver products to market segments where impact opportunities are highest for beneficiaries (women and men farmers, processors, consumers, and marginalized communities, among others).

Rice millers in Tanzania usually mix varieties, which reduces farmers’ incentives to produce quality paddy. Any breeding efforts aiming at increasing product quality will thus require sufficient investment to add value while generating economies of scale at the processing level to foster product homogeneity and quality.

Credit: Joseph Kingale (TARI)
Section 5: Partnerships

Markets' theory of change depends on external partners involving; 1) demand (NARES, NGOs, private sector, donors, investors), 2) (technical) innovation (CIRAD, WorldVeg, SFSA), and 3) scaling (CIRAD, WorldVeg, NARES). The impatient nature is less willingness by demand partners to engage with Market Intelligence, therefore, engagement activities are key. As evidenced in Section 2, the seed industry, NARES, and CGIAR partners actively promote EOIOs 3 and 4. In 2023, 79 capacity-building and evidence-dissemination activities were conducted directly with partners or directed toward them, including through workshops, shared documentation, and replicable tools, and by publicly sharing more than 450 SPAMs through CIRAD.

Market intelligence was disseminated through several platforms to WP4’s target audience—seed industry SMEs, NGOs, NARES, and CGIAR breeding teams—spurring documented uptake of market intelligence by partners. In WP2, several NARES partners worked with Market Intelligence and Accelerated Breeding to jointly develop national TPPs following CGIAR protocol. The national TPPs match regional TPPs, involving NARES’ expertise in socioeconomic, gender, policy, and farmer associations. This progressive move toward aggregating NARES’ demand, priorities, and expertise exemplifies the Initiative’s progress in EOIOs 1 and 4. WP1 and WP4 supported WorldVeg in market segmentation; this support will expand to ICRISAT in 2024 (see Section 7, Recommendation 2). Direct engagement with research leaders (Genetic Innovation management, Accelerated Breeding lead), investors (BMGF, GIZ), and NGOs (such as Semilla Nueva) led to their interest in CIRAD for investment decision-making, helping the Initiative achieve progress in EOIO 2 (see key result story). The special issue on gender-intentional crop breeding nurtures collaboration with several partners, such as Cornell University, Michigan State University, University of Guelph, University of Agriculture and Natural Resources, Dan Deicke Dankuoloto University of Maradi, Council for Scientific and Industrial Research - Savanna Agricultural Research Institute (CSIR-SARI), National Rootcrops Research Institute (NRCRI), Institut des Sciences Agronomiques du Benin, and RAMD Foundation. Representatives from CIRAD, WorldVeg, and FAO attended and actively participated in the 2023 MEDIA workshop.

Section 6: CGIAR Portfolio linkages

Portfolio linkages and Market Intelligence’s impact pathways

Market Intelligence’s theory of change is strongly intertwined with the CGIAR portfolio. As shown in the network graph, in 2023 the strongest linkages were established with Genetic Innovation Initiatives, particularly Accelerated Breeding, evidenced by the 125 results reported in PRMS and the interoperability between CIRAD and the Breeding Portal (see Key Result Story). Market Intelligence also played an important role in supporting WP3 projects in Genetic Innovation, such as RTB Breeding. Accelerated Breeding played a key role in co-developing the protocol for designing TPPs and assessing their quality to ensure they are impactful, in demand, and feasible. Accelerated Breeding’s standard matrix of traits, value propositions, and impact area target for Genetic Innovation enabled WP4 to make tremendous progress in the development of the Investor Dashboard, which involved Accelerated Breeding, several Centers, and HarvestPlus. It enabled CIRAD to consistently link traits to Impact Areas, which enables assessment of whether TPPs (WP2) are impactful and target the most urgent needs of the beneficiaries in the SPAMs (WP1). It also helped Market Intelligence identify traits linked to gender equality, which enabled the Initiative to report the share of TPPs that are gender intentional in PRMS (WP1, output 2). Accelerated Breeding held a series of workshops (including capacity building with NARES) on the costing of breeding programs, which provides crucial inputs for pipeline investment cases (WP4, output 2). These examples of collaboration substantially helped the Initiative to advance several outputs and EOIO 2.

WP3 worked closely with Seed Equal to co-design its behavioral intelligence research, and Seed Equal’s WP5s on policies partnered with several of the WP3 studies to test both demand- and supply-side challenges to accelerating varietal turnover, advancing EOIOs 1 and 3. WP3 started sharing behavioral intelligence with breeding programs, leveraging the CGIAR-NARES-SME networks, and envisioning deepening this collaboration in 2024 to share and discuss findings, contributing to EOIO 4. For WP3 output 3, a meta-analysis is underway to inform WP2 of the extent to which varietal turnover is driven by trait preferences versus other supply-side and/or demand-side constraints, and to inform WP4 of trait-disaggregated estimates for the cost-effectiveness of various strategies to promote new varieties.
The initiative also contributed to several CGIAR Impact Area Platforms, particularly on Climate, Poverty, and Gender. IITA and the Gender Impact Platform co-developed the Gender Strategy for Genetic Innovation, which required close interaction with the different GI Initiatives. The strong collaboration with the Gender Impact Platform was clearly reflected in the evaluation by the Independent Advisory and Evaluation Service (IAES) that highlighted the Platform’s success in building alliances and supporting gender research in CGIAR. Furthermore, the launch and publication of the special issue on gender-intentional crop breeding and the work of Market Intelligence toward transdisciplinary collaboration speaks to the IAES recommendation on strengthening partnerships and co-identifying and prioritizing research gaps and activities with key partners. Despite the good progress, stronger linkages need to be forged with Foresight, Plant Health, and Excellence in Agronomy (see Recommendation 1 in Section 7).

Section 7: Adaptive management

**RECOMMENDATION**

Market Intelligence will position itself strongly in the 2025–2030 CGIAR Portfolio and scale its role as the provider of market intelligence to multiple Mega Programs (proposed Action in response to Risks 2 and 3 in Risk Report).

**SUPPORTING RATIONALE**

Market Intelligence (MI) will play an active role in strengthening the 2025–2030 CGIAR Portfolio through the following Mega Program (MP) linkages:

1. **MP1 on Climate Actions** informs MI on climate trends, while MI informs MP1 on entry points for climate adaptation and mitigation through genetic innovation. To strengthen GI’s capacity to adapt and mitigate climate change, MI will integrate crop modeling into its skillset to identify future market segments and TPPs and inform priority setting.

2. **MP3 on Innovative Institutions and Policies** supports MI with foresight information to identify future market segments and indicators (such as by linking GloMIP with Foresight Portal).

3. **MP4 on Sustainable Healthy Diets** uses market intelligence and provides metrics on healthy diets to support pipeline investment cases for addressing malnutrition (such as biofortification, dietary diversity).

4. MI continues its role of informing and supporting investment priority setting across and within Initiatives (including Plant Health) and W3/bilateral projects in MP5 on Genetic Innovation.

5. MI supports MP6 on Agronomy in aligning to GI’s market segments, exchanges market intelligence, and co-designs a strategy outlining the division of roles between MP4 and MP5 defined by yield gap composition.

6. **MP8 on Future Frontiers** will exchange information with MI on future trends and future market segments.

7. **MP9 on Demand-led Scaling** will be supported by GloMIP in identifying demand in the regions, and MP9 will support scaling of GloMIP and institutional change in CGIAR-NARES-SME networks.

8. **MP10 on Gender and Social Inclusion** informs MP5’s Gender Strategy and MI’s Standard for gender-intentional TPP design.

9. **MP10 on Data and Digital Innovations** supports the development of GloMIP and its high-level integration in MPS on Genetic Innovation’s suite of management and prioritization tools.

Market Intelligence will integrate ICRISAT into the CGIAR team, explore new strategic partnerships, and deepen its collaboration with WordVeg and NARES to expand its sphere of influence in genetic innovation institutionally and across crops and geographies (proposed Action in response to Risks 1 and 4 in Risk Report).

Building on Recommendation 4 of the 2022 Annual Report, co-implementation of market intelligence with ICRISAT, WordVeg, and NARES will generate economies of scale and scope that will scale MI’s capacity to align CGIAR and partners’ breeding pipelines to the five Impact Areas and prioritize investment in genetic innovation within and beyond CGIAR. Using ABT-TRANSFORM, CGIAR-NARES-SME networks as entry point, MI will (1) develop and harmonize processes and criteria for building transdisciplinary teams, (2) scale the use of the MI framework, (3) scale SPMSs and TPPs in GloMIP, (4) crowdsource market intelligence from partners and beyond, and (5) incorporate national priorities in priority setting. MI will explore collaboration with new partners (such as International Center for Insect Physiology and Ecology [ICIPE] for data on pests and diseases).

Market Intelligence will prioritize advancing its two core innovations— GloMIP and the standard for gender-intentional TPP design (proposed Action in response to Risks 1, 2, 4, and 5 in Risk Report).

**GloMIP** enables operationalizing the GI pipeline by connecting WPs, Initiatives, and partners, and aligning visions and better targeting MI and GI research by connecting breeding to the human dimension in terms of beneficiaries. Building on Recommendation 7 in the 2022 Annual Report, increased investment in the development of GloMIP is warranted to (1) strengthen the use of foresight, data from Plant Health and crop modeling, and MI evidence to inform trait prioritization in TPP design; (2) support the development of the standard for gender-intentional TPP design by providing analytics and consolidating MI evidence; (3) further advance the interoperability with the Breeding Portal; (4) integrate behavioral indicators from WP3 and national policies and priorities from Seed Equal; (5) co-develop the product catalog with Seed Equal; and (6) explore the power of artificial intelligence in web crawling and synthesizing market intelligence.
Global Market Intelligence Platform (GloMIP)

GloMIP empowers CGIAR, partners, and investors in investment decision-making, boosting global genetic innovation’s impact across multiple Impact Areas.

As smallholder farmers battle climate, nutritional, and other challenges, there is an urgent need for breeding programs to ensure new varieties meet their needs. Achieving this goal relies on accessing the best market intelligence. Yet, this intelligence is often fragmented and one-dimensional.

The CGIAR Research Initiative on Market Intelligence generates and shares data at scale to increase impact across the five CGIAR Impact Areas. By comparing market data and global megatrends (demographic, dietary, health, climate, equity, and environmental), the initiative helps programs inform R&D and prioritize investments.

Market intelligence developed through GloMIP, a global public good, is focused on delivering information to support market segmentation (targeting of beneficiaries), TPP design (technology targeting), and investor analytics (impact opportunities measured through underdevelopment indicators, projected cost-benefits). The digital platform is freely available to donors, breeding leads, decision makers, researchers, NGOs, and others across 20 CGIAR crops (for all intelligence) and 25 non-CGIAR crops (for impact opportunities only).

In 2023, a transdisciplinary and inclusive team spearheaded the prototype development of GloMIP. The platform’s inclusivity was evidenced by its shortlisting as a top-three finalist among 150 nominations in the 2023 CGIAR Inclusive Team award. GloMIP also values and integrates user-centricity into its design and functionality through continuous engagement with users and stakeholders within and outside CGIAR. GloMIP is the primary public gateway within a broader Innovation Package encompassing the Breeding Portal (sharing data with GloMIP) and several complementary crop observatories.

Within GloMIP, the market segment portal currently lists more than 500 seed product market segments (SPMSs) across 98 countries, covering half a billion hectares. The TPP portal displays 294 TPPs mapped to SPMS across 17 CGIAR crops. The Impact Opportunities portal features about 200 underdevelopment indicators across five CGIAR Impact Areas, structured across three scaling levels (national, national-crop, and market segment) featuring 45 crops, spanning 171 countries, and categorized into 21 grouping levels, ranging from region to trait.

GloMIP brings together genetic innovation Initiatives by hosting the SPMSs and TPPs co-developed by Market Intelligence with Accelerated Breeding, and the Product Catalog being co-developed with Seed Equal.

The project has created a user-friendly online environment and has consultatively developed flexible structures catering to producer and consumer uses. GloMIP offers query and analysis tools for SPMSs and TPPs, allowing users to compare them across qualitative and quantitative criteria. Further, we have pioneered tools to analyze crop-level underdevelopment indicators (separately single indicator), pairwise (dual indicators), groupwise (multiple indicators), and by indexing (priority index), incorporating investor preference weights across the Impact Areas, present and future indicators, and breadth and prevalence/depth indicators. This marks a historic milestone in the analysis of CGIAR breeding pipelines for prioritization.

Despite its recent introduction in mid-2023, GloMIP’s use is already growing rapidly. At IRRI, GloMIP is used to inform breeding and resource mobilization. At CIP, breeders actively employ GloMIP to finetune existing SPMSs and identify novel ones. Meanwhile, we introduced GloMIP to breeders at WorldVeg for their ongoing market segmentation efforts. GloMIP offers balanced crop data at the national-crop level, including harvested area, producer prices, and yields. These insights guide breeders and social scientists in crafting realistic market segments. Featuring 76 percent people-centric indicators, GloMIP plays a powerful role in connecting breeding to its humanitarian dimension in terms of beneficiaries reached (including farmers, consumers, women, men, and marginalized communities).

Primary Impact Area

Contributing Initiative(s)

Accelerated Breeding • Genebanks • Seed Equal • Foresight

Contributing Center(s)

AfricaRice • Alliance of Bioversity International and CIAT • CIMMYT • CIP • ICARDA • IPM • IITA • IRI • IRRI

Contributing external partner(s)

Centre de coopération internationale en recherche agronomique pour le développement (CIRAD) • Syngenta Foundation for Sustainable Agriculture (Syngenta Foundation) • The World Vegetable Center (AVRDC)

The Impact Opportunities Portal of the Global Market Intelligence Platform (GloMIP) is a game-changer. After introducing it to the Seed Systems and Variety Improvement (SSAVI) team, the positive feedback was overwhelming. It’s an invaluable tool that’s shaping our approach and decisions moving forward.

Young Wha Lee, Senior Program Officer, Crops Research and Development, Bill & Melinda Gates Foundation

Key result story

Researchers leverage data from the Global Market Intelligence Platform (GloMIP) for informing breeding decisions. Credit: Neale Marvin Paguirigan (IRRI)
Front cover photo
Market Intelligence team interacting with its core stakeholders: farmers, processors, retailers, consumers, breeders, and donors.
Credit: Ruvicy Bayot (IRRI), Neale Marvin Paguirigan (IRRI), Carol Waweru (IFPRI), Bidhan Mohapatra (IRRI), and Jhoanne Ynion (IRRI)

Back cover photo
Female enumerator interviewing a female respondent from a maize- and cowpea-producing household in northern Nigeria.
Credit: Oyinbo Oyakhilomen