



SCALE FOR RESILIENCE

How to improve
productive
realities at
scale?

*The need for
digital decision
support for
smallholder
farms and
beyond*



Foreword

The United Nations Climate Change Conference COP27, convening this year in Sharm al-Sheikh, Egypt, saw the themes of adaptation and resilience at the forefront of the discussions. Scale for Resilience, a joint initiative by YAPU Solutions, GAWA Capital and CIAT/CGIAR which seeks to scale Nature-based Solutions (NbS) and adaptation finance through targeting entire financial value chains, has long been a part of the UNFCCC High Level Race to Resilience Campaign. Acting as co-lead for the "Food & Agriculture" theme of the Resilience Hub at COP27, Scale for Resilience lead a session regarding digital solutions for scaling productive realities for smallholder farmers and the most vulnerable populations in developing countries.

This white paper aims to provide a comprehensive overview of the event and the essential learnings that can be gathered from it. It is hoped that this will aid in efforts to accelerate the ambition, action and investment urgently needed to shift the weight of collective action towards a more equitable balance between adaptation and mitigation goals. It is authored by YAPU Solutions, one of the co-founders of Scale for Resilience.

We would like to sincerely thank all those that planned and participated in both this session and in the Resilience Hub. It was an uplifting moment of diverse voices coming together to collaborate and amplify cross-actor knowledge sharing and innovative solutions. Moreover, special thanks to graphic harvester Lea Keim for putting together the brilliant session summary below. Adaptation and resilience provide the basis for the most vulnerable to thrive, not just survive, despite climate change effects. Therefore, both must increasingly become the central objectives in our continued fight against climate change. Thank you again to all the contributors. Together to 2030... and beyond.

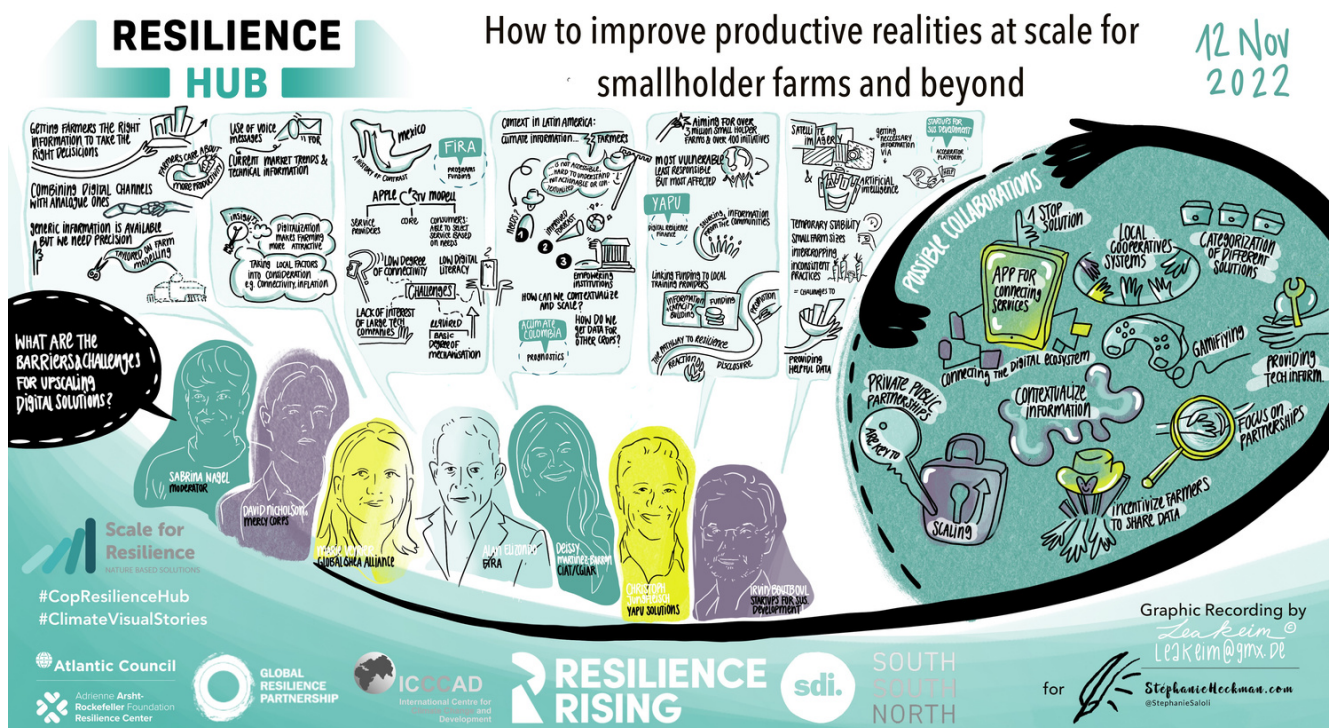


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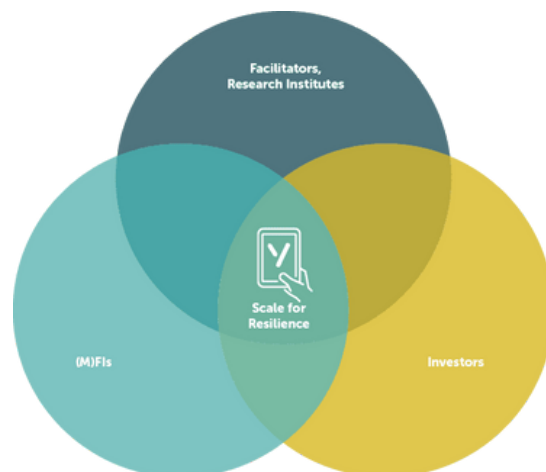
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Scale for Resilience: Who We Are



Our Mission

Scale for Resilience aims to create access to Nature-based Solutions (NbS) and enable the conditions and mechanisms to finance them. It does so by addressing the full financial value chain: it unites investors, (Micro-)Financial institutions as well as facilitating institutions, like research centres and technology providers. In order to achieve this, the initiative leverages ICT solutions for the assessment and reporting of smallholder's productive needs in the context of climate change and addresses them by financing suitable NbS.

Scale for Resilience thereby seeks to address three key barriers that prevent scaling up of financing for adaptation and resilience, as identified by the [Global Commission on Adaptation](#):

- Insufficient availability and adoption of climate risks data and tools
- Perceived lack of profitable investments
- Perceived low commercial readiness of adaptation and resilient solutions

Initiated by:



Our Goals

The goal of the initiative is to leverage digital solutions for the assessment and reporting of smallholder's productive needs in the context of climate change and address them by financing suitable NbS. Therefore, the goals we support are:

- the use of suitable digital tools to foster structured data gathering and reduce complexity
- the systemic lowering of financial barriers for smallholder farmers by promoting site-specific comprehensive and holistic Nature-based Adaptation value propositions
- the establishment of standardized metrics to facilitate reporting
- the verification of green Microcredits on the ground
- the development of green credit products financing NbS
- fostering knowledge and capacity on NbS and their best-use to unlock their full potential for productivity and resilience

We pledge to make
3,000,000 smallholder
farmers and rural
communities more
resilient by **2030**

Session Overview

Digital tools and data insights have great potential to transform agricultural productive realities. Nevertheless, there are many challenges to creating inclusive solutions that increase resilience for food systems. Solutions that may work for commercial contexts may not for smallholder farmers. Furthermore, how can scalable solutions be transferred to diverse cultural contexts and take traditional agricultural production into account? While mobile coverage is expanding in most parts of the developing world, knowledge is oftentimes transferred via traditional communication channels. This session took a comprehensive look at the many aspects of scaling digital solutions and how they can improve resilience for food systems.

Resilient agricultural practices requires manyfold decisions on a daily basis. This process can be supported cost-efficiently and at scale with smart digital solutions. But even though the digital age creates a richness of data, it doesn't necessarily create a richness of insights. Hence, data insights need to be precise, efficient and user centric. It remains a key challenge to identify the data insights that are suitable in the specific context and culture.

Objectives of the session were to:

- Create an overview on pressing barriers to improve productive realities at scale
- Showcase existing digital solutions to address these barriers in different agricultural contexts
- Seek collaborative potential among the diverse group of speakers

Saturday, November 12, 11:45 – 13:00

Speakers:

- Sabrina Nagel (Moderator), Coordinator, *Scale for Resilience*, Program Innovation Manager, *YAPU Solutions*
- David Nicholson, Chief Climate Officer, *MercyCorps*
- Marie Veyrier, Development Director, *Global Shea Alliance*
- Alan Elizondo, Managing Director, *FIRA*
- Andrea Castellanos, Senior Research Associate, *CIAT/CGIAR*
- Christoph Jungfleisch, CEO, *YAPU Solutions*
- Irwin Boutboul, Founder, *Startups for Sustainable Development*, *Google*



Pictured (left to right): Christoph Jungfleisch, *YAPU Solutions*; Irwin Boutboul, *Google Startups for Sustainable Development*; Marie Veyrier, *Global Shea Alliance*; Andrea Castellanos, *CIAT/CGIAR*; David Nicholson, *MercyCorps*; Sabrina Nagel, *YAPU Solutions*, *Scale for Resilience*

Current Initiatives

There are many innovative solutions being implemented in developing countries that leverage digital tools to target adaptation and resilience in agricultural and food systems. Detailed below are some the ongoing solutions that were presented.

It is important to not only accelerate these programs and focus on scaling their impact, but also address the current challenges they are facing in implementation and formulate solutions together to overcome them.

ORGANIZATION	PROJECTS	RESULTS
MercyCorps	<u>AgriFin Program</u> and launch of the <u>Sprout OCAP and Sprout Learning platforms</u>	<ul style="list-style-type: none"> • Leverages digital technology and innovation to develop inclusive digital products and services • Promotes "customization at scale"
YAPU Solutions	Path to Resilience approach with the <u>YAPU Platform</u> and design of AI solution	<ul style="list-style-type: none"> • Graduation model for financial service providers for the proactive promotion of resilience aligned with national ecosystems • Formulation of taxonomies of adaptation solutions
Google's Startups for Sustainable Development	Program supporting a <u>global ecosystem of impact-focused startups</u>	<ul style="list-style-type: none"> • Building a community supported by advisors, funding and platform technology to scale for measurable impact
CIAT/CGIAR	<u>MELISA / Agro-climatic information interface</u> for Colombia	<ul style="list-style-type: none"> • A user-friendly chatbot that translates all technical climate modelling to real time understandable information for smallholder farmers
Global Shea Alliance	<u>Shea Business Empowerment Program</u> with the Mastercard Foundation in Ghana	<ul style="list-style-type: none"> • Provides access to capital, critical skills development and market linkages • Voice messaging transfer of pricing information, technical information, and cooperative and business management
FIRA	<u>AgriTech FIRA</u>	<ul style="list-style-type: none"> • Web-based platform modelled off an external services architecture focused on AgriTech ecosystem in Mexico

Barriers

What are the key barriers to improving productive realities for smallholder farmers?



Sabrina Nagel, YAPU Solutions

1

Weak Capacities

Overall, climate risk management and the institutional capacity of actors along the financial value chain to disclose risks and integrate adaptation and resilience into their portfolios remains weak. Financial institutions, due to knowledge gaps, short-term biases, and a lack of common measurements and a taxonomy to understand resilience, do not have sufficient abilities to serve vulnerable populations in their areas of operations with traditional financial and non-financial products and services and to also document examples for efficient resilience finance. Low degrees of connectivity, digitization and digital literacy compound this problem.

2

Fragmented Ecosystem

Many innovative solutions already exist – e.g. those highlighted by the panel – the missing link is collaboration. There is insufficient institutional cooperation of actors within and across countries which leads to fragmented responsibilities and interventions. The supply and demand of digital services often fails to meet. Additionally, it remains a challenge to contextualize, and thus scale, solutions with an international lens. Driving locally-led adaptation through connecting with local organizations to source valuable traditional knowledge, disseminate information and leverage existing networks is often times lacking.

3

Data and Information Flows

Fresh data inputs are crucially needed to foster the efficacy of these digital services and solutions and to create meaningful insights. Ensuring they are precise, trusted, user-friendly and available to all relevant actors remains a key barrier. Identifying the insights suitable in a given context and culture is another challenge. Additionally, the flow of knowledge is an important dimension – whereby there are many innovations in technology happening today, the central challenge is how to make these new systems, ICTs – and the insights and information generated from them – available and how to communicate them to smallholder farmers at the local level.

4

Services and Capital

There is a consistent lack of patient long-term capital dedicated to incubating and scaling resilience and adaptation solutions. According to the [UN Environment Program's Adaptation Gap Report \(2022\)](#), estimated adaptation costs are five to ten times greater than international adaptation flows to developing countries. Investment in smallholder farmers is often perceived as a high-risk venture, thereby driving interest rates up, and effectively excluding the most vulnerable from access to finance and markets. Additionally, refinancing options are also limited for local institutions as they are rarely rated triple AAA players. This de-incentivizes engagement and commitment to the topic.

Solutions

What is the role of digital solutions and their identified best-practice solutions that address the critical challenges?

"Decision support is a fundamental pillar of climate adaptation. We are basically trying to enable a system where people are able to do something different – adaptation means doing something different. If you're going to do this, you need a set of information that helps you make decisions differently. Digital tools have great promise to do just this." – David Nicholson, MercyCorps

1

Capacity Building and Decision Support

All solutions must aim to empower all actors along the financial value chain – down from the institutional investors to the end beneficiaries – to commit to focusing on adaptation. This not only uplifts local voices, but also ensures a sustainable shift in development towards promoting resilience. This means that loans should be coupled with access to locally-relevant information, technical assistance and capacity building services. Importantly, this would focus on programming for strengthening financial and digital literacy and business management in vulnerable communities and on generating a better understanding of the most effective locally-informed adaptation solutions.

2

Partnerships and Synergies

When designing these solutions, the enabling environment and local context must be taken into account. It is necessary to pair digital solutions with complementary support on the ground – leveraging synergies between the traditional and the digital and with local partnerships to increase reach, scale and impact. Solutions need to adapt to local realities and build the proper ecosystem that allows for the supply and demand of these digital services to meet. This necessarily must involve partnerships across public and private sectors and best-practice sharing for accelerated learning. A complete and inclusive view on the financial, economic, and social environment needs to be built with resilience being proactively promoted in line with national ecosystems.

3

One Digital Ecosystem

Precise data is a necessary prerequisite to foster viable and scalable adaptation and resilience solutions. One potential idea agreed upon across the participants was a one-stop open source platform that would allow the sharing of available data and services for all relevant stakeholders. It would need to both preserve local trust and ownership and also allow for the many fragmented organizations to all benefit from informed sources and connect with one another under one digital ecosystem.

4

Catalytic Blended Finance

Catalytic blended finance is needed to support the scaling of solutions in the market. This must include funding aimed at de-risking capital and attracting private investments. Public money is essential in this – it can fund collaborations and platforms that effectively contextualize solutions and also drive private capital to invest in adaptation in developing countries. Innovative refinancing mechanisms must also be developed for local institutional engagement. Necessary to ensuring that adaptation finance is being channeled efficiently down the financial value chain is a traceable and transparent system.

Summary & Key Takeaways

Digital tools and data insights have the vast potential to transform the resilience landscape. However, whereby climate adaptation has increasingly become a developmental focus and innovative solutions have been developed, there remains a long way to go. Adaptation that reduces risk is not necessarily inclusive and many smallholder farmers adoption of technologies or best-practices is hindered by their availability and affordability.



Sabrina Nagel, YAPU Solutions; Irwin Boutboul, Google Startups for Sustainable Development; Andrea Castellanos, CIAT/CGIAR; David Nicholson, MercyCorps;



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Overall, a broader approach is needed that leverages the untapped utility of collaboration across digitization and data in order to identify investible adaptation solutions that are human-centric and locally-led and that confront the challenges the field is facing today. This necessarily includes more attention to capacity building and cooperation with communities, businesses, social society and governments. Capital-side constraints must also be overcome through catalytic blended finance instruments and channeling these funding flows effectively. Finally, partnerships are essential in striving to scale solutions and create one digital ecosystem that fosters resilience for those who need it the most.



Christoph Jungfleisch, YAPU Solutions



Andrea Castellanos, CIAT/CGIAR



Irwin Boutboul, Google Startups for Sustainable Development



David Nicholson, MercyCorps

"Resilience is a social issue, not just a planetary issue. It needs to make human lives better."
– Christoph Jungfleisch, YAPU Solutions

