

TURNING DATA INTO ACTION

Program Learning Report



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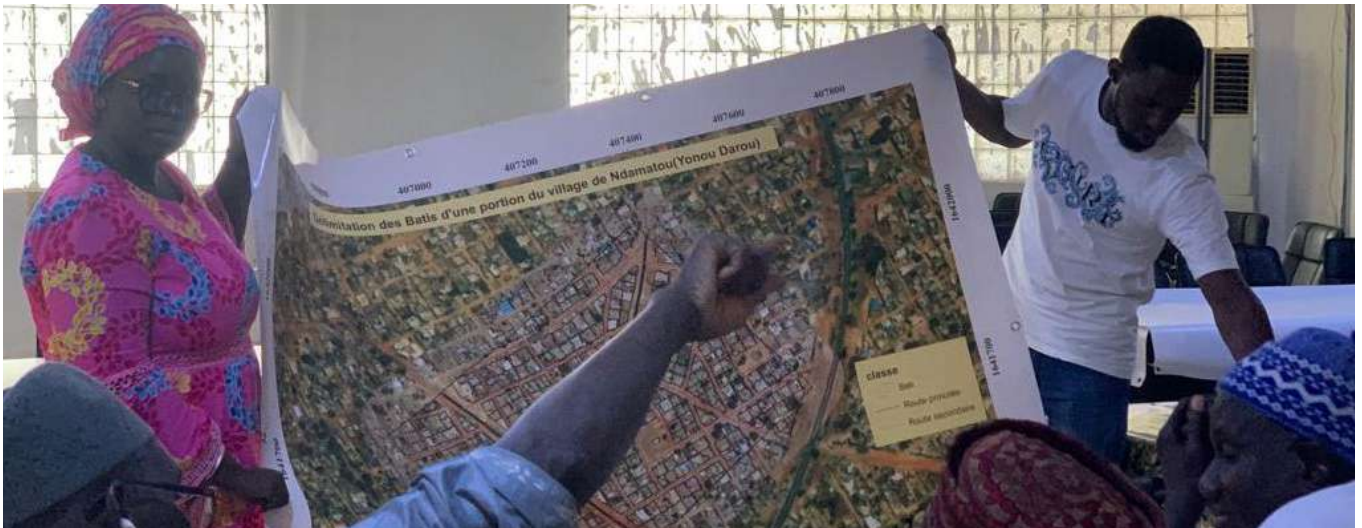
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Why is a Program to Turn Data into Action Needed?

In today's data-driven world, technological advancements and growing data expertise have enabled organizations across sectors to collect and produce substantial data. The power of data is undeniable, and its potential to revolutionize decision-making processes, drive innovation, and shape strategic outcomes has never been more evident.



Drones allow the acquisition of geospatial data in a timely and affordable manner. Drones have one other unique advantage compared to satellite data or geospatial data produced through traditional photogrammetry. They allow data stakeholders to be an integral part of the whole data journey, from deciding what data to acquire to data processing, all the way to analysis of the final data products and creating actionable insights.

Drone data can be made available to a much wider public, including on a grassroots level, as it can be produced locally, either in direct collaboration with stakeholders who need the data or allowing them to produce the data themselves. In addition, making data users and decision makers part of the entire data journey allows them to include their local insights and increase their trust, understanding, and confidence in the data products, essential

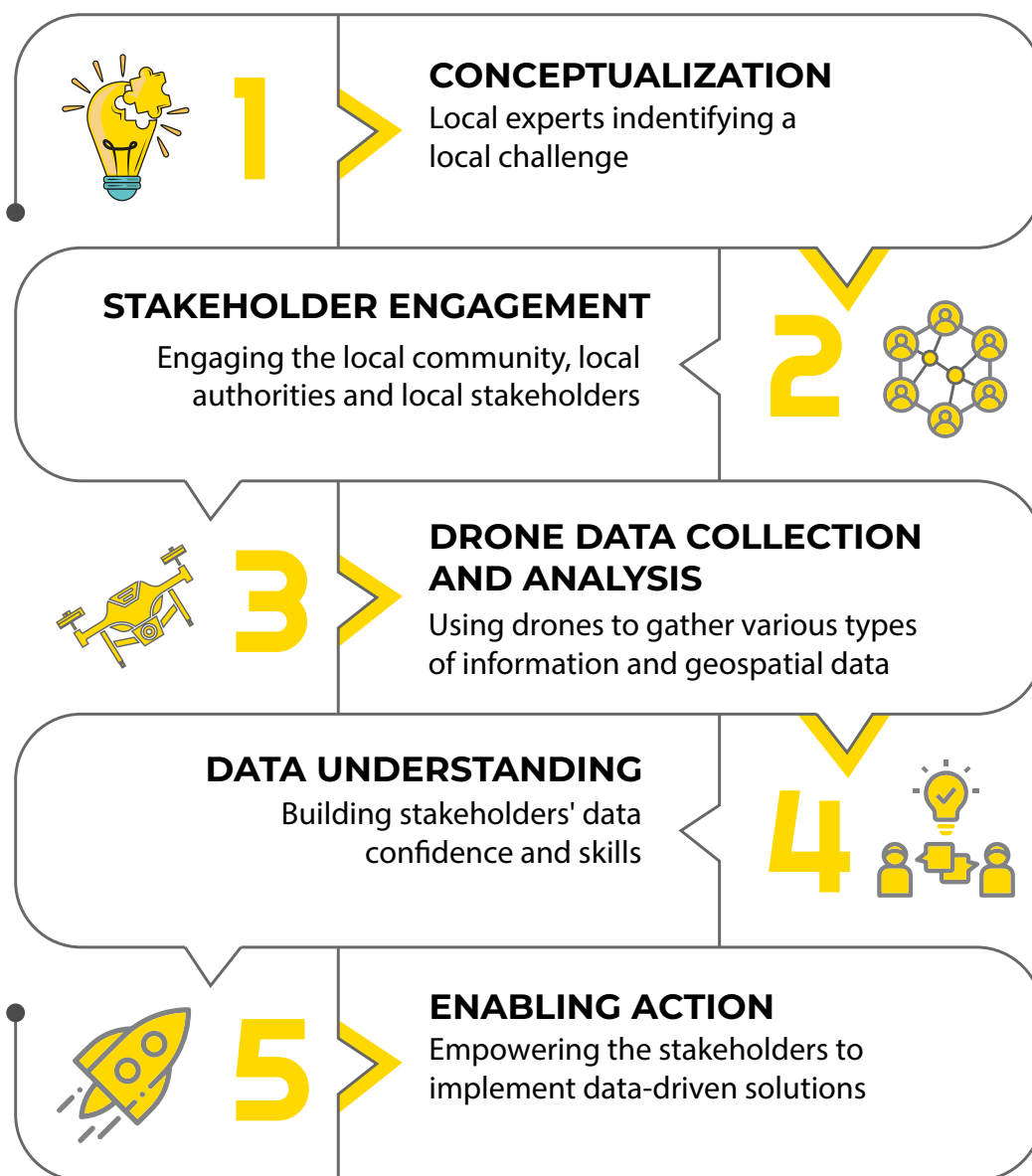
elements to make informed decisions.

A strong foundation of technical expertise characterizes the Flying Labs Network. The members of the Network have robust experiences and skills in acquiring, processing, and analyzing drone data and creating advanced 2D and 3D data products for actionable insights. A wide variety of decision-makers can use these insights.

However, the systematic transition of data into actual decisions and actions depends on more than just technical expertise. We initiated a collaborative effort to address this gap and grow the Flying Labs' capacity to create actionable data insights and turn them into impactful outcomes more systematically. We started with questioning the 'why' behind this phenomenon, posing critical questions to Flying Labs, such as "why do some projects fall short of translating

data insights into tangible actions and positive outcomes”? And “what do others do well that lead them to success”? In sum, the answers we received to the questions we posed were all about the alignment between data experts and decision-makers.

In response, we co-created the “Turning Data Into Action” (TDIA) program to ensure better data use and integration into decision-making processes. The program’s framework is designed to fit the actual needs, processes, and environments of Flying Labs and their local clients and stakeholders.



Turning Data into Action process

Program Goals

- The TDIA program's goals are centered around enhancing the effectiveness and impact of drone data produced by Flying Labs for sustainable decision-making. The program aims to enhance stakeholders' data confidence in interpreting and utilizing drone data, thereby fostering greater trust in its reliability.
- The program also promotes a participatory approach, allowing data users and decision-makers to actively engage in the entire data journey to promote their accountability in addressing local problems.
- Additionally, the program prioritizes South-to-South collaboration, recognizing the importance of knowledge exchange. By doing so, it aims to amplify the overall impact of Flying Labs' activities.
- Lastly, the program prioritizes continuous self-assessment, ensuring regular project evaluation.

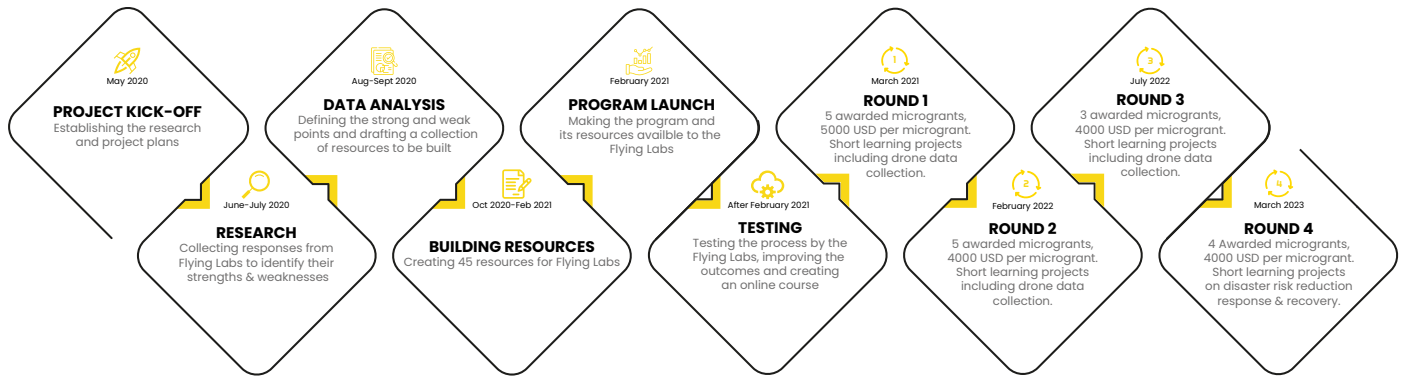


Origins

The TDIA program is based on insights and experiences of drone-data projects made by members of the Flying Labs Network. These first-hand accounts of successes, challenges, and setbacks experienced by Flying Labs on 12 projects are the foundation of the program's framework and a number of its resources. As a learning organization, our approach to TDIA was inclusive and collaborative, with Flying Labs at the heart of the process, ensuring that those who followed the program could replicate the successes of other Flying Labs and avoid mistakes made by their peers.

A small team between WeRobotics and Flying Labs created the program. After an extensive analysis phase — which half of the Network's Flying Labs contributed — the team designed the project's overall framework. The program content was then produced by the team, supported by additional contributors from WeRobotics, and guided by valuable insights from the Flying Labs' point of view along the way.

Framework & Methodology



TDIA program timeline

Our guiding principle in creating the program's framework and resources was to keep it user-friendly and fully applicable in any Flying Labs' working environment. Two key elements comprise the program:

- 1. The Handbook:** a document introducing the program areas and resources in detail. It is designed to guide the Flying Labs through the methodology, providing best practices, tools, and resources arranged chronologically to make it applicable to Flying Labs projects.
- 2. The Checklist:** a document designed to simplify the process. It concisely and clearly summarizes the points in the Handbook, allowing the Flying Labs to keep track of their project progress.

These resources share a common structure, addressing the following six distinct areas of Flying Labs projects to ensure consistency and ease of reference:

1. Stakeholder Engagement
2. Project Definition and Pre-Analysis
3. Project Contract and Planning
4. Project Execution
5. Data Management and Sharing
6. Process & Outcome Evaluation:

The program's resources and tools comprise existing methodologies (including several design thinking tools), valuable insights shared by Flying Labs that were collected in the analysis phase, and templates (for example, for contracts, post-project surveys, etc.). The program consists of over 45 resources and is freely available to Flying Labs on WeShare, our internal knowledge-sharing platform. The resources include 7 WeShare pages that act as a skeleton for the program, over 25 specific WeShare pages with corresponding templates and accompanying documents, 12 WeSupport sessions, and an online course.

These resources and tools undergo continuous review, refinement, and improvement. This evolution, initiated from day one, has been driven by the invaluable feedback and practical insights of Flying Labs, who have actively applied the TDIA framework and methodology in their projects, emphasizing our dedication to ensuring that our resources remain responsive and relevant to the ever-changing landscape of Flying Labs' needs. It's our very own way, at WeRobotics, of turning data received from Flying Labs through feedback and close collaboration into action.

Program Launch

The program was launched in February 2021. We timed the launch with a (virtual) Flying Labs retreat to create awareness and ensure widespread understanding. We hosted a session to share the framework and methodology and simultaneously made all resources available. Framing from the beginning the importance of continuous improvement, we fostered an environment of open communication, welcoming feedback from the Flying Labs and acknowledging that their insights and suggestions will help refine the program further. The launch was then supported throughout the coming months with:

- A first series of microgrants (read more here under)
- 6 WeSupport sessions (internal online learning sessions), to discuss each project area, facilitated by the authors of the TDIA program followed by six WeSupport sessions to deep-dive into one or several of the tools and resources, facilitated by the author of the resource
- Launch of an online course, consolidating all existing resources in a new engaging format
- Follow-up sessions at future Flying Labs retreats



Framing from the beginning the importance of continuous improvement, we fostered an environment of open communication, welcoming feedback from the Flying Labs and acknowledging that their insights and suggestions will help refine the program further.

| | ROUND 1 | ROUND 2 | ROUND 3 | ROUND 4 |
|---------------------------------|--|---|---|---|
| APPLICATION DEADLINE | March 31, 2021 | February 20, 2022 | Open window announced in July 2022 | March 31, 2023 |
| MONETARY AWARD PER MICROGRANT | 5,000 USD | 4,000 USD | 4,000 USD | 4,000 USD |
| NUMBER OF RECEIVED APPLICATIONS | 14 | 10 | 4 | 10 |
| NUMBER OF AWARDED MICROGRANTS | 4 | 5 | 3 | 4 |
| SCOPE | Short learning projects including drone data collection | Short learning projects including drone data collection | Short learning projects including drone data collection | Short learning projects on disaster risk reduction, response and recovery |
| SUPPORT FROM WEROBOTICS | Minimal supervision, joint calls every 4 weeks with all microgrant winners | Individual calls every two weeks with each microgrant winner to increase engagement | A minimum of 5 hours of individual and dedicated support learning from previous rounds Emphasis on monitoring & evaluation | A minimum of 5 hours of individual support through a custom learning plan for each project team Emphasis on stakeholder engagement, safety culture, technical assistance, monitoring & evaluation and storytelling |

TDIA Microgrants

As part of the launch, we introduced a first round of TDIA Microgrants in March 2021, a pivotal element for the evolution of the program. These program-specific microgrants aim to enable Flying Labs to apply the framework and follow the methodology as a learning experience. Inspired by HOT's (Humanitarian OpenStreetMap Team) microgrants framework, Flying Labs submit a short proposal of a learning project predefined with relevant project stakeholders. In addition to creating a learning experience for the Flying Labs, the microgrants also allow Flying Labs to share and inspire others in the Network with their TDIA journey. The microgrants are also our key approach to collecting detailed feedback and insights from Flying Labs on improving the program and its resources. Microgrant recipients can set project timelines and allocate budgets according to their unique needs, fostering impactful outcomes without unnecessary constraints. We intentionally limit project duration to short pilot projects to support

a wider range of initiatives. The awardees must leverage all resources available within the TDIA Program and engage with WeRobotics' team for dedicated support. The deliverables are tightly linked to project objectives, emphasizing storytelling, monitoring & evaluation, and capacity strengthening of local stakeholders. The adaptable application process ensures alignment with evolving priorities, promoting targeted support and impactful project outcomes, ultimately fulfilling our mission to understand and comprehensively support Flying Labs' needs.





Impact

By enhancing Flying Labs' capacity to generate actionable data insights and effectively transform them into meaningful outcomes, this initiative aims to significantly improve the utilization of data within decision-making processes. This will foster greater alignment between data experts and decision-makers, ultimately leading to more informed and impactful decisions.

The importance of this endeavor lies in its promotion of South-to-South learning and the strengthening of collaboration among Flying Labs and other organizations. By enabling the integration of the TDIA methodology into their work, it empowers others to harness the same approach, potentially replicating the use case and application to address the unique needs of communities and stakeholders in their respective countries. This amplifies the positive impact of our work and fosters a spirit of knowledge-sharing and cooperation across borders, making our collective efforts more effective and sustainable.

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Outcomes

- **Improved Data Utilization:** TDIA will lead to better data use in decision-making processes, ensuring that data insights are effectively integrated into the decision-making framework.
- **Enhanced Collaboration:** It will promote stronger alignment between data experts and decision-makers, fostering collaboration and communication that is essential for effective decision-making.
- **Increased data confidence of local stakeholders and decision-makers:** by becoming part of the data journey instead of just being presented with data results, local stakeholders and decision-makers increase their GIS and drone data knowledge, and can bring in critical information and questions during the data process. This fosters greater trust in the data and its reliability.
- **South-to-South Learning:** Encouraging South-to-South learning, this program facilitates the transfer of knowledge and best practices among Flying Labs and other organizations, thereby increasing their collective effectiveness.
- **Knowledge Transfer:** By allowing others to integrate the TDIA methodology into their work, this initiative will empower the Flying Labs network to transfer knowledge and adopt successful approaches to data analysis and decision-making.
- **Replication of Use Cases:** The ability to replicate use cases and applications across the globe will result in the adaptation of successful solutions to the specific needs of communities and stakeholders in different countries.
- **Amplified Impact:** Overall, these outcomes will amplify the impact of Flying Labs' work, making it more effective and sustainable. TDIA contributes to a stronger global network of organizations working together to address critical challenges through data-driven solutions.

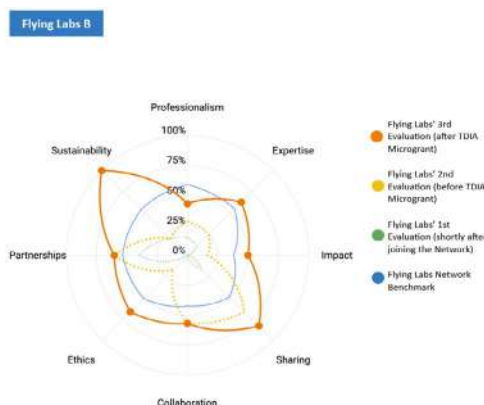


Evaluation

We measure the impact created by the TDIA program on two levels:

1. Impact on microgrant project outcomes and stakeholders: After completion of each microgrant project, we evaluate together with the Flying Labs whether the data translated into tangible actions and, if so, the nature of those actions. In cases where no actions occurred, we delve into the reasons behind this outcome and identify any missing elements. These insightful interviews have enabled us to pinpoint critical enhancements integrated into the program resources.

2. Impact on capacity strengthening of Flying Labs: we use the Flying Labs Networks' governance model to evaluate if, how, and to what extent the experiences and learnings made by the Flying Labs applying the framework have allowed them to strengthen their capacity. The program contributes mainly to growth in Flying Labs' impact, sharing, and expertise and often has a positive effect in other areas. Since its implementation, we have observed substantial qualitative growth in Flying Labs that have successfully completed projects funded with TDIA microgrants. The two visuals below show a self-evaluation of two different Flying Labs before and after implementing TDIA projects. They illustrate the significant expansion of their capacities across various areas, resulting in stronger and more resilient Flying Labs.



[TDIA: South Africa Flying Labs Responding to Devastating Floods with Drones](#)

Open Sharing through Documentation & Storytelling

Recognizing the power of sharing, we significantly emphasize documenting experiences and storytelling within the TDIA program. For external sharing, we encourage the participating Flying Labs to share their experiences and impact stories through various formats: blog posts, project use cases, videos, and other creative formats such as ArcGIS Story Maps, and more. Doing so showcases their achievements, attracting new opportunities for replications, with either the same or new stakeholders, communities, and decision-makers.

For internal sharing within the Network and as an integral part of the microgrant deliverables, Flying Labs document their project experience and key learnings. This encourages South-to-South learning and strengthens the collaboration between Flying Labs by allowing others to integrate the TDIA methodology into their work and eventually replicate the use case/application if it fits the needs of communities and stakeholders in their country.

Key Learnings

Much of our work at WeRobotics and Flying Labs level is uncharted territory. We place an important focus on learning and documenting our learnings in all we do. We strive to share these learnings both internally within the Flying Labs Network and publicly as part of our contribution to systems change and innovation.

For this reason, since the program's inception, the two following key success factors have guided our approach for all parts of the program:

Learning #1: Place significant emphasis on stakeholder engagement and their pivotal role in transforming data insights into action to move away from the typical discussions around technology and address the underlying question of what value technology and data can provide.

Learning #2: Recognize the need for the program to remain adaptable and open to allow for continuous growth. And have this growth be fully informed by the program audience, the Flying Labs, and their experiences made through the microgrants (in the format of structured feedback, which is integral to the microgrants' deliverables). Involving Flying Labs in creating and improving the program also enabled us to consolidate relevant content more effectively.

Through successfully implementing two rounds of microgrants, with the third and fourth rounds underway, we've learned important additional lessons:

Learning #3: The most important value of microgrants lies in the dedicated support across various areas, not the grant financing. Tailoring WeRobotics' support (from stakeholder engagement, technical support, monitoring & evaluation to storytelling, safety, and more) for the Flying Labs' specific needs has been key to capacity strengthening and growth. This specific and personalized support that allows Flying Labs to adopt the methodology and tools in a "learning by doing" format, fostering sustainability and self-sufficiency, rather than dependency. It also allows each of the Flying Labs to learn and grow at their own pace and in areas where they have specific gaps

Learning #4: Microgrants foster a sense of accountability, making the Flying Labs more likely to overcome emerging obstacles. However, adaptability to changing project circumstances remains crucial to allow adaptation to learnings made along the microgrant project.

Learning #5: Curated knowledge sharing within the Network empowers Flying Labs to replicate and improve applications in their respective communities. The microgrant allows the creation of sharing resources directly by the Flying Labs who have made their experiences with the program.

Future Outlook



Since its launch, we have decided to make TDIA a program and not a project. This allows for a long-term focus and continuous improvement based on the evolving needs of Flying Labs and the feedback we collect through the microgrants.

We believe that in most cases, all of us (Flying Labs, data stakeholders, and the supporting team at WeRobotics) are just “scratching the surface” regarding the value that drone data can provide. For example possible applications for social good supported with drone data, actions and decision-making supported by insights and information based on drone data, discussions with communities and stakeholders initiated by such information and insights, and more.

For the coming two years, we plan to continue growing, expanding, and improving the program and its resources. To do so based on Flying Labs needs, we will implement future rounds of microgrants. Recognizing the remarkable growth achieved by Flying Labs who have implemented microgrant projects to adopt the TDIA methodology and tools into their work, we feel confident that new rounds of microgrants will create an important impact for individual Flying Labs’ qualitative growth and sustainability.

An added benefit is the microgrant projects’ stakeholders’ increased capacity to make decisions driven by data.

We will also continue to document the microgrant projects with Flying Labs, including new formats for sharing the learnings internally and externally. The key focus for future rounds of microgrants is measuring quantitative and qualitative impact together with stakeholders and building out the personalized and dedicated support to Flying Labs, which is one of the most appreciated elements of the program. The outcome we plan to achieve is that each interested Flying Labs has had at least one opportunity to try out the proposed TDIA methodology of taking stakeholders along the drone data journey. This will then allow Flying Labs to decide if and how this approach allows them to create more lasting positive change within their communities directly collaborating with all stakeholders. Another outcome is including the voices of the various stakeholder groups into the MEL part of each learning project.

We welcome support from funders, technology partners, and topic experts to keep growing this innovative and unique approach on creating maximum value and impact with the help of emerging technologies in the hands of local experts.

FLYING LABS
IMPACT STORIES

Impact of TDIA methodology and microgrant on South Africa Flying Labs



South Africa Flying Labs participated in the Microgrant round #3. The focus of their learning project was the use of drones & data in disaster preparedness, mitigation, and response in an underserved community in Johannesburg.



[Hear directly from South Africa Flying Labs about the impact and their experience in this video](#)



This project demonstrated the power of wielding drones and data to shape the future (of communities), and it will continue to create a sustainable impact for vulnerable local communities that often bear the brunt of these disasters. The wins of the project led to follow-on work for South Africa Flying Labs, including a second phase. Through the project's positive impact, South Africa Flying Labs and QP Drone Tech emerged as thought leaders in integrating drones and robotics into disaster management and response.

Notably, the project also led to the planning of the very first Drones in Disaster Management Conference held in October 2022, bringing together industry experts, government officials, private sectors, UN agencies, among others to share insights and best practices for using drones and robotics for disaster management, preparedness, and



"TDIA gave us an opportunity to scale this project. For the first time, the Minister knows about our existence. Media houses had an interest in us all of a sudden and UN agencies also came on board.

Data usually gathers dust on a shelf. But with TDIA, we ensured that the information we collected could be meaningfully used to improve the situation. I'm results-driven and I prefer to see things come to completion and be used by other people and see the impact it brings in their lives. This is all about stakeholders taking action to help the country. The aftereffects made me think, "Wow, what a project!"

*– Queen Ndlovu,
Managing Director
South Africa Flying Labs*

05.

ANNEX 1 - FLYING LABS IMPACT STORIES

response. The second installment of the conference occurred in November 2023.

The TDIA microgrant made the partnership a truly effective one where the partner walked with South Africa Flying Labs from the beginning to the end. This increased the effectiveness of the project.

Through this grant, South Africa Flying Labs developed an even deeper understanding of their community and the challenges they were facing.



"UNICEF decided to partner up with us for a Cape Town conference. They reached out to us via LinkedIn asking us to present, after seeing a post about what we had done in this project."

"I was surprised by how much I didn't know about South Africa. I thought I understood how people live but I was shocked to see how people truly live"

*- Obed Radebe,
Technical Director,
South Africa Flying Labs*



"WeRobotics and SAFL were really working together. Usually sponsors leave you alone, but WeRobotics went all out to support the SAFL team and that's why the project was a success."

"[In analyzing the data] we had a culture shock in our own country!"

*- Queen Ndlovu,
Managing Director South Africa Flying Labs*

Impact of TDIA methodology and microgrant on South Africa Flying Labs' stakeholders

The grant allowed South Africa Flying Labs to introduce young people to emerging technologies and their applications in local communities. The project had a ripple effect in launching accredited disaster management training for unemployed youth. The unemployed youth who participated in the first and second phases of the TDIA project were trained to become disaster management champions in Alexandra.

The project also increased the legitimacy of South Africa Flying Labs among stakeholders, with partners seeing more value and deepening their engagement.



"Stakeholder engagement process became most valuable for us. The city of Johannesburg was cold at the beginning of the project, but as the project went on, they were very receptive. When we went to present the results of TDIA to them, they were amazed by the type of information and insights we were able to show them."

"People in the drone industry in South Africa seem to feel threatened by South Africa Flying Labs after seeing the results of this project. The competitors are stepping up their game. The project has resulted in competition elevating their standards which is a win for the South African drone industry."

*– Jack Shilubana,
Operations Director, South Africa Flying Labs*



"At the beginning of the project we had only one representative from the city of Johannesburg, at the end we had a full house! One person from every department. They even requested a follow-up. Data actually helps make a difference."

*– Obed Radebe, Technical Director,
South Africa Flying Labs*

Impact of TDIA methodology and microgrant on Senegal Flying Labs team



[Hear directly from Senegal Flying Labs about the impact and their experience in this video](#)



Senegal Flying Labs participated in the Microgrant round #3. Their learning project focused on preventing the risk of flooding during the rainy season and improving planning for religious events in the holy city of Touba - Senegal's second most populous city after Dakar.

Implementing the TDIA methodology elevated systems and processes at Senegal Flying Labs, making for better project progress, as the nature of the project allowed the management to understand the day-to-day challenges experienced during fieldwork. This, in turn, has translated to better team relations and emphasized the importance of being flexible and adapting to the realities on the ground.

The successes of the project also allowed for some exceptions to be made for the all-female team that went to Touba, accentuating challenges women in technology face in their work.

Through the project, learning was greatly enhanced within the team. The tools created were found useful and are being adapted for future projects.



"Even if we have technological tools, the role of people is always important in the process. Depending on the context and situation, sometimes we have to adapt our decisions. We can't always rely on the technology itself alone.

With this project experience, I learned that the field has its own reality. So even when we plan very well, we always need to adapt to the situation. When we left for the field, we already had some ideas on how to do things but once we arrived at our destination, we had to completely change our strategy.

The most significant change for me was to follow an already existing methodology and to be able to get feedback on it. For example, we usually create our own tools such as checklists for our projects but with TDIA, the already existing checklist and handbook of the program really helped us with our project progress. I think these tools are really well-made. So I must say that we need to make use of them. We need to integrate them into our work process and adapt them according to our own needs. So I will definitely use these tools for my next projects."

*- Adja Aminata Mbengue, Project Coordinator,
Senegal Flying Labs*

Impact of TDIA methodology and microgrant on Senegal Flying Labs' stakeholders

The project implemented by Senegal Flying Labs had a long-term view beyond the immediate outcomes and has led to follow-on work with even more ambitious goals. Through the co-creation of solutions that truly reflect their realities, the project raised public awareness of the benefits of drones for flood management and encouraged the continued adoption of this technology. Involving residents in the process also enabled a better understanding of local issues. The consultative nature of the project changed the perception of drones in the community for those who might have negative views of them. TDIA methodology ensures that data is effectively used for informed decision-making and complementing other sources of data, allowing for more targeted solutions.



"It's very difficult to enter parts of the mosque [as a woman] but we were finally able to get access. I've been to Touba many times and couldn't enter certain parts, but this time I could."

– Maty Diankha, GIS and Teledetection specialist,
Senegal Flying Labs



"These combined efforts demonstrate our determination to tackle the complex challenges affecting Touba, using innovation and technology to create a better, more resilient future for this iconic holy city. That's why we've made the data we collected available to the Town Hall, along with deliverables such as a 3D map of the Grand Mosque of Touba and its surroundings, a map of Touba's watersheds and hydrographic network, and a land-use map of the areas we've flown over."

"Senegal Flying Labs remains optimistic that our utilization of drone technology will yield effective and lasting solutions to safeguard the sanctity of Touba. With each drone flight, we hope to contribute towards a future where innovation and tradition harmonize to ensure the preservation of this holy city for generations to come."

"Senegal Flying Labs aspires to craft an updated map of Touba, Senegal's Holy City, and its encompassing areas, an endeavor that calls for a profound collective effort. Engaging in heartfelt dialogues with both local and religious authorities, we are steadfast in our pursuit of viable avenues to fund this large-scale project for the benefit of the whole community."

– Tiamiyou Radji,
Director of Senegal Flying Labs

Impact of TDIA methodology and microgrant on other participating Flying Labs' stakeholders

The implemented projects proved that TDIA methodology eventually saves time, but also allows for more ambitious tracking such as looking at Sustainable Development Goals (SDGs) for communities.

The implemented projects also allowed the stakeholders to access insightful information they wouldn't have access to otherwise, which was directly used to take action. Some of these projects led to further opportunities, allowing the Flying Labs to scale their implementations.

The direct and indirect involvement of various stakeholders allowed the Flying Labs to contribute their unique expertise to the project.

"This new methodology can lead to achieving SDGs, and this is huge. This is not just my opinion, but also my stakeholders'. Before it would take them months and now it can be done within a few days. It means a lot!"

"We did a survey of 1 sq km and identified some patches of mangroves that were too sparse. Aerial imagery gave the stakeholders a new perspective and they found a lot of empty patches (seen from above). Satellite imagery was too blurry and not detailed enough. Now they are planting seeds in these patches. They're also talking about covering a larger area."

*– Obaid ur Rehman,
Director of Pakistan Flying Labs*



"When it comes to drone applications, we realized that a lot of stakeholders are very interested in participating. It's very important to involve them directly or indirectly. You may find this sparks interest in other areas too, for instance the generation of proposals by stakeholders for similar applications. Our approach initially was to involve stakeholders directly involved with the project, but through TDIA, we benefited from the point of view of the Disaster Management Mitigation Unit and others. Likewise, many students participated and contributed with

their approach. Lecturers too, government and institutions. We are changing our way of doing things to this new approach for similar projects in the future."

"We had 20 very engaged students, traveling across provinces just to participate in the project. They are your advocates, they will have great perspectives."

*– Chitula Lukonde,
Managing Director of Zambia
Flying Labs*

Impact of TDIA methodology and microgrant on other participating Flying Labs' stakeholders



"The data is not useful if it's not presented in a way to make sense."

*- Tinah Mutabazi,
Coordinator of Uganda Flying
Labs*



"TDIA complemented what has already been done. We were able to identify where crops were not thriving. With multispectral images it was easier to see the problematic areas. Farmers are already using data. So what we are doing is giving them a better tool which is quicker and more efficient."

*- Eotu Diego Fischer,
Surveyor & GIS Data Analyst,
Uganda Flying Labs*




















"If you don't know what to act on, it's a waste of effort. Many times we have data in our hands, but it's not useful."

*- Obaid ur Rehman,
Director of Pakistan Flying Labs*

06. ANNEX 2 - MICROGRANT LEARNING PROJECTS

The table below provides a condensed summary of all learning projects funded through TDIA Microgrants to date:

| | TDIA Learning Projects | Details | SDG |
|----|--|--|---|
| 1 | Zambia FL - Using Drones for Stockpile Audits for Chunga Dumpsite | Use Case Blog Post 1 Blog Post 2 |  |
| 2 | Benin FL - Using Drones to Update Land Housing Register in Downtown Areas of Ouidah | Use Case Blog Post |  |
| 3 | Zimbabwe FL - Protecting Harare's Wetlands Using Drone Data | Use Case Blog Post |  |
| 4 | Kenya FL - GIS to Assess, Model and Analyze Floods at Turkwel Dam and its Basins | Use Case Blog Post |  |
| 5 | Namibia FL - Mapping Ombili - an Informal Settlement in Namibia | Use Case Blog Post |  |
| 6 | Malawi FL - Lilongwe Town Planning Using Machine Learning Models and Drone Maps | Use Case Blog Post Video |  |
| 7 | South Africa FL - The Use of Drones in Disaster Preparedness, Mitigation and Response | Use Case Blog Post Story Map |  |
| 8 | Benin FL - Realization of a Transit Corridor in the Settlement of Conflicts between Stock Breeders and Farmers | Use Case Blog Post Video |  |
| 9 | Uganda FL - Drones for Risk Mitigation for Coffee Farmers to Support Decision Making for Financiers | Use Case Blog Post |  |
| 10 | Pakistan FL - Assessment of Mangrove Forests along the Coast of Pakistan | Use Case Blog Post |  |
| 11 | Senegal FL - Cartography of the Great Mosque of Touba for a Redevelopment of the Site | Use Case Blog Post Video |  |
| 12 | South Africa FL - Informal Settlement Survey for Disaster Management Mitigation and Planning (Part 2) | Story Map Blog Post Video |  |
| 13 | Burkina Faso FL - Application of Drone Technology to the Management of Irrigated Areas | Ongoing |  |
| 14 | Nigeria FL - Establishing a Geospatial and Drone Data-Driven Ecosystem to Enhance Disaster Management through Capacity Building and Response in Nigeria | Ongoing |  |
| 15 | Bolivia FL - Firehawk Mapping Project for the Prevention of Forest Fires in La Chiquitania | Ongoing |  |
| 16 | Nepal FL - Change Analysis and Calculation of Runout Volume of Debris of a Landslide Using Drones to Suggest Sustainable Risk Reduction Measures to Local Governments in Ramechhap | Ongoing |  |
| 17 | Cameroon FL - Landslide Impact Identification and Reduction | Ongoing |  |

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