WHAT SUPPORT
DO INNOVATORS OF
DIGITAL PUBLIC GOODS
NEED TO SUCCEED?

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Digital Public Goods (DPGs) are a fundamental pillar in achieving the Sustainable Development Goals and driving the UN's Roadmap for Digital Co-operation. UN Global Pulse has been working to identify the bottlenecks and catalytic support required to make products scale ready or well positioned on the road to scale.

The project initially focused on innovations in maternal, newborn and child health, a focal area of the Sustainable Development Goals. However it soon emerged that many of the findings were not only applicable across health, but beyond into other sectors.

Interviews with innovators and other stakeholders identified a number of challenges faced throughout the innovation process, but particularly when moving from the pilot to scale stage. Further research revealed a need for tailored mentoring support to develop a sustainable business model and access to sources of funding. Knowledge sharing among innovators is limited with potential benefits arising from collaboration through communities of practice and easy access to resources such as guidelines or case studies.

This report provides an overview of the research findings, highlights the important role of DPGs in accelerating progress towards achieving the Sustainable Development Goals and Our Common Agenda. It also outlines UN Global Pulse's plans to work with innovators and provides some calls to action for those interested in supporting this vital work.

Digital technologies: electronic tools, systems, devices and resources that generate, store or process data.

DIGITAL PUBLIC GOODS

Public Goods: a commodity or service that is provided without profit to all members of a society, either by the government or a private individual or organisation which is to the benefit or well-being of the public.
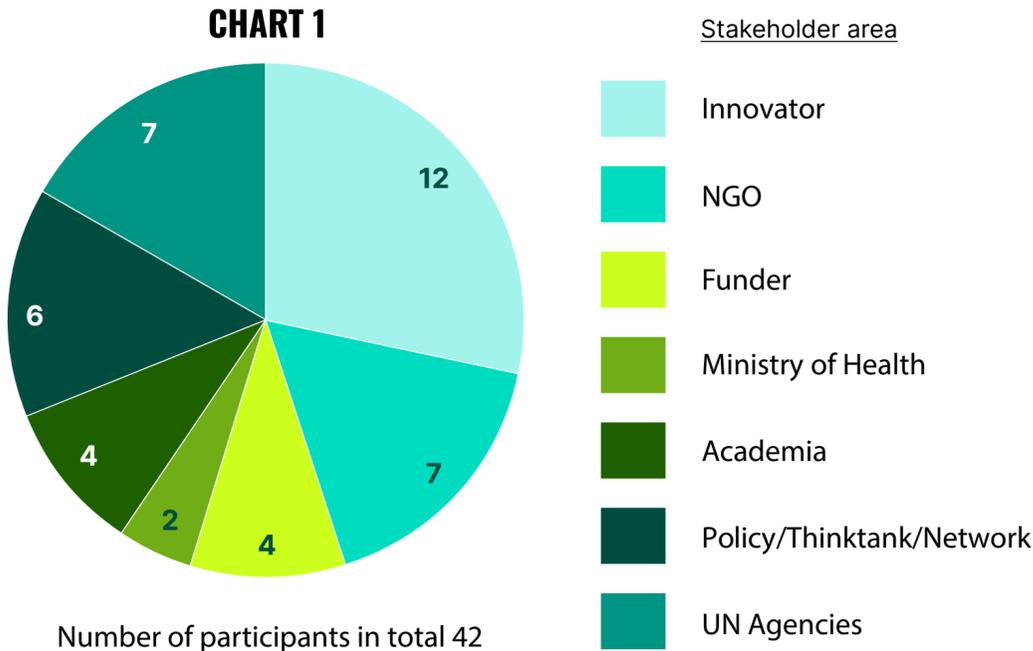
WHAT ARE DIGITAL PUBLIC GOODS?

A DPG is open source software, open data, open Artificial Intelligence (AI) model, open standard, or open content that adheres to privacy and other applicable laws and best practices, does no harm, and helps attain the Sustainable Development Goals (SDGs). The Digital Public Goods Alliance (DPGA) is a multi-stakeholder initiative that established and maintains the DPG standard and DPG registry. It aims to increase the discovery, use of, and investment in digital public goods. UN Global Pulse has recently become a member of the DPGA, which means we will work collaboratively to advance digital public goods.

HOW WAS THE RESEARCH CONDUCTED?

An initial desk review identified 50 innovations focused on maternal, newborn and child health. Some of these are nominees to the DPG registry, others are listed on the World Health Organisation's Digital Clearing House, more were discovered through Digital Square's 'Map & match' exercise and some were identified through a process of snowballing research and word of mouth.

Innovators of these products were invited to participate in key informant interviews to identify the challenges and enablers of scaling digital solutions and moving along the path to becoming a DPG. To gain a range of perspectives, other stakeholders were also invited to participate in these discussions. Interviews were mostly conducted online, ranging from 30–60 minutes, between November 2021 and January 2022. One focus group was organised with 6 participants across Finnish academia, hospitals and education. See chart 1 for a breakdown of the participants.

CHART 1

Number of participants in total 42

Stakeholder area

- Innovator
- NGO
- Funder
- Ministry of Health
- Academia
- Policy/Thinktank/Network
- UN Agencies

Following analysis of the qualitative research (see next section) recommendations were made to support innovators in scaling their digital products. To validate the qualitative research findings and inform adaptations to the original recommendations, a survey of DPG owners was launched in collaboration with the Digital Public Goods Alliance.

The survey was sent via email from the DPGA to DPG owners and organisations who have expressed interest in nominating their product to the DPG registry (circa 150 recipients). The survey was open from 22 March to 8 April 2022. Thirty six responses were received (24% response rate).

WHAT DID WE LEARN FROM THE RESEARCH?
KEY INFORMANT INTERVIEWS

The findings of the qualitative research were analysed into four broad themes: factors influencing poor reproductive, maternal, newborn and child health; priorities in improving RMNCH; the innovation process and scaling innovation challenges and success factors.

To keep a broad focus in this report, detail of the first two themes is not provided here. The second two themes however have relevance across all sectors of digital innovation and provided the basis of the recommendations made.

THE INNOVATION PROCESS:

DRIVER OF NEED: A gap exists between what the health system needs (or prioritises) and what solutions are being proposed or piloted. The Ministry of Health should be the driver of such needs, set out in a digital health strategy, but rarely is. Many participants spoke of the importance of co-design in innovation, putting the end user at the centre of solution development, in alignment with the principles for digital development. However a gap exists in identifying different user groups, end beneficiaries, buyers and decision makers. More effective collaboration across and between groups of stakeholders may help to ensure a product well suited to the local ecosystem.

FUNDING: When innovations have been incubated through short term funding, there is a lack of follow up or funding opportunities to further develop or scale the solution. There is a need to move away from donor driven funds and to ensure ownership of a digital tool by national authorities. The principles of donor alignment for digital health aim to support national health strategies but there is a view that more needs to be done to re-emphasise them to make the best use of available funds.

COUNTRY LEVEL COORDINATION: There is a lack of knowledge on what innovations have already been tested in an ecosystem and what the results were. Many informants identified a need to develop a mechanism to share this type of data. There was a feeling that in many LMICs the Ministry of Health has inadequate budgets to coordinate digital development programmes, making it hard to see the full picture of innovation in a country. Innovators reported struggling to find the right connections in a country and requested support from the UN on facilitating this more effectively.

ONGOING SUPPORT: Most respondents felt there is a wealth of excellent support material in the form of guidelines, frameworks, principles, maturity models etc. What is needed now is the resource to facilitate implementation, in the form of hands-on technical expertise and funding. Technical assistance to adapt and adopt digital tools is required for DPGs to be successful at scale. Tools that are made available as DPGs have access to funding support in their development phase but less so as they require enhancements or adaptations.

SCALING INNOVATION:

CHALLENGES: Many of the challenges to scaling centre on funding. Funding for digital health innovation was often short term and poorly coordinated, preventing proven innovations from progressing either in reach or function.

A lack of planning for scale at the pilot stage means core considerations for scale (such as investment in servers or integration with other health systems) are not addressed from the start then require significant time and resources to resolve later.

Poor interoperability of systems is preventing many successful innovations from scaling.

SUCCESS FACTORS: Clear country ownership of digital health initiatives and programmes, supported by partners, is key to scaling success. This requires well-developed long term relationships between the Ministry of Health and partners, strong leadership within the Ministry for digital innovation, push back on initiatives that do not align with the digital health strategy and champions who support innovations.

Successfully scaled innovations met a clear need identified from a thorough needs assessment, aligned with Ministry of Health priorities, were co-designed with end users and were adapted to support the local context. Ministry of Health buy-in was most successful when clear evidence of results was presented, not just of the specific programme but to the wider health system.

Stemming from the research findings, three recommendations were proposed for discussion by a technical advisory group. Feedback from this group was incorporated to result in the following proposals: easy access to guidance on succeeding at scale; creation of a pool for experts for innovators to receive tailored mentoring support; and a community of practice for networking and knowledge sharing. These recommendations are discussed further in the next section.
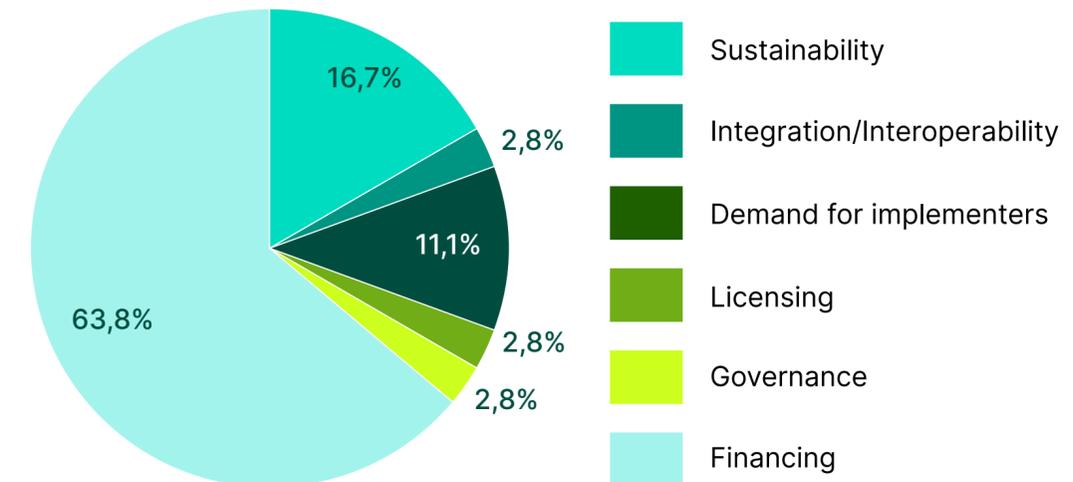
SURVEY OF DPG OWNERS

The survey aimed to validate the need for these proposals, gain feedback for adaptations and understand how innovators would engage with this support. We discovered that:
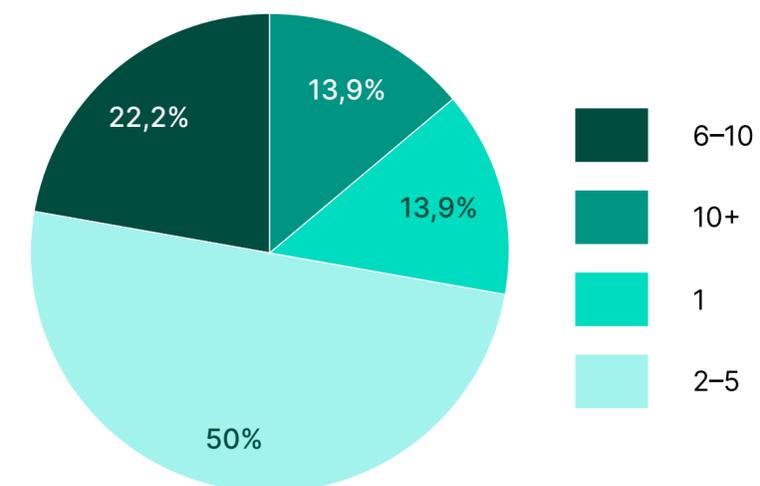
- The majority of respondents are based in the global south, indicating an interest in this concept from LMICs.

- Respondents were mostly working alone on the DPG or within a small team, highlighting a need for expert support in some specific areas.

- The key challenges DPG owners face relate to financing and sustainability of their products. A third core challenge is demand from implementers. While technical challenges including interoperability, licensing and data security were highlighted, these are not the DPG owners' priority.

- The majority of respondents would welcome access to an expert to support them in overcoming their scaling challenges. They would like to see a model that includes an initial workshop to fully understand the challenges, followed by a mentoring type relationship with ongoing support and advice.

- The majority of respondents would be interested in joining a community of practice relating to implementing/scaling DPGs. This should be open to a range of participants including owners, developers, implementers and technical experts. Topics for discussion should be driven by group needs, since a diverse range of subjects were suggested.

Full details of the survey results can be accessed on this blog post.

Which challenge is your highest priority? (select one)

- Sustainability
- Integration/Interoperability
- Demand for implementers
- Licensing
- Governance
- Financing

16,7% 2,8% 11,1% 2,8% 2,8% 63,8%

How many people in your organisation are working on your DPG Project?

- 6–10
- 10+
- 1
- 2–5

13,9% 13,9% 22,2% 50%

THE WAY FORWARD

UN Global Pulse will work with the Digital Public Goods Alliance to look for opportunities where **Communities of Practice** may provide valuable spaces for innovators to network and collaborate.

UN Global Pulse's scaling team is focused on supporting innovators move their products from the pilot stage to achieve real impact in contributing to the Sustainable Development Goals through scale. Currently, UNGP is designing with UN agencies and guided by existing good practices across the system, a support programme for digital public goods that manages a pool of experts to support innovators in overcoming their scale challenges.

HOW CAN YOU CONTRIBUTE TO ADVANCING DIGITAL PUBLIC GOODS?

For the Digital Public Goods Alliance to achieve its mission, and for all of us collectively to achieve the SDGs, we must work together. Whether you represent a government, international organisation or NGO, tech company or start-up, research institution, think tank, or any other entity, you can get involved.

- **JOIN THE DPGA AS A MEMBER ORGANISATION.** Organisations in the Roadmap are committed to working transparently and collaboratively to support DPGs.

- **NOMINATE A DPG.** Nominate open source software, data, AI models, standards and content relevant to the sustainable development goals and do no harm.

- **CONTRIBUTE TO THE DPG STANDARD.** The DPG Standard establishes a baseline for recognition as a digital public good. The DPG Standard itself is an open project and open to contribution on the GitHub repository.

- **SUPPORT THE DPG CHARTER PROCESS.** The DPGA and Digital Impact Alliance are co-leading the DPG Charter process which will bring together with a broad set of stakeholders from governments; private sector companies; philanthropic foundations; the United Nations, development banks and other multilateral institutions; non-governmental organisations, academia, media and other civil society organisations. This coordinated effort aims to mobilise high level stakeholder commitments, investments, and actions to advance the use of digital public goods.

ABOUT UN GLOBAL PULSE

Global Pulse UN Global Pulse (UNGP) is an initiative of the Executive Office of Secretary-General (EOSG) founded in 2009. We work in support of the Secretary-General's priorities, in advancement of the UN Charter. UNGP serves as a cross-pillar lead and hub for experimentation and digital innovation. We have a globally distributed team in the Americas, Europe, Africa and Asia. The teams work with digital innovation, strategic foresight, real-time data and artificial intelligence to further sustainable development, humanitarian and peace outcomes. Our vision is 'A world in which responsible and inclusive digital innovation serves to empower people and protect the planet'. Our mission is to work at the intersection of digital innovation and science to inform, inspire and support the entire UN and those it serves, to anticipate and respond to the challenges of today and tomorrow.

ABOUT THE DIGITAL PUBLIC GOODS ALLIANCE

The Digital Public Goods Alliance is a multi-stakeholder initiative with a mission to accelerate the attainment of the sustainable development goals in low- and middle-income countries by facilitating the discovery, development, use of, and investment in digital public goods. The DPGA is governed by a board, which functions as a strategic decision-making and oversight body for the DPGA Secretariat. The board consists of member-organisations who demonstrate a strong commitment to digital public goods and are committed to supporting the DPGA's mission and mandate. Current board members include the German Federal Ministry for Economic Cooperation and Development (BMZ), the Government of Sierra Leone, the Norwegian Agency for Development Cooperation (Norad), iSPIRT, UNDP, and UNICEF.

ACKNOWLEDGEMENTS