

United Nations Development Programme



*Empowered lives.
Resilient nations.*



Moon Shots & Puddle Jumps

UNDP Innovation Facility | 2017-2018 Year in Review

UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. With offices in more than 177 countries and territories, we offer a global perspective and local insight to help empower lives and build resilient nations.

Cover photo: Pok Rie / Pexels

Inner cover photo: Aude Rossignol / UNDP DRC

Copyright © UNDP 2018. All rights reserved.

One United Nations Plaza, New York, NY 10017, USA



MINISTRY OF FOREIGN
AFFAIRS OF DENMARK



The work of the UNDP Innovation Facility is made possible with funds from the Government of Denmark, the co-founding donor of the Facility.



Foreword

The scale and ambition of the Sustainable Development Goals demand a major shift in how development is done. Massive breakthroughs in innovation are required to truly Leave No One Behind and achieve the ambition of the 2030 Agenda. This requires “moon shots” – bold, visionary inventions and technological breakthroughs – as well as “puddle jumps”: important, incremental advances that support the most marginalized and ensure no one is left behind. This concept, coined by MIT’s Jason Prapas, is at the heart of how UNDP pursues innovation for development.

Over the past four years UNDP, with invaluable support from the Government of Denmark, has supported trials to find better solutions to persistent development challenges. The Innovation Facility has provided seed funds and advice to more than 140 experiments in 87 countries. Many of these initiatives have tested the potential of frontier technologies – from drones, to block chain and artificial intelligence – while many more have explored ways to support marginalized populations. From impact bonds and social entrepreneurship acceleration programmes, addressing youth employment in Serbia and Iraq, to co-designing services with rural populations in Pakistan and Bangladesh, to leveraging mobile phone data to gain real-time insights on poverty in Sudan, to embracing behavioural design to combating gender-based violence in Egypt, Georgia and South Africa.

The 2017-2018 Review of the Innovation Facility presents case studies from across the globe, and essays on emerging topics; it also takes stock of what UNDP has learned in the process.

The lessons from the Innovation Facility’s investments – both our successes and failures – are key for UNDP to transform itself for a new era of sustainable development. They help inform UNDP’s vision, which puts innovation at the core of how the organization does business.

Development actors like UNDP, Governments, and bilateral institutions need to be bold. We need to challenge traditional paradigms of development and ways of working, starting with our own. The Government of Denmark is the first country to invest in Techplomacy and establishing a Tech Embassy, with a physical presence in Silicon Valley, Copenhagen and Beijing, transcending borders and regions and rethinking traditional diplomatic representation in the process.

The partnership between the Government of Denmark and UNDP on innovation is entering its next phase, building on what we have learned, and formulating bold new hypotheses that we will jointly test. With more dynamic and open institutions that put innovation at our core, we will take another step towards achieving the Sustainable Development Goals.



Achim Steiner
Administrator
United Nations
Development Programme



Ib Petersen
Permanent Representative
of Denmark to the
United Nations



Contents

6	Our Work – Looking Back, Looking Ahead	70	Instigating Systems Change
10	About the Innovation Facility	74	A Path to Universal Basic Income Serbia
14	Principles of Innovation	76	Augmenting the Vaccine Delivery System India
16	Scaling Impact	78	Exploring Frontier Technologies
20	From National to Local: Scaling Government Innovation Georgia	82	Reintegrating Persons with Disabilities with 3D Printed Prostheses Honduras
22	Phones Against Corruption Papua New Guinea	84	Smart Sensors Helping Farmers Manage Climate Risks Rwanda
24	Improving Public Service Delivery at Scale Bangladesh	86	Blockchain Powered Remittances Serbia
26	Unlocking Development Financing	88	Drones for Crisis Preparedness Maldives, Timor-Leste
30	Islamic Finance Turkey, Indonesia	90	Testing Emerging Concepts: Country Support Platforms
32	Impact Investing Brazil, Malawi, The Gambia	94	Platform-Based Solution to Air Pollution The former Yugoslav Republic of Macedonia
34	Social Impact Bond for Road Safety Montenegro	96	Alternative Financing Lab Indonesia
36	Designing for Behaviour Change	100	Agile Resilience to Climate Risks The Pacific
40	Behavioural Design to Combat Gender-Based Violence South Africa & Georgia, Egypt	102	Innovation Metrics for Human Development – What Have We Learned?
42	Learning from Women Trailblazers Pakistan	108	2017-2018 Innovation Facility Fund Portfolio
44	Behavioural Design to Prevent Violent Extremism Sudan, Yemen	124	Glossary
46	Public Sector Innovation		
50	Access to Justice for Deaf & Hard of Hearing Survivors of Gender-Based Violence Argentina		
52	Innovation at the Core of Government Armenia		
54	Welcome to the family: Brand New Innovation Labs Sri Lanka, Serbia, Kosovo*		
58	Leveraging New Data to Unlock Development, Leaving No One Behind		
62	Augmenting Early Warning Systems Lebanon		
64	Creating Spatial Data Sandboxes to Protect Biodiversity Global		
66	Measuring Multidimensional Poverty Using Mobile Data Sudan		
68	Measuring the Unmeasured Global		

* Any References to Kosovo in this publication shall be understood to be in the context of Security Council Resolution 1244 (1999)

Our Work

Looking Back, Looking Ahead

Looking back

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever does.” Margaret Mead’s famous saying encapsulates the bottom-up approach of the UNDP Innovation Facility. Since 2014, we have pursued two main objectives: support better development results at the country level; and help change management to help transform UNDP.

Innovation is increasingly becoming a core ingredient of how UNDP goes about its business. [UNDP’s Strategic Plan 2018-2021](#) puts a significant emphasis on innovation and sends clear signals to the organization and its partners: UNDP is changing.

The UNDP Innovation Facility, since its inception in 2014, has been contributing to driving this change by providing seed capital for internal experimentation and to support country-level innovations with a strong potential to scale, improve impact, attract and collaborate with an emerging class of partners, bring in inspirations and disruptions from external actors and competitors, and catalyse new funding for development

Targeted seed funding and technical support from the Innovation Facility have expanded opportunities for UNDP to develop the business case for doing development differently and to mainstream new ways of working across the organization.

Through the generous financial support of the Government of Denmark, UNDP offices have been able to test and scale innovations that, for example, helped the effectiveness of the [global response to the Ebola crisis through mobile payments for relief workers, scaled a shared-value solution for electronic waste in China, and supported governments with launching public policy labs](#). These have successfully influenced policymaking, redesigned public

services and supported governments to interact with citizens more openly.

The investments over the last several years in more than 140 proofs-of-concept in countries have:

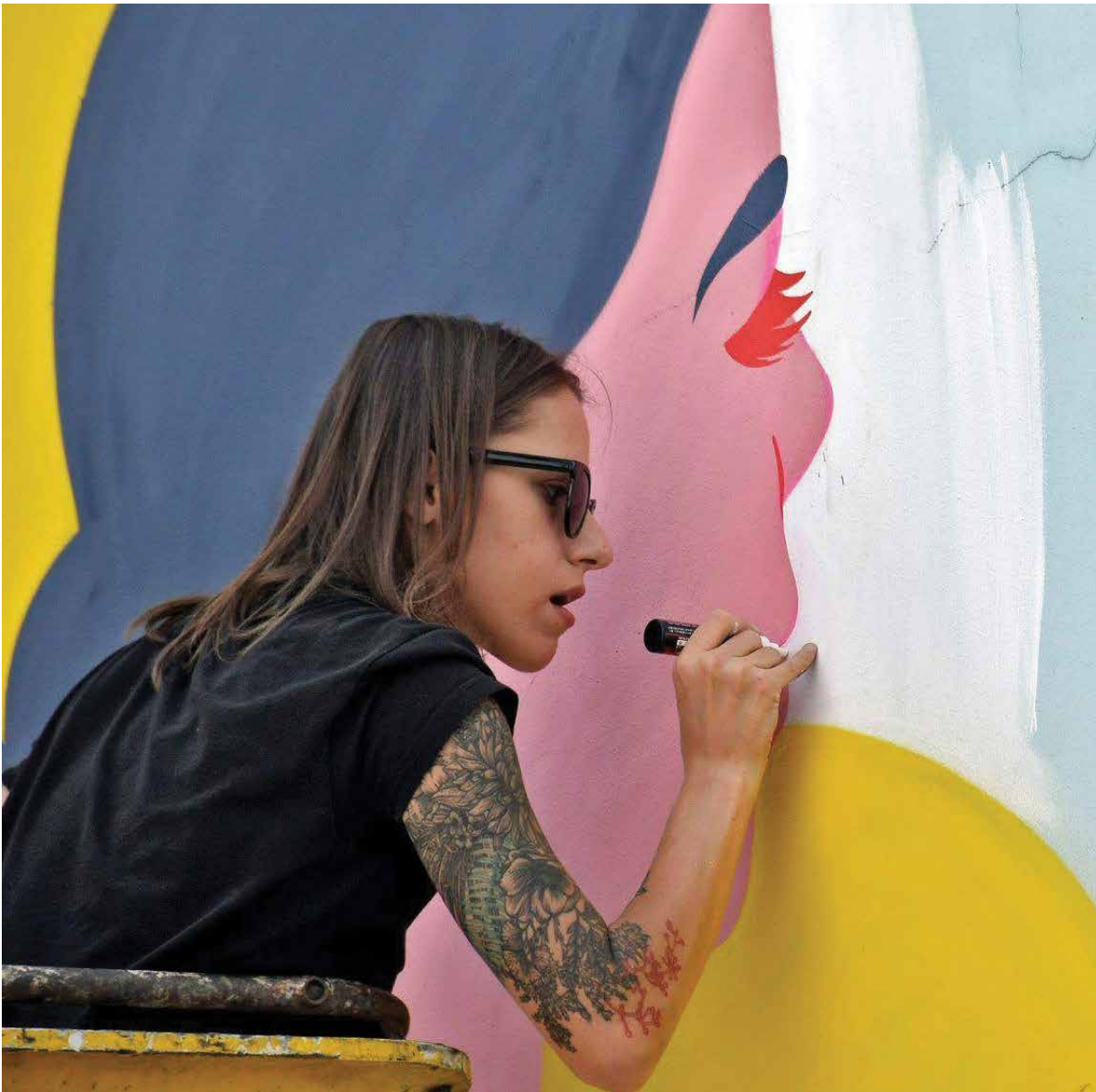
- Cultivated new skills in UNDP Country Offices and enhanced support to countries’ implementation of the 2030 Agenda. This has led to a portfolio of emerging service lines that helped partners improve the design, implementation, and monitoring of policy and programmes through [alternative finance](#) (with the support of the Government of the Slovak Republic for innovative financing in Eastern Europe and Central Asia); [data innovation](#); [behavioural design](#); and [public sector innovation](#).
- Harnessed the unique expertise and contributions of new partners. Initiatives that received funding from the Innovation Facility fund have 50% more partnerships with the private sector and 40% more with international financial institutions than the average UNDP initiative.
- Facilitated new partnerships, from collaborations with small startups and nodes in innovation ecosystems like Impact Hub, to joint work with disruptors such as Edgeryders and Dark Matter Labs, thought leaders such as Nesta, FutureGov, the Danish Design Council, Stanford ChangeLabs, Innovations in Poverty Action and the Behavioural Insights Team to partnerships with IBM, Microsoft, Baidu, Alibaba and many, many more. Innovation helps to broker more meaningful partnerships.
- Unlocked new sources of financing for development: every dollar invested by the Innovation Facility mobilized more than twice this amount from partners.
- Scaled new ways of working: more than 60% of Innovation Facility-supported initiatives have attracted further

investments from government and private sector partners—a first step towards scale. Initiatives that have received funding are also 30% more likely to have been designed in with the users, reflecting an embrace of inclusive development processes, another important success indicator.

- Helped change the organization. To make sure internal processes are fit for purpose to support partners in this work, the Innovation Facility supports the design of new UNDP policies, for example, as [Challenge Prizes](#) and new financial instruments, strengthens [distributed innovation capacities](#), and collaborates

closely with the UNDP Talent Development Unit to instill innovation in corporate leadership programmes. Experiences from country innovations informed the reform of UNDP's corporate programme and project management guidelines.

Our work entails scouting for innovative initiatives across the organization to provide visibility, support and facilitate peer-learning. Innovation cannot—and should not—be owned by a single team. Many intrapreneurs in UNDP who have harnessed new approaches to solve complex challenges have done so without the direct support of the Innovation Facility.



Looking ahead

Innovation in UNDP goes beyond gizmos and gadgets. As the Innovation Facility enters the next phase of its work, with a new iteration of our fund, one imperative remains: the need to improve our work, to take risks, to design ambitious and bold experiments and systems-changing initiatives. There is no alternative given the scope of the 2030 Agenda.

Moving ahead, UNDP will continue creating a culture of innovation and experimentation, so that collectively, we foster innovation in programming and in our operations. “Innovation is UNDP’s business, and putting it at the heart of our services is critical to our future,” said UNDP Administrator Achim Steiner in July 2018. Here are key principles that will guide our work at the Innovation Facility moving forward:

- Go beyond incrementalism: The Sustainable Development Goals (SDGs) are predicated on systems-thinking and transformative concepts. Yet, despite the 2030 Agenda providing a mandate and setting goal posts for pursuing moonshots, most of our thinking and doing remains stuck in perpetual incrementalism. The Center for Global Development has found that [SDGs are](#)

[unlikely to be met by 2030 without rapid, ubiquitous innovation](#). And to move beyond this incrementalism, public sector organizations need to pivot their identity from that of a solution provider to a solution enabler that looks outside and taps the potential of [collective intelligence](#) and of participatory and [strategic foresight](#) processes to influence design of effective institutional arrangements to reap the benefits and meet the challenges of the fourth industrial revolution.

- Test new business models: in light of the massive funding gap for the SDGs, the fast-changing environment and the emergence of a new class of actors, how will the business models of development organisations shift to maintain their relevance? The sheer scope of the SDGs requires us to invest in disrupting old ways of working, to imagine, design and [test new forms of infrastructures and platforms](#).
- Shift from risk management to risk expectation: the ambition of the SDGs and the increasing global threats driven by climate change call for bold actions. Shifting to a new approach of risk-management will entail changes in how performance is managed, how risk





policies are laid out, how programmes and projects are designed.

- Design for growth and scale: [scaling entails growth strategies to reach millions, scale-down strategies to ensure no one is left behind, and adaptation strategies to transfer solutions from one context to another](#). It also entails in most contexts a financial sustainability vision and an initial vision for a pathway to scale. These elements need to be incorporated from the beginning of every intervention, project and policy design. It is also necessary to invest in [understanding the political settlements and power dynamics](#) and identifying the actors that can help change the status quo.
- Prove the comparative advantage of innovation: [the hype cycle of innovation has peaked](#) in many industries. Most of innovation across the sector is still designed for outputs rather than outcomes. But overall the sector is maturing and with it, [the ambition to leverage innovation as a driver for systems-change and solid metrics to measure the impact of innovation](#). In the context of human development and social change, innovation must not happen for innovation's sake, but rather as a means to find more effective ways of work-

ing. First and foremost, innovation means testing hypotheses using solid monitoring frameworks and keeping a [focus on inclusivity](#).

- Embed horizon scanning and foresight functions. Technological progress is happening at an unprecedented pace in human history. To navigate this ever-shifting and evolving environment, there is a need to establish dedicated horizon scanning and foresight functions as essential functions for any public sector organization that intends to rapidly harness technological innovation to spur better development outcomes.
- Unlock innovation to leave no one behind. Innovation holds the potential to empower individuals and communities at the base-of-the-pyramid and those who are marginalized and discriminated against. UNDP Innovation Facility will invest in strategically increasing the percentage of initiatives supported that target the most marginalized and approach people as humans with agency.

Moving into the unknown future, we stay committed to being bold. This means challenging conventions and main paradigms of how things are done. It also means challenging conventional wisdom, starting with our own.

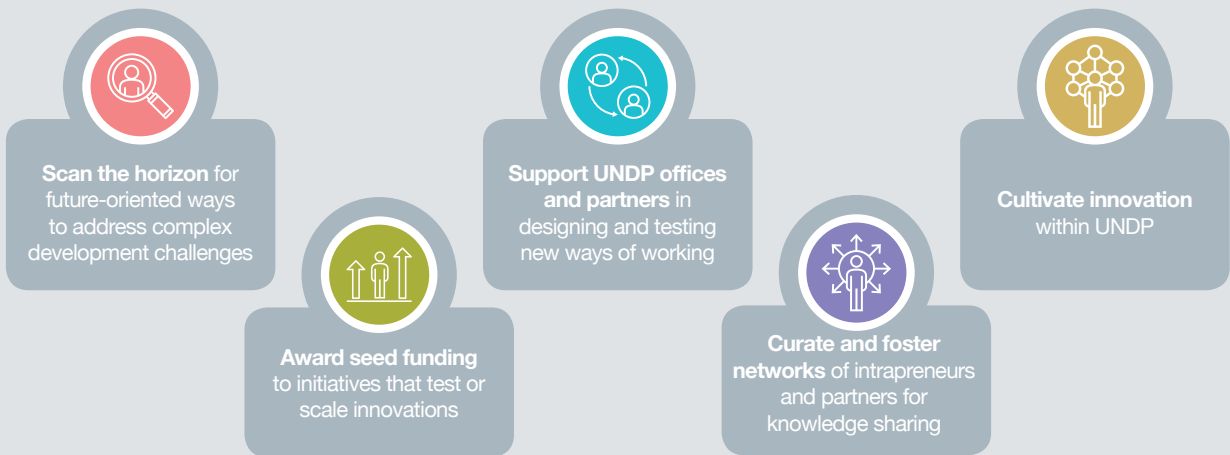
About the Innovation Facility

2017-2018 Innovation Facility Fund Portfolio



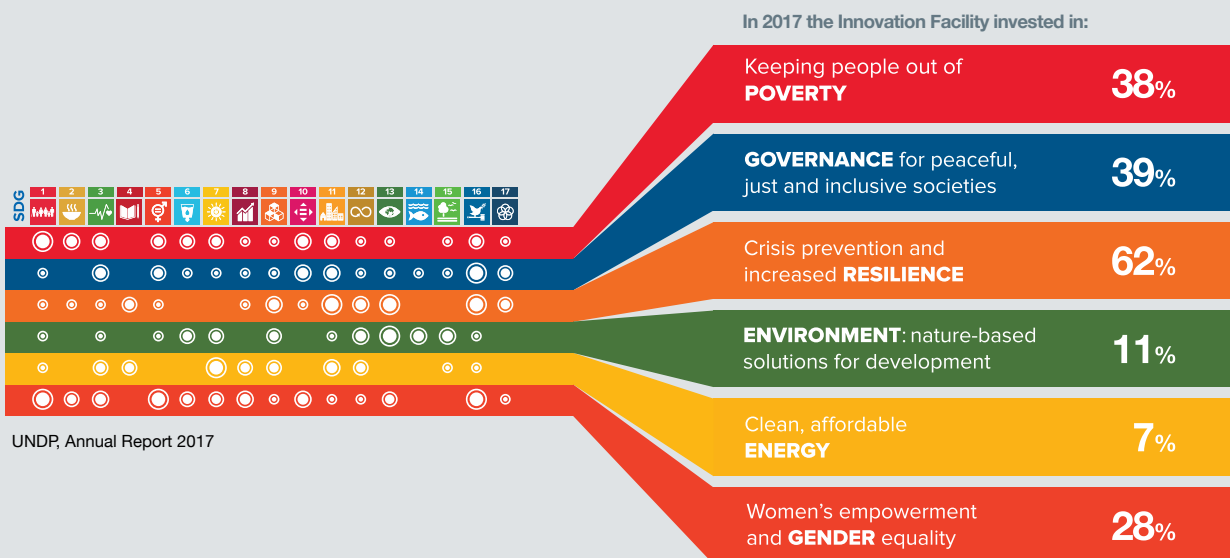
The Innovation Facility

The UNDP Innovation Facility offers technical support to the organization and its collaborators across 170 countries and territories to explore new approaches to increasingly complex development challenges. We:



Innovation & Signature Solutions

To better focus its resources and expertise to deliver on the 2030 Agenda, UNDP has identified a set of six integrated approaches—the Signature Solutions. No one solution will succeed on its own, they are interconnected and overlapping, and all are needed to achieve the SDGs.



Partnerships



All of our projects are delivered in partnership with thought leaders, explorers, and practitioners from around the world. This helps to build innovation ecosystems and move the most promising projects onto a pathway to scale. As many as 40% are tripartite partnerships between the private sector, government, and UNDP – 70% of these projects worked with entrepreneurs and small and medium-sized enterprises (SMEs).



2 in 5

Partnered with the **private sector** across 25 countries, for 11 SDGs
Including: Google, NASA, ImpactHub, McKinsey & Company and National Geographic



1 in 5

Partnered with **UN Entities & Specialized Agencies** across 14 countries, for 15 SDGs
Including: UN Global Pulse, UN Women, UNICEF, WHO and the World Bank



1 in 3

Partnered with **academia and think tanks** across 25 countries, for 14 SDGs
Including: INSEAD, University of Tokyo, Nesta, Brookings Institute, and Oxford Internet Institute



1 in 2

Partnered with **Civil Society & Local Organization**, across 45 countries, for 13 SDGs
Including: UN Foundation, Gram Vaani, The Nature Conservancy, FUNDASOR and WWF



Development Impact



54% of projects **enhanced programming** through newly gained insights



26% of projects improved the **cost-effectiveness** of service or product delivery



23% of projects improved the **time-effectiveness** of service or product delivery



Leave No One Behind: 40% of projects experimented on solutions for the most vulnerable groups, spanning refugees, slum dwellers, migrants and women-headed households below the poverty line.



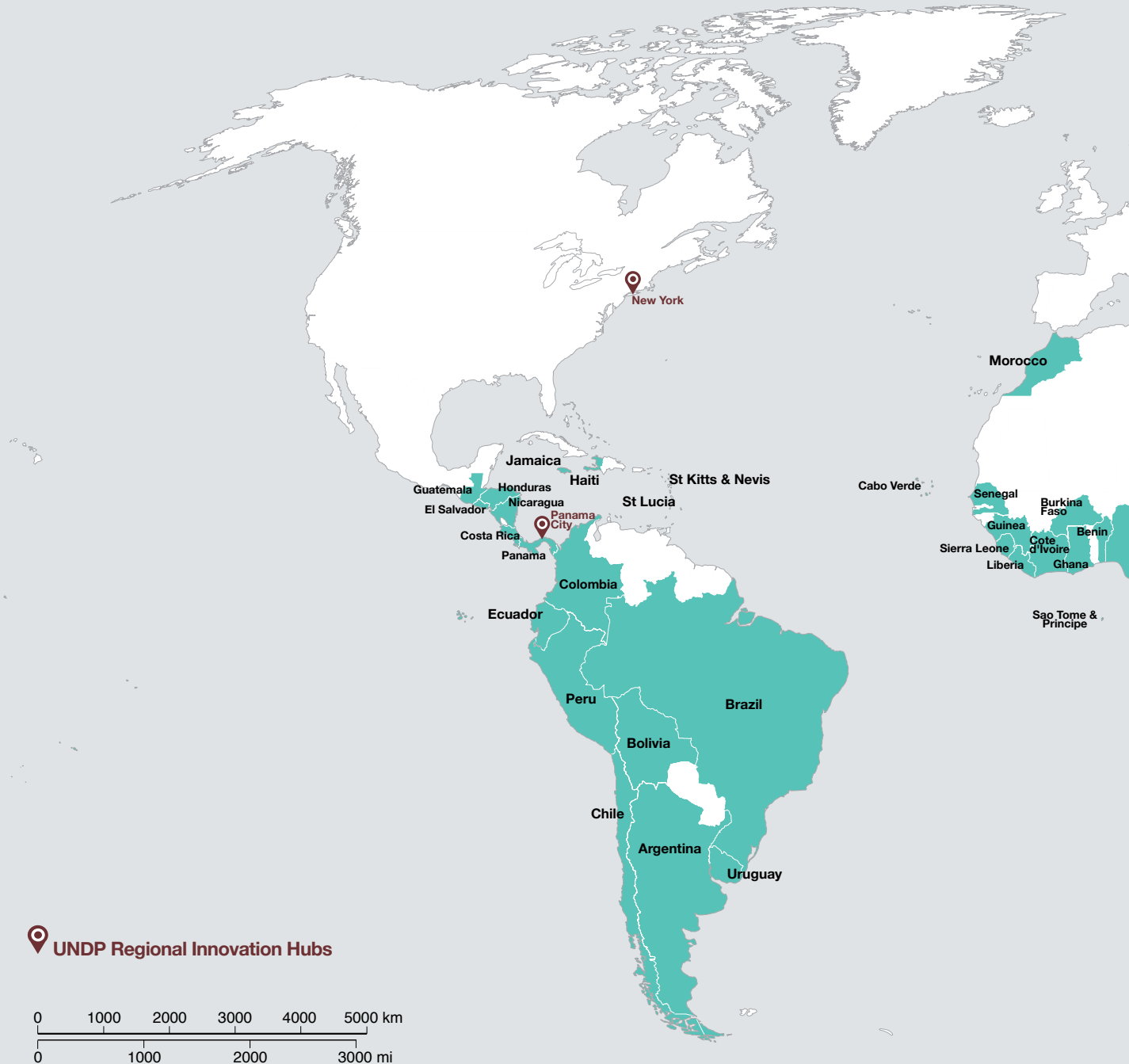
2X Partnerships: with the private sector, international financial institutions, and academia



2.1X Mobilization rate: every dollar invested catalysed US\$2.13 in local resources



UNDP Innovation Facility Investments | 2014-2018



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.



35%

35% of countries are crisis-affected, have fragile economies or a humanitarian action plan in place.

Principles of Innovation



1. Design with the User

- Develop context-appropriate solutions informed by user needs.
- Include all user groups in planning, development, implementation, and assessment.
- Develop projects in an incremental and iterative manner.
- Design solutions that learn from and enhance existing workflows and plan for organizational adaptation.
- Ensure solutions are sensitive to, and useful for, the most marginalized populations: women, children, those with disabilities, and those affected by conflict and disaster.



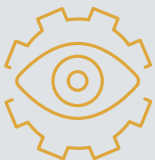
2. Understand the Existing Ecosystem

- Participate in networks and communities of like-minded practitioners.
- Align to existing technological, legal, and regulatory policies.



3. Design for Scale

- Design for scale from the start and assess and mitigate dependencies that might limit the ability to scale.
- Employ a “systems” approach to design, considering the implications of design beyond an immediate project.
- Be replicable and customizable in other countries and contexts.
- Demonstrate impact before scaling a solution.
- Analyse all technology choices through the lens of national and regional scale.
- Factor in partnerships from the beginning and start early negotiations.



4. Build for Sustainability

- Plan for sustainability from the start, including planning for long-term financial health i.e., assessing the total cost of ownership.
- Use and invest in local communities and developers by default and help catalyse their growth.
- Engage with local governments to ensure integration into national strategy and identify high-level government advocates.



5. Be Data Driven

- Design projects so that impact can be measured at discrete milestones with a focus on outcomes rather than outputs.
 - Evaluate innovative solutions and areas where there are gaps in data and evidence.
 - Use real-time information to monitor and inform management decisions at all levels.
 - When possible, leverage data as a by-product of user actions and transactions for assessments.
-



6. Use Open Standards, Open Data, Open Source, and Open Innovation

- Adopt and expand existing open standards.
 - Open data and functionalities and expose them in documented Application Programming Interfaces (APIs) where use by a larger community is possible.
 - Invest in software as a public good.
 - Develop software to be open source by default with the code made available in public repositories and supported through developer communities.
-



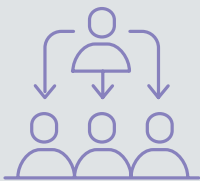
7. Reuse and Improve

- Use, modify and extend existing tools, platforms, and frameworks when possible.
 - Develop in modular ways favouring approaches that are interoperable over those that are monolithic by design.
-



8. Do No Harm

- Assess and mitigate risks to the security of users and their data.
 - Consider the context and needs for privacy of personally identifiable information when designing solutions and mitigate accordingly.
 - Ensure equity and fairness in co-creation and protect the interests of the end-users.
-



9. Be Collaborative

- Engage diverse expertise across disciplines and industries at all stages.
- Work across sector silos to create coordinated and more holistic approaches.
- Document work, results, processes and best practices and share them widely.
- Publish materials under a Creative Commons licence by default, with a strong rationale if another licensing approach is taken.

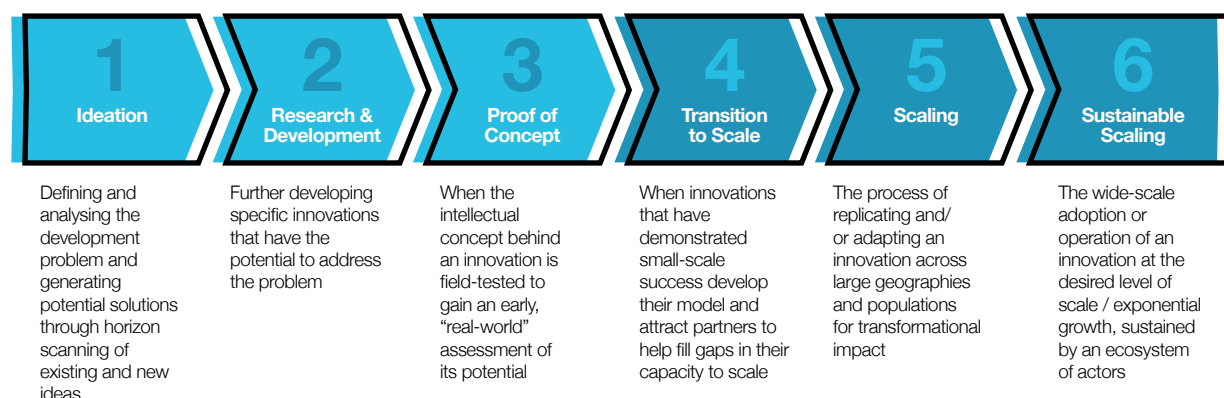
Scaling Impact



At UNDP we innovate to achieve better impact; to trigger changes in ways that are faster, more effective, more inclusive and ideally more cost-effective. Scaling innovation is a long, complex and dynamic process. Over the past few years, the Innovation Facility has invested in better understanding the drivers, barriers, and systems-dynamics that influence scaling. As we operate in vastly different contexts and environments: from middle-income countries to humanitarian crisis and armed conflict contexts, the scaling pathways differ significantly. Every innovation requires a custom-approach to embedding scaling in the initial design.

With our partners from the International Development Innovation Alliance, we co-developed a scaling framework to support the design of early-stage innovations and guide the process of scaling.

Scaling is fundamentally about the magnitude of impact, not simply a matter of incrementally increasing the number of people reached by a particular solution.





Scaling is fundamentally about the magnitude of impact, not simply a matter of incrementally increasing the number of people reached by a particular solution. While the contexts and pathways differ, the goal is always sustainable scale: the wide-scale adoption or operation of an innovation, sustained by an ecosystem of actors. Embedding a scaling pathway also entails formulating a hypothesis on the potential for an innovation to mark the beginning of a new service offering and form a new part of the organizational portfolio. Moving forward, UNDP Innovation Facility will increasingly invest in a portfolio of innovations, ideally clustered around measurable missions.

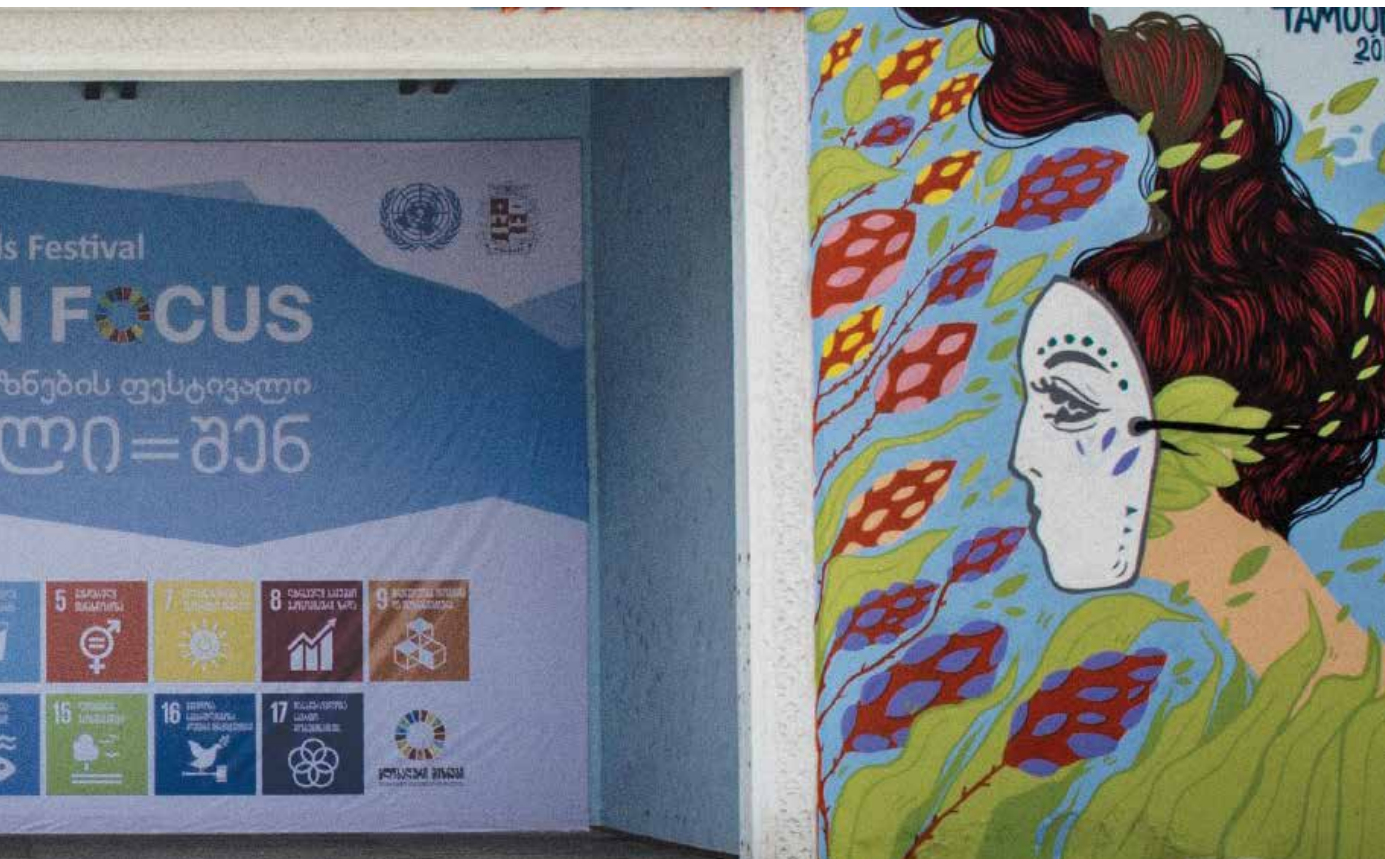
In 2017-2018 UNDP Innovation Facility supported over 35 initiatives to test and scale new methodologies and technologies to address “wicked” development challenges. In this chapter, we will review a few journeys to scale that began with ambition and were fuelled by the dedication to experiment and by seed funding from the Innovation Facility.

Armenia and Georgia both founded public sector innovation labs that are driven by similar user-centered methods and principles. However, there are several interesting differences in their innovation journeys. While the Kolba Lab in Armenia is based within the UNDP Country Office,



To learn more about scaling innovation, check out the report “Insights on Scaling Innovation” we co-developed with the International Development Innovation Alliance (IDIA).

Available at:
undp.org/innovation



ServiceLab in Georgia is housed in the Public Service Development Agency of the Ministry of Justice. The different institutional settings provide each lab with distinct comparative advantages and consequently, their innovation journeys have evolved in different ways.

Since its 2013 launch, [Kolba Lab](#) has incubated 40 startups and built a community of 6,000 entrepreneurs and innovators. Fourteen startups have already generated social impact. One successful initiative is the Matchelli app, which helps citizens map accessible spaces for persons with disabilities to navigate their cities. The app kickstarted with a mapathon, crowdsourcing 70 locations in the capital Yerevan, and has since gone on to map over 430 more locations across the country.

Kolba's success in engaging citizens in developing and incubating ideas for development led to ministries requesting services to run "Idea Challenges" within the public sector. The success of these processes, in turn, encouraged the Government of Armenia to invest in the world's first SDG Lab in 2017. Hosted at the Centre for Strategic Initiatives, its mission is to accelerate the achievement of the SDGs at the country level, focusing on complex cross-sectoral issues. In addition, Armenia launched the ImpactAim Venture Accelerator with the aim to stimulate the business environment and support start-ups.

In Georgia, [ServiceLab](#), which focuses on innovating in public services through user-centered approaches, has achieved considerable impact at the national level. The Government of Georgia has entrusted the Lab with the policy lead role for drafting the Public Service Design and Delivery Policy. To ensure that no one is left behind, the Lab has scaled up from the national to the municipal level, and in 2017 incubated its first local government lab in Rustavi.

Elsewhere we see public services made possible through technological advancements scaling. In China, UNDP incubated [Baidu Recycle](#) back in 2014, an app that facilitates and simplifies safe e-waste recycling. Initially piloted in Beijing and Tianjin, UNDP and Baidu have been actively collecting data and feedback to further improve the app's function and eco-system. It has since scaled up to include 22 cities with up to 6,000 electronic items successfully collected per month. This initiative has gained global recognition and in 2017, Version 3.0 was released as an open platform, increasing its adaptability to future use and growth options. In Papua New Guinea, Phones Against Corruption, an SMS system for safe whistle-blowing, is currently being scaled up to include 47 government agencies and is being adapted for other countries in the Pacific region.

From National to Local: Scaling Government Innovation

Georgia

In 2014, UNDP helped the Government of Georgia build its very first public sector innovation lab, ServiceLab. Based at the national level, it focuses on bringing public servants and citizens into one space to co-design a new generation of public services. Four years and several new services later, ServiceLab has been appointed by the Government as the leading entity in the Public Administration Reform process, to advise on the design and delivery of public services.

The successful experiment of innovating inside the national Government sparked interest in the Rustavi Mayor's Office, a self-governing municipal body with jurisdiction over the city. Due to its proximity to the bustling capital, Tbilisi, Rustavi is increasingly becoming a commuter city, with citizens travelling to the capital for jobs and entertainment. The Mayor's Office aims to reverse this trend and has announced a plan to [develop Rustavi as a "City of Innovations"](#) by sparking the local economy and attracting new investors, engaging citizens in co-designing of public services and creating a better living standard for Rustavi's dwellers.

The Mayor's Office is working closely with UNDP Georgia and the ServiceLab to replicate the successful model of public innovation in its local governance structure. Initial actions by this partnership materialized in a collaborative design workshop, which brought together citizens, city

government employees, architects, and design students to design the new space for Citizen Service Halls, to be built in 2019. The workshop was started with the intention of designing the physical space but ended up yielding ideas for new or improved citizen-friendly services.

In partnership with UNDP Georgia and ServiceLab, [the city launched an innovation hub](#) in the Mayor's Office, with the goal of using foresight methodologies to transform Rustavi. Foresight is a collection of methodological tools that allows policymakers to develop resilient and forward-looking strategies. The hub works to [conceptualize the city in 2050](#) and create strategies, services, and processes to catalyse the change to meet this vision.

Currently, the innovation hub is building its capacity: the team is training in leveraging Big Data in government, visualizing data intuitively, and communicating effectively with citizens, as well as in foresight methodology to strategize Rustavi 2050. In a first project, they followed the path that Poland's post-industrial cities took towards urban revival, and they aim to use the lessons learned to transform Rustavi from a decaying industrial city to a green and open space.

UNDP Georgia continues to support the budding City of Innovations and ensure that citizen voices are heard and considered as the local government transforms Rustavi.



Inspired by the successful experiment of ServiceLab, the city of Rustavi with UNDP launched an innovation hub to develop the “City of Innovations”.



Phones Against Corruption

Papua New Guinea

In Papua New Guinea (PNG), economic growth has prompted increased budget allocations for social services and development initiatives. However, inefficient financial practices remain a major hurdle to creating an effective public administration. In 2014, PNG was ranked at 145/175 in the [Transparency International Corruption Index](#) and in the lowest 15% of countries dealing with corruption according to the World Bank's Global Governance Corruption Index. An estimated 40% of PNG's annual budget was lost to corruption.

Starting in 2014, UNDP PNG with PNG's Department of Finance tested a pilot in the ministry as part of a Provincial Capacity Building Programme funded by the Australian Government. This simple texting app soon became a game changer in the fight against public corruption in PNG.

Offering an anonymous, simple method to report corruption, the app [Phones Against Corruption](#) (P@C) eliminates the threat of retribution and provides effective action. Such a platform is particularly cogent in PNG, where client-patron relationships are woven into the social fabric, leading many to fear reporting corruption by a supervisor.

Following successful testing, by 2016, the project had received 23,000 messages and was scaled up to include 83,749 public servants. Within two years, information shared via P@C led to the arrest of two public officials for fund mismanagement of over US\$2 million, and 741 cas-

es are under investigation. It has since been consistently scaling up nationally, winning prizes and drawing interest from other countries including Fiji, Vanuatu, and the Solomon Islands. In 2017, Transparency International commended it for Integrity and Excellence, and most recently, in April 2018, P@C began expanding to include 47 government entities: 19 National Departments, 13 Statutory Bodies, and 15 Provincial Administrations.

The scaling-up process from pilot to a nationwide programme has been a nuanced one; the project team used the basic structure of the prototype but incorporated independent user experience research, as well as an evaluation of the project, to expand with some improvements. This form of iterative innovation is key to ensuring that the delivered service is meeting the expectations, needs, and desires of the users.

The [strength of the app](#) comes from its ability to tackle a complex issue with simplicity. Using simple text messages, it runs without Internet on any mobile phone device, in a country with a mobile broadband rate of only about 8%. To increase accessibility, citizens can text, free of charge, in Tok Pisin or English. The reported cases are then investigated by the Internal Audit and Compliance Division of the Department of Finance. Citizens receive updates on the cases they report, which is a trust-building and accountability mechanism for the project.



The scaling up process from pilot to a nationwide system has been a nuanced one, based on an iterative design that included prototyping, incorporating user feedback and constantly improving the product.



Improving Public Service Delivery at Scale

Bangladesh

Bangladesh is a country of over 160 million people, of whom nearly 70% live and work in rural areas. To access government services, many endure high costs, long delays, and considerable difficulty travelling long distances to urban locations. These issues affect almost all fields of public service, from administrative services to education and health.

To decentralize the delivery of public services and take them to the doorsteps of millions of underserved citizens, the [Access to Information \(A2i\)](#) Programme of the Prime Minister's Office, with technical assistance from UNDP and USAID, established several innovative solutions to bridge the [service delivery gap between urban and rural areas](#).

For example, each physician serves 2,039 people on average. This number is heavily skewed towards cities and towns, as specialized doctors visit rural areas only occasionally. Patients are forced to travel miles on unpaved roads to reach the nearest hospital, which may not even have a doctor present.

To tackle this issue, A2i launched a telemedicine service. The project team partnered with the Biomedical Physics and Technology Department of Dhaka University to develop a sustainable, rural entrepreneurship model. The service involves pharmacists as technical operators to connect underserved communities with specialized and experienced doctors in urban areas. This reduces the time and resources required to access consultations. In approximately six months following its initial deployment,

the service has catered for 3,450 patients, around 66% of whom had previously spent an hour to a whole day seeking similar services.

With a similar philosophy, A2i also developed the [Digital Centres](#). Between 2008 and 2014, it has built over 4,500 one-stop information and service delivery outlets to cater for rural areas. Housed in union councils, the centres deliver services efficiently and at a low cost.

A typical Digital Centre is about 4 km from the average rural citizen's home, whereas a government district office is over 35 km away. These one-stop service centers are micro-enterprises run by "citizen entrepreneurs" in tandem with elected local government representatives. They leverage modern technology to provide citizens both free and fee-based access to over 116 public and private services. Such public services include land records, birth registrations and passports. Private services include mobile financial services and insurance.

Along with accessibility, efficiency improved. On average, the time needed to receive services has plummeted by 85%, costs by 63%, and the number of required visits by 40%. It previously took rural citizens about eight days to receive birth certificates; now it only takes eight hours.

These examples of innovative solutions show how service delivery can be revolutionized and scaled up to serve populations in need. With the development of technologies, more services become increasingly available at high quality and low cost.



It previously
took rural
citizens about
eight days to
receive birth
certificates;
now it only
takes eight
hours.



Unlocking Development Financing



The achievement of the SDGs presents a momentous financial challenge for international development. With annual cost estimates ranging between US\$5 trillion and US\$7 trillion, the development community faces a large financial challenge to support the changes required to achieve the SDGs by 2030. The financing gap in developing countries is estimated at US\$2.5 trillion. This highlights the need to seek and adopt alternative financing methods, as well as funding that is sustainable, flexible and inclusive of all stakeholders who are essential to achieving the global goals.

Alternative Finance is a broad concept and includes a wide variety of financial instruments. Within this, [Impact Investing](#) is one of the growing movements attracting attention from development as well as private sector actors. The concept is simple: investment can be structured to achieve a measurable positive impact, be it social or environmental, as well as a financial return. The promise is bold: to unlock new sources of capital to fund development. UNDP, with member states and partners, has been exploring various avenues and tools to tap into alternative resources. In Brazil, the Innovation Facility has supported the implementation of the Social and Prosperity Impact Fund, stemming from the idea that Small and Medium Sized Enterprises (SMEs) can be effective at reducing inequality and promoting economic growth. The project has developed a mechanism for channelling resources from private capital to SMEs to address the implementation of the SDGs, reducing social entrepreneurs' risks and improving the conditions to reach scale and achieve social outcomes.

Investments can be structured to achieve a measurable positive impact as well as a financial return. The promise is bold: to unlock new sources of capital to fund development.



Another new instrument is the Social Impact Bond, an alternative within the pay-for-performance framework. [Social Impact Bonds](#) (SIBs) are partnerships between the public sector (i.e. the national government or a municipal governmental actor) and the private sector (a bank, an insurance company or a venture capitalist), usually in the form of a contract that aims to promote positive social outcomes and public savings. By focusing on outcomes instead of outputs or inputs, SIBs enable governments to partner with service providers to innovate, test, and iterate to find the most effective interventions. UNDP has invested in SIBs in different settings in the past, one of them being the youth employment bond in Serbia to reduce the 47.5% youth unemployment rate. The bond notably differs from traditional bonds by transferring risk to investors. Traditionally, if the agreed outcome is not achieved, the investors in the bond do not receive either the principal or any other kind of payment.

Stepping into new territory in development financing requires working differently, from identifying unusual part-

ners to new ways of collaboration. In a cross-regional project, UNDP in Turkey and Indonesia cooperated to explore Blending Islamic Finance with Alternative Finance Instruments, to channel Islamic Finance money flows into SDG projects through new financial mechanisms, technologies, and partnerships. Islamic Finance is one of the fastest-growing segments of the global financial industry with global assets expected to surpass US\$3 trillion by 2020. The Alternative Financing Lab in Indonesia works with this financial instrument and others to tackle the challenge of improving our traditional financing practices; they do so by connecting sectors and actors, as well as providing the platform and resources to leverage new mechanisms, tech, and partnerships.

Exploring a variety of alternative financing mechanisms globally, UNDP is looking to develop and mature new ways of collaborating with the private sector and stakeholders, to accelerate the achievement of the SDGs, while ensuring the financial sustainability of implemented solutions.



Stepping into a new territory in development financing requires working differently, from identifying the unusual partners to new ways of collaboration.



Islamic Finance

Turkey, Indonesia

Islamic finance is emerging as a powerful tool for financing development globally. Once a practice found in the banking sector of Muslim countries, it is increasingly gaining traction in non-Muslim majority economies, such as the UK, Hong Kong, and Luxembourg, as well as in development finance. Concepts as *Sukuk* (Islamic Investment), *Mudarabah* (Profit/Loss Sharing), and *Zakat* (Islamic Duty charitable giving) are fast gaining currency as many discover the potential of Islamic Finance. Its global assets are expected to surpass US\$3 trillion by 2020. This is a key avenue to explore, in light of the financing gap facing the implementation of the SDGs in developing countries.

In the cross-regional initiative Blending Islamic Finance with Alternative Finance Instruments, UNDP in Indonesia and Turkey have set out to explore how to use novel alternative financial instruments to [channel the traditional Islamic Finance into the implementation of the SDGs](#). Based on *Sharia* principles, Islamic Finance prohibits interest on loans and focuses on the ethics, sustainability and social responsibility of the investment. In 2017, UNDP hosted in Jakarta an international conference on innovative financing for development and set the stage for this cross-regional collaboration. UNDP has been forging key local partnerships with public and private sector actors and analysing the legal frameworks to leverage the instruments effectively. Moving forwards, four cases are being designed to test applications of alternative finance using Islamic funding for the SDGs.

UNDP's [Innovative Financing Lab](#) in Indonesia is a pioneering Country Support Platform and a key driver in designing and integrating financing solutions for the SDGs. It is first and foremost a collaborative space, bringing together unusual partners and testing innovative finance mechanisms while integrating a focus on Islamic Finance. Indonesia is [one of the world's most generous countries](#); during last year's Ramadan, 79% of Indonesians engaged in charitable giving. This brings us back to *Zakat*: annual obligatory charitable giving by Muslims. Home to the world's largest Muslim population, [Zakat is estimated at US\\$16 billion annually](#) in Indonesia alone. Tied to a religious practice, it has even shown resistance to shocks in the global financial market. Yet, currently, only one percent of its potential value in Indonesia is officially collected.

"The appetite among partners and the momentum around this work have caught us by surprise", says UNDP Indonesia's Deputy Country Director, Francine Pickup. "Much of what is on the SDGs reflects Islamic values, as the SDGs are about alleviating poverty and hunger, reducing inequality by redistributing wealth and looking after the environment," adds Francine. Pilots are already underway; by combining a *Zakat* Fund and Corporate Social Responsibility (CSR) from Bank Jambi, the Lab has channelled funds to develop micro-hydro facilities in two districts, providing clean and cheap energy for about 8,000 people. Such pilots allow the Lab to test solutions, share learning and sustainably scale what works.



Islamic finance is emerging as a powerful tool for financing development globally. Its global assets are expected to surpass US\$3 trillion by 2020.



Impact Investment

Brazil, Malawi, The Gambia

Many have grown accustomed to the idea that development work depends on charitable giving. As fundraising rates decrease globally, at UNDP we find an opportunity to overcome the challenge through our development projects, to lead to a positive impact and yield a financial return. Like a business, development projects have measurable indicators, investment is important to pursue sustainable growth and they can also provide a return on investment. That is the idea behind Impact Investment.

Impact Investment has evolved as a popular and effective concept in recent years. In 2018, Forbes named it as the [top trend in philanthropy](#), and the Global Impact Investing Network (GIIN) estimates a volume of at least US\$114 billion in assets. UNDP has been [testing impact investment](#) instruments, and the market is welcoming such initiatives. In a 2017 survey, the GIIN found that about [60% of impact investors](#) track their investments' financial performance with respect to the SDGs.

SMEs are widely known as the backbone of sustainable economies, enabling economic growth and reducing inequality. Guided by this, the [Social and Prosperity Impact Fund](#) run by UNDP Brazil is designed to harness the power of private capital for social impact. The fund provides a mechanism to reduce entrepreneurs' risks, introducing entrepreneurs to traditional market opportunities, investors and social impact ventures. Twenty-one partners have already engaged with this initiative, from investors and venture capital funds to governmental bodies. Investments were made in four entrepreneurial initiatives, and diversified financial resources were provided to social entrepreneurs. Investors and entrepreneurs are currently engaging in developing a social impact measurement tool to evaluate social return.

The [Malawi Innovation Challenge Fund](#) (MICF) is a competitive facility to increase private sector investment and

participation in local agricultural, manufacturing and logistics sectors, via a grant matching scheme to deliver large social impact. The MICF defines such impact in terms of the number of poor people benefiting from increased incomes and job creation. It particularly encourages poorer producers in remote parts of the country to participate in previously inaccessible supply chains. To encourage investment, the fund absorbs a significant portion of the risk by providing up to 50% of the total project value. It is designed to be a quick, responsive mechanism that matches local and private sector needs through inclusive innovative business models. With support from: the German Development Bank, KfW; UNDP; the UK Department for International Development (DFID); the International Fund for Agricultural Development (IFAD); and the Royal Norwegian Embassy, the fund is currently valued at US\$26 million. Moving forward, UNDP Malawi aims to address the start-ups market gap through a Growth Accelerator Initiative.

Investment-heavy projects, such as infrastructure and energy, are particularly challenging to secure investment for, yet are often crucial to address climate change. In The Gambia, the [Paris Climate Bond](#) (PCB) is a financial instrument designed to de-risk private sector investment in projects delivering climate and sustainable development. The bond offers structured financing, removing barriers to private sector investment and opening the door to global capital markets to increase investment leverage. The bond is designed by green finance firm Climate Mundial and law firm Baker McKenzie, with contributions from UNFCCC, UNDP and the Executive Board of the Clean Development Mechanism. It is currently being tested for grid-connected solar electricity—public funding of €11 million will be used to leverage additional private sector capital of around €15 million via the PCB. The provision of affordable finance options is particularly crucial in otherwise costly climate projects to decrease costs of low carbon technologies.



**Impact
Investment has
evolved over
the past years,
now estimated
at a volume of
at least US\$114
billion in assets.**



Social Impact Bond for Road Safety

Montenegro

Road safety is a major issue in Montenegro. Road traffic injuries are the leading cause of death among young people aged between 5 and 29 years. In 2016, there were more than 5,200 traffic accidents, 2,500 people injured, and 65 persons killed. Montenegro's fatality rate of 10.4 deaths for 100,000 inhabitants is twice the EU average. Changing the approach towards road safety, from cost management to investment in prevention, UNDP has taken significant steps in research and data gathering to evaluate the potential of [social impact bonds \(SIBs\) for road safety](#).

SIBs are public-private partnerships to tackle entrenched social challenges, transferring the financial and failure risks of social programmes from governments to the private sector. Private investors provide upfront capital to finance interventions and the government pays back the investors only if agreed outcomes are achieved. By focusing on outcomes instead of inputs, beyond attracting capital, SIBs allow for flexibility in experimentation in different interventions and course corrections, unlocking the potential for innovation. Most SIBs focus on prevention interventions and cost savings for governments, and as the model is centered around outcomes, the availability of data and measurement abilities are key components of SIBs.

The key first step in structuring a SIB is a feasibility analysis. UNDP Montenegro did extensive outreach to consolidate the available data and engage national stakeholders and worldwide social finance specialists in Montenegro. The performed feasibility analysis encompassed: (1) a deep assessment of road safety; (2) an analysis of the role insur-

ance companies, driving schools, and the technical safety of vehicles play for road safety; (3) an evaluation of the legal framework for SIBs and; (4) a detailed cost analysis of traffic incidents. The research found that the total annual cost of traffic accidents in Montenegro varied between €30 and €36.5 million (between 2012 and 2016), accounting for almost 1% of GDP; besides saving lives, investing in prevention can also be an effective cost-saving alternative.

Beyond their value for a SIB structuring, the reports *per se* are already ground-breaking. They provide in one place a rich body of data and analysis to guide Government, international agencies, and others to make more informed decisions about safety-related programming and budget allocation. Based on the gathered data, the partners convened with key stakeholders to evaluate impactful interventions for a road safety SIB. It was decided that the most promising interventions entail targeting the risky behaviours of drivers, related enforcement efforts, and the education of the public about their dangers so that they are less widely tolerated. This is an opportunity to pilot different technologies and interventions aiming at a behavioural change.

Much work still needs to be done to develop the concept. A first of its kind, this SIB structuring exercise plays an important role in enabling the broader ecosystem to learn what works and whether an impact bond can efficiently address road safety. If the potential to improve outcomes and bring the public and private sectors together to significantly increase safety and well-being is proven, this innovation could benefit people in Montenegro and far beyond.



By focusing on outcomes instead of outputs or inputs, Social Impact Bonds enable governments and service providers to innovate, test, and iterate to find the most effective interventions.



Designing for Behaviour Change



"ჩვენ მხოლოდ მაშინ
ვხვდებით ჩვენი ხმის
მნიშვნელობას,
როდესაც გვაჩუმებენ"

მალალა იუსუფზაი


**თანასწორობა
გვჭირდება!**
თან ასწორებს!


UN JOINT PROGRAMME
FOR GENDER EQUALITY



Any policy or programme designed to sustainably improve the well-being of society relies upon a set of assumptions about human behaviour. Whether a development agenda explicitly targets human development, like the SDGs, or focuses on specific reforms to the political and economic institutions that shape society, the outcomes depend on the way people respond to the regulations or incentive structures put forth. Despite this seemingly evident connection, standard policy design processes often [overlook the contextual factors](#) that influence how people make decisions, in turn decreasing the potential effectiveness of development initiatives.

The growing role of behavioural insights (BI) in informing national policies reflects a deepening recognition by some governments and development organizations that the choices people make matter for policy. A BI approach combines human-centered design principles with evidence from behavioural science and rigorous evaluation to promote change.

Overall, in UNDP we follow these steps:

1. Map the system and target behaviours:

Explore the system to find the right behaviour to tackle. We conduct interviews, observe processes, review existing data, and explore [user journeys](#) to understand specific decision points and to focus on concrete, measurable behaviour.

2. Explore behavioural barriers:

Draw on our field research and on insights on [cognitive biases](#) to understand people's motivations and the roadblocks to progress.

3. Design tailored solutions:

We then design solutions to change key behaviours and prototype them with potential users.

4. Test, evaluate, iterate:

Evaluate our solutions rigorously, robustly testing small changes quickly and cost-effectively, before adopting programmes based on what works.

The outcomes of development agenda depend on the way people respond to the regulations or incentive structures put forth.



Small details, large impacts

UNDP has helped pioneer this approach within the UN development system, investing in research and partnerships to integrate BI into its policy support to governments. Since an initial partnership with the UK Behavioural Insights Team in 2013, to support the Moldovan Government in improving tuberculosis treatment adherence, UNDP has expanded its portfolio to apply BI to goals ranging from increasing e-waste recycling in China, reducing tourists' carbon footprints in Montenegro, to strengthening the responsiveness of public services in Cameroon.

In 2016, the Innovation Facility collaborated with two Behavioural Science Advisors from the White House Social Science and Behavioural Team, and published a report on [Behavioural Insights for the 2030 Agenda](#). The findings revealed that early BI experiments had shown that “even small, subtle, and sometimes counterintuitive changes to the way a message or choice is framed, or how a process is structured, can have an outsized impact” on development outcomes. For example, evidence has shown that removing small barriers to taking an action can significantly increase its uptake. The e-waste project in China developed a simple mobile app to allow households to have e-waste picked up at the click of a button. Similar types of evidence-based behavioural “nudges” delivered

through mobile apps, emails or letters have constituted simple yet powerful means for governments to incentivize socially beneficial actions, such as donations to environmental protection programmes or even compliance with tax regulations.

UNDP's work has likewise revealed the role of BI in the prevention of harmful and even violent behaviours, from the individual to the national and cross-regional scale. UNDP Sudan, for instance, launched a new study showing the limitations of security-led responses to preventing violent extremism. The initiative underlined the importance of addressing root causes, such as the marginalization and socioeconomic exclusion of women and youth. These insights into behavioural patterns leading to radicalization will equip the Government and partners to design evidence-based experiments to prevent youth at risk from joining extremist groups.

It is this capacity to connect scientific knowledge and data with experimentation and policy design that functions as a core BI contribution to development. By embedding randomized evaluations and behaviourally informed experimentation into policy processes, investment in small-scale projects can have large-scale implications. Nonetheless, such evidence is valuable only insofar as it forms part of a wider movement towards more human-centered development.

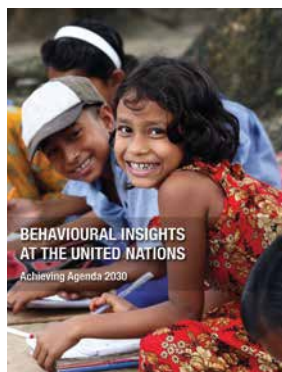
With the increased application of BI in development policies and programmes and within governments, UNDP turns its attention, with partners, to the ethical and regulatory concerns in mainstreaming its use. We ensure that all experiments are reviewed for ethical standards by independent bodies, Institutional Review Boards. But with further mainstreaming of behaviourally informed approaches, the number of small (quasi)experiments will increase, undertaken by development practitioners and by entrepreneurial civil servants. It is our mission to ensure the freedom and protection of individual choice as the approach gains wider currency. A key element to navigate the application of behavioural insights towards enhancing freedom in societies is transparency about interventions, their design, and results. This not only creates a “greater understanding of ‘what works’, and under which conditions” to inform policymaking, but also ensures transparency, as described in the 2016 EU report, *Behavioural Insights Applied to Policy*. The OECD also recommends that governments establish “guiding principles and standards” to formalize the application of BI in policy and “maintain the trust of public bodies and citizens.”

Equally important is the question of long-term sustainability. This includes a consideration for the policy cycle stage in which the insights can be best used. BI tends to come in “relatively late” in the cycle, “to fine-tune and improve implementation”, rather than in the early policy development stage, observes the 2017 OECD report, *Behavioural Insights and Public Policy*.

Another challenge the Innovation Facility addresses is how to embed BI into larger systems-transformation efforts. For example, the Facility supports BI initiatives in Egypt, Georgia, and South Africa to address violence against women and girls.

Gender-Based Violence (GBV) is one of the key challenges that might prevent progress on the SDGs. Almost 40% of women killed globally die at the hands of their partner, while one in three women experience physical or sexual violence. GBV is a global human rights violation that does not receive the required attention and urgency.

To say this issue is complex is to understate the matter. Its roots lie in gender inequalities and institutional inequities and intersect with other development challenges. Like all wicked problems, it seems intractable. Designing interventions that are based on changing entire value systems and shifting attitudes is therefore critical. We believe that changing systems goes hand in hand with ethically designed experiments. Long-term planning horizons required for sustainable development, as epitomized by the SDGs, underscore the need for approaches and insights that allow policymakers to systematically question assumptions about how systems act and continually test the hypotheses that inform their prioritization of resources and methods to tackle social challenges. BI are an important methodology to help policymakers in this pursuit.



To learn more about trials to facilitate behaviour change, check out the report “Behavioural Insights at the United Nations” we co-developed with the UN Behavioural Science Advisors.

Available at:
undp.org/innovation

Behavioural Design to Combat Gender-Based Violence

South Africa & Georgia, Egypt

According to UN Women data, GBV affects 35% of women worldwide. The term encompasses enduring physical and/or sexual intimate partner violence or sexual violence by a non-partner. Though this average number is very high, some national statistics are even more dire, with countries reporting that up to 70% of women have been victimized at some point in their lives. The issue is not limited to a geographic region or determined by the country's level of development—it is a worldwide problem across all cultures and countries.

Due to the universality of this issue, partnerships are key in tackling it. This is why UNDP South Africa and UNDP Georgia have teamed up with UN Women in Georgia, the Behavioural Insights Team in New York and ServiceLab, which is housed in the Government of Georgia, to explore the potential role that BI can play in tackling GBV. The methodology of BI is based on experimentation, testing what works to support behaviour changes in a specific context.

In South Africa and Georgia, teams are testing behaviour-changing interventions to raise awareness about GBV in general, and [the role of the bystander in particular](#). As such the teams are leveraging behavioural insights principles to embolden bystanders and witnesses to violent acts to report cases and increase the reporting to relevant authorities.

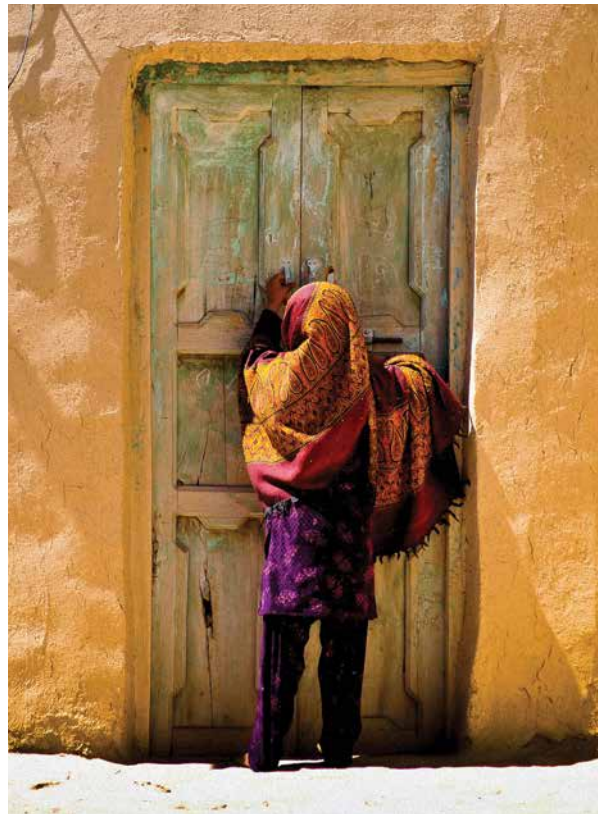
In Egypt, UNDP and the National Council for Women (NWC) use behavioural interventions to [highlight positive deviance in society](#), to encourage positive behaviours in response to violence. By mapping the relevant actors, the partners identified cultural stigma as the key behavioural barrier for women seeking support. Consequently, designed behaviourally informed messages, encouraging reporting, to be delivered with energy bills. This trial is work in progress and might potentially reach 40,000 households.

Based on the hypothesis that self-sufficient women are more likely to leave situations of domestic violence, the partners have also incorporated BI into existing business programmes. Redesigning the services provided by business centres nationwide, the aim is to foster women's economic empowerment through employment opportunities and training, while integrating GBV prevention services. BI would support the design, implementation, and evaluation of the programmes.

Messaging is a powerful tool to drive BI informed interventions. As such, BI projects often borrow from the marketing field to reach out and test the effectiveness of messaging in driving behavioural change. Using this methodology can help yield better results through effective messaging.



Leveraging behavioural insights, the initiative emboldens bystanders and witnesses to violent acts to report cases to relevant authorities.



Learning from Women Trailblazers

Pakistan

Often, in disadvantaged conservative rural areas, the circumstances of marginalized groups, such as women, are defined by the community's behaviour. The Federally Administered Tribal Areas (FATA) is home to a conservative tribal community, one of Pakistan's most socioeconomically impoverished. The 1.5 million FATA female population lives on the margins due to cultural limitations imposed on their social interaction and mobility. The adult female literacy rate is 7.8%, and they experience socioeconomic and political exclusion.

Despite these constraints, the FATA has seen some exceptional women, from Maryam Bibi, founder and Chief Executive of *Khwendo Kor* ("Sisters' Home"), to Toorpakai, Pakistan's highest-ranking female squash player, and Ayesha Gulalai, the first female from the FATA's South Waziristan to become a Member of the National Assembly. And there are teachers, academics, health workers, and social organizers who are breaking barriers in the region.

To learn how they do it, and how others can, UNDP Pakistan partnered with the Human Development Organization Doaba (HDOD) and local innovators DEMO and Accountability Lab to leverage "Positive Deviance" (PD). This concept translates to [identifying community outliers, women who push the traditional boundaries](#), crowdsourcing what works, and scaling it up. Changing social norms and entrenched behaviours is not easy, but PD's strength lies in identifying local solutions and so improving the likelihood of their successful integration.

In this pilot, the partners began with identifying positive outliers in three selected Agencies in FATA, 20 in Khyber, 21 in Kurram, and 20 in D.I.Khan. These include women who are in higher education, politically engaged, health practitioners, and entrepreneurs. They were then interviewed by community mobilizers and the preliminary results proved immediately interesting.

In all three locations, results indicated that women view the Pashtun traditional cultural code (*Pashtunwali*) as the main hindrance to their participation in public life. Female outliers indicated that the greatest threat came from their communities; whereas the strongest support came from their families. Who in the family the support came from, though, varies; in most cases, parents were likely to support their daughters' endeavours, while husbands mostly did not. Interestingly, in one of the tested regions, D.I.Khan, there was strong support from all family members; this may be attributed to its geographic proximity to the less conservative neighbouring province of Khyber Pakhtunkhwa. The vast majority of outliers indicated self-belief and motivation as the key determinant of their engagement in public life: 91% in Kurram and Khyber, and 95% in D.I.Khan took this view.

Next, this project enters the validation stage; the partners will work with the outliers' respective families and communities to identify which strategies could be scaled up and used to empower other women in the FATA.



Leveraging ‘Positive Deviance’, the initiative identifies community outliers: women who push the traditional boundaries, and helps in scaling up successful strategies.



Behavioural Design to Prevent Violent Extremism

Sudan, Yemen

Over the past decade, the world has witnessed a growing new wave of violent extremism. Spreading across national borders, Violent Extremist (VE) groups have claimed the lives of many innocent people and terrorized many others. In response to the growing urgency, UNDP has developed the global framework for Prevention of Violent Extremism (PVE), highlighting the need to identify the causes of and solutions to VE. This framework is based on the UN Secretary-General's 2016 Plan of Action to Prevent Violent Extremism, which considers VE a "diverse phenomenon, without clear definition and it knows many manifestations".

Facing a lack of robust evidence and disagreement over definitions, governments and the development community struggle with how to reduce the influence of extremist groups. Using BI, UNDP in Sudan and Yemen, with NudgeLebanon, a team of BI experts, is working to identify triggers and disruptors to radicalization and violent extremism.

In Yemen, [the partners are exploring the drivers and motivations behind violent extremism](#), and effective interventions to counter radicalization. Particularly focusing on youth, the initiative is being tested in three districts in Aden, with the aim to further mobilize the target population to join a community support programme, the Yemen Stabilization Programme. Currently testing hypotheses and tools to increase outreach and participation in the programme, they developed key behavioural nudges and protection messages that are disseminated using SMS, social media and videos. They also work to prevent relapse to violence. As such, the programme will

be using behaviourally informed interventions for those affected by ongoing violence, including psychosocial support for exposure to trauma. Coming up, they are preparing to test psychosocial support group sessions for 200 women and youth (100 females and 100 males) in the targeted districts.

In Sudan, the joint initiative sought to [address relapse to violence](#) among prisoners classified as "radicalized", by using BI for successful follow-up intervention after release from prison. Following their release, prisoners are sent to "Immunization Centres". These centres deliver a de-radicalization process that relies primarily on didactic, authority-based education measures from respected religious leaders and elders. The initiative is testing BI interventions to increase the rate of successful follow-up. Currently collecting the baseline data and designing the interventions, the initiative's focus has shifted to include all prisoners. Tested interventions combine peer pressure, intention setting, and reminders. One programme is engaging peers who have successfully chosen a different path to share their stories. To increase follow-up, prisoners must make a plan for their visits that includes an implementation intention, they are then provided with automated text message reminders that prompt them to make a specific plan for their follow-up appointment.

Through the combined initiatives, the Regional Innovation team and NudgeLebanon also work to develop a knowledge product that captures the experiences and lessons learned, to inform colleagues and national policies on the use of BI to prevent violent extremism.



Findings from behavioural science and experimental methods help to identify what works to identify triggers and design disruptors to violent extremism.



Public Sector Innovation



One billion people currently work in public administration organizations globally. Yet many struggle to deliver efficient services to citizens in a technologically fast-moving world. Traditional problem-solving structures are not well adapted to today's complexities. Increasingly, fundamental challenges in society can no longer be solved by a single governing body. Technological progress outstrips government's abilities to regulate it, the pace of environmental degradation and rising inequalities pose risks to the present and future that traditional governance systems are not able to address adequately, and the rise of new forms of collaborations and movements requires a redesign of organizational boundaries. Structural changes need to leverage the wider public sector ecosystems and external actors. Enter public sector innovation.

This chapter focuses on public sector innovation that prioritizes bridging the gap between citizens and their governments, to amplify the voices of those in need and to drive meaningful change. The goal is not just to consult citizens in decision-making but make them an integral part of the public service and policy design process. Public sector innovation labs often serve as a convening space for public servants and citizens to co-design the next generation of public services. Yet innovation hubs are not a compulsory prerequisite for citizen-led innovation. The Innovation Facility works in up to 40 countries on a variety of collaboration modes to enable the exchange of creativity, knowledge, and experience between private citizens and decision-makers.

[The Pasikola transport service in Makassar](#), Indonesia, illustrates how citizen-led solutions can become successful government services. The people of Makassar were increasingly bearing the consequences of rapid urbanization and inefficient public transportation; 16-year-old Rina's parents drive her to school every day, but often she has to get out of the car and run to make it on time. The heavy traffic is causing severe delays and interfering with all aspects of life, affecting students, workers and businesses alike.

To tackle this issue, UNDP, the city government, the local transportation agency (DISHUB) and partners, including UN Pulse Lab Jakarta, held a multi-stakeholder collabo-

Increasingly, fundamental challenges in society can no longer be solved by a single governing body; structural changes need to leverage the wider public sector ecosystems and external actors.



rative workshop in 2016 to design a solution. Based on frequently used routes, driving behaviour, and existing resources, the *Pasikola* service was born, to serve school students who do not have access to transportation. Following a successful pilot run, the city government decided to take on the project. It has included the *Pasikola* service in its local budget and plans to expand the reach and number of busses. Makassar went on to develop, with the Innovation Facility, an innovation lab to further collaborate with citizens.

Inspired by UNDP-supported public innovation labs globally, in 2017, Sri Lanka's Ministry of Science, Technology, and Research partnered with UNDP to launch [Sri Lanka's first social innovation lab: Citra](#). The core function of the lab is to consider multiple alternative future scenarios to create responsive and holistic solutions through a citizen-centred approach. In a first project, unveiled in 2018, the lab developed an online platform that allows citizens to track SDG implementation in a transparent and accessible way. Other future work areas include the development of a comprehensive disaster relief mapping

tool, creating solutions for issues related to migration and reintegration, as well as improved public transportation.

Public sector innovation labs are not the only mechanisms to gather citizen input. In India, the complex issue of grievances is tackled through community involvement. Overburdened, the existing mechanism for citizens' grievances has grown ineffective in terms of its service delivery to the public. UNDP India and the State of Chhattisgarh collaborated to [redress citizen grievances](#). They have developed an app to help citizens log grievances with local officials, and the local community is being trained in filing grievances. The initiative aims to improve grievances reporting, to mobilize local government action to improve living standards.

In Argentina, UNDP works with local nonprofits on [Sordas Sin Violencia](#) (Deaf Without Violence) to remove barriers to access to justice for deaf and hard of hearing women survivors of GBV. The project provides a platform for deaf women to share their experiences, and co-design projects that will enable them to lead a life free from violence.



The project is innovative in its multi-faceted approach to increasing women's access to justice services as well as tackling the immediate challenges GBV survivors face in receiving support services. The programme also conducts activities in raising awareness of difficulties experienced by deaf GBV survivors among law enforcement personnel, the justice system, and legal aid workers. All aspects of the projects are in close collaboration with the deaf community, to seek solutions and design preventive policies with the Government of Argentina.

Although new entities such as innovation hubs and innovation labs are created to help design citizen-led approaches to public challenges, there is still a considerable difficulty embedding this approach within government sectors. Some initiatives have struggled to find their place as a legitimate part of policymaking infrastructures due to various government bureaucratic measures. Ensuring funding, anchoring change in the organization, getting management buy-in, and executing the new ideas and solutions are among identified challenges, but they also offer the way forwards towards a reformed public service.

Creating change within governments requires scaling the impact of labs and supporting public sector intrapreneurs: bureaucracy hackers.

Access to Justice for Deaf & Hard of Hearing Survivors of Gender-Based Violence

Argentina

Survivors of GBV often face increasing isolation due to their circumstance, and inadequate access to available support and justice services. When a deaf survivor of GBV seeks support, she faces a dual challenge. In Argentina, support services tailored to assist deaf or hard of hearing women survivors of GBV are almost non-existent. [Sordas Sin Violencia](#) (SSVP) is an initiative carried out by two civil society organizations, *FUNDASOR* and *Enlaces Territoriales para la Equidad de Género*, and supported by UNDP Argentina in partnership with the Argentinian Ministry of Justice and Human Rights. In SSVP they work together with deaf and hard of hearing women survivors of violence, to remove the barriers in access to justice.

“I’d been looking for help for ten years until I found the *Sordas Sin Violencia* programme”, says Ana, a 62-year-old deaf woman. Ana, who suffered domestic violence, actively searched for help, turning to the police unit for GBV, the prosecutor’s office, and several other agencies. But no help was forthcoming.

Mariana Reuter, a deaf woman, who co-coordinates the programme, explains the challenges: “A hearing victim of economic, psychological or physical gender-based violence shuts off and eventually stops seeing their family and friends, but if one day she finally gains courage, she can call dedicated hotline numbers to report her case and start to get out of isolation. Deaf women, on the other hand, are

twice as isolated and, no matter how hard they try, they are not able to access proper services.”

SSVP is providing women with a place to gather, share their experiences, and [co-design solutions that will enable them to lead a life free from violence](#). The programme is tackling the issue of barriers to access to justice across multiple fronts.

Initially, the team works to build awareness of the particular challenges that these survivors face among the deaf community, as well as across the referral pipeline, including police, judges and other professionals. One of the recent products is a guide to working with deaf women on these issues. Ultimately, they facilitate access to justice, by providing informational materials tailored to the victims themselves, and offering hands-on guidance and legal assistance. With the Women’s Office at the Ministry of Justice and Human Rights, they have produced videos providing guidance on how to access justice.

As a next step, the project will continue working with the Ministry of Justice and Human Rights on the adaptation and broadening of access to justice services to address the issue in a systematic manner, scaling up a collaborative engagement between SSVP, other organizations from the deaf community, and the Government to identify the root causes preventing deaf survivors of GBV from accessing justice.



***“Sordas Sin
Violencia”*** is
providing women
with a place to
gather, share
their experiences,
and co-design
solutions that
will enable them
to collectively
address
injustices.



Innovation at the Core of Government

Armenia

Capitalizing on the successful experience of the UN's first social innovation lab, Kolba Lab, in Armenia, UNDP and the Government of Armenia collaborated to grow the world's first SDG Innovation Lab. Beginning its journey in 2013, Kolba grew to be a vivid space for experimentation, testing, building networks of creative people and ideas, and leading social impact. It has now evolved into a lab designed to tackle global issues, [the SDG Innovation Lab](#). Launched in 2017, the Lab's mission is to accelerate the achievement of the SDGs at the country level, focusing on complex cross-sectoral issues.

The 17 SDGs are comprehensively tied to Armenia's National Reform Agenda, including the Armenia National Development Strategy 2030, which is currently being developed. The goals are extremely ambitious; the challenges are complex and intertwined, and therefore necessitate new approaches, new methodologies and possibly new types of institutions to provide "out of the box" solutions that bring about transformative impact.

The SDG Lab aims to serve as space for experimentation, cross-sector collaboration, analytics and world-class hu-

man resource development to unlock Armenia's development potential and accelerate the implementation of Agenda 2030. The Lab stands on four Ps: Progressive—bridging gaps between rapid short-term wins and deep, long-term vision; Participatory—using "open source" SDG know-ware across sectors, organizations and even countries; Private-sector—using market-based approaches for development and thinking of every need as a market in disguise; and Pragmatic—attempting to reduce costs in governance and use smart methodologies, like Behavioural Insights or Big Data to drive greater impact.

Hosted at the Center for Strategic Initiatives (CIS), the Lab focuses on four main service lines: impact investing; capacity-building; behavioural experimentation; and data analytics. Its first project focuses on data analytics: the team has launched the ["SDG Barometer"](#), a real-time platform to monitor the implementation of SDGs in Armenia, which will be available to the public at the end of 2018. The team is currently prototyping and testing a beta version of the platform, following intensive user research using design methods.



The SDG Lab stands on four Ps: Progressive, Participatory, Private-sector and Pragmatic; aiming to unlock Armenia's development potential & accelerate the 2030 Agenda.



Welcome to the Family: Brand New Innovation Labs

Sri Lanka, Serbia, Kosovo

UNDP has long supported the development of a new and unique type of space for collaboration between governments and citizens: public sector innovation labs, for the creation of next-generation public services. To date, the Innovation Facility has supported 10 laboratories in Thailand, Sri Lanka, Serbia, Republic of Moldova, the former Yugoslav Republic of Macedonia, Indonesia, Georgia, Armenia, Bangladesh, and Kosovo. The most recent additions are the new labs in Sri Lanka, Serbia, and Kosovo, each with a unique structure, mission and methodology, tailored to the respective societies.

In Kosovo, the [Governance Innovation Laboratory](#) is a result of a collaboration with the University of Cambridge, and the University of Business and Technology. This is our first lab where academia has been actively involved from the start. It focuses on designing new and locally relevant approaches and procedures for Performance Audit, which will be put into practice by auditors of the Kosovo National Audit Office (KNAO).

The idea of the Governance Innovation Laboratory burgeoned with the KNAO's growing interest in a performance audit, with the primary goal of training and upskilling auditors in Kosovo, in accordance with international standards. In recent years, the public sector has come under growing pressure to be more accountable and to demonstrate continuous efforts in optimizing organizational provisions. Performance auditing differs from traditional financial auditing in its focus on assessing and improving an entity's efficient and effective use of public resources.

The Lab facilitates new partnerships and the transfer of academic expertise to the public sector through collaborative work. The Governance Innovation Lab currently focuses on providing contextually relevant training for performance evaluation to auditors, to bridge the gap between knowledge and practice.

In Sri Lanka, the [Social Innovation Lab](#) has a different focus and institutional setup. The Lab is co-financed by Sri Lanka's Ministry of Science, Technology, and Research and UNDP, and its work is aligned to support national development priorities through the prototyping of development solutions to complement accelerated initiatives. The establishment of this Lab comes as one of the main outcomes of the First National Summit on Foresight and Innovation for Sustainable Human Development which was co-hosted by UNDP and the Government of Sri Lanka.

The Lab will be acting as an independent body with the aim of working collaboratively with all government departments and ministries, as well as other external partners. In a first project, they created an SDG monitoring platform, "SDG Tracker", which will help citizens and policymakers alike to monitor Sri Lanka's progress in achieving the global goals.

In Serbia, the approach is entirely different; there is no dedicated laboratory for innovation. Rather, UNDP Serbia has [mainstreamed innovative methodologies](#) into 50% of its projects. Sixteen out of 32 initiatives use emerging models and perspectives to "unpack" complex issues and



Each lab facilitates new partnerships and the infusion of new ways of working to the public sector through collaborative work; but each has its own a unique structure, mission and methodology.



To learn about UNDP's experience incubating and scaling innovation labs across the world, check out the report "Growing Government Innovation Labs: An Insider's Guide".

Available at:
undp.org/innovation



approach them in new ways. The UNDP Serbia team has been engaging in ground-breaking experiments, including one on universal basic income, which is a topic that is increasingly relevant as policymakers grapple with the massive job displacement expected through the integration of artificial intelligence into the economic fabric of societies.

As evidenced by the different structures, profiles, and focuses of our innovation labs, every country faces specific challenges and each lab is designed to meet the contextual needs. UNDP has gained a vast expe-

rience in supporting and incubating these public-sector labs, some based within national governments and some within UNDP Country Offices; some are focused on human-centred design, while others focus on data innovation and foresight. Despite the different types of labs, one idea is key: fostering true collaboration between governments, private sector partners, civil society actors and international organizations, leading to sustainable and effective solutions that help accelerate the achievement of the SDGs.

As evidenced by the different structures, profiles and focuses of our innovation labs, each lab is designed to address the contextual needs.



Leveraging New Data to Unlock Development, Leaving No One Behind



Data production grows at an unprecedented pace: [90% of the data in the world was generated over the last two years alone](#). Digital inclusion, increased access to the Internet and smartphones, improved communications infrastructures, widespread use of social media, and the growing number of connected devices and smart sensors provide us with an overwhelming amount of data. Following the spike in content generation, there is also a proliferation of innovations to transform this data into knowledge and better decisions. From using [social media to improve high-frequency trading](#) to installing sensors to [detect gunshots and immediately inform police departments](#), non-traditional sources and creative methods are being used to provide better and (near) real-time insights.

The data proliferation has been coined a data revolution but so far this is not translating into greater decentralization and democratization, particularly making data usable for the most marginalized. While collection and analysis of emerging data are mainly used by private sector actors to better understand, reach, and provide services for customers, the data can also be used to better understand and respond to development challenges, provide people with actionable data, co-formulate public policy, create governance mechanisms, and measure impact towards achievement of the SDGs.

Measuring the progress of the SDGs de facto relies on emerging data to gain near real-time insights for course-corrections and more efficient delivery of services.

Anywhere in the world, household surveys and censuses are necessary to gain reliable insights and to establish baseline data. Such surveys are also expensive, time-consuming, and can be undertaken only infrequently. [In Sudan](#), multiple factors, including armed conflict in many parts of the country, make it even harder to rely on traditional methods of data collection. Harnessing the potential of unusual data sources, UNDP partnered with regional and national telecom companies and the Sudanese Central Bureau of Statistics to formulate proxy indicators for poverty. By combining information on electricity consumption, nighttime lights

Reliable data is the foundation for good decisions, but decisions require prioritization, grounding values, and ethical judgment.



from satellite images, and records of cell phone usage they gained real-time insights into poverty at the household level. Retroactive indicators for 2013 and 2014 were strongly correlated with traditional poverty metrics. The availability of accurate, disaggregated, and real-time data has proven to be key for improved planning, policymaking, and efficiency in development programmes and public policy. Moving forward, UNDP and partners from academia and the private sector will leverage telecom data for real-time insights to improve service delivery, as this source has proven to be a sufficient proxy.

In Moldova, UNDP is exploring alternative sources of data to provide better information for planning and decision-making. From official sources, the most recent data on internal and external migration is from 2014, which is far from 2018's reality. With outdated data, the ability to respond to the migration dynamic is very limited. In an [effort to measure the actual population density in rural Moldova](#), UNDP is leveraging electricity consumption data to identify "ghost villages", where dwellings have been abandoned due to the increasing migration. Other alternative sources are being explored to triangulate the findings and provide more granular insights. The project is developed in partnership with Moldova's National Bureau of Statistics, which will be the ultimate owner of the tool.

In other places, spatial data has been used to fight climate change and increase resilience. While drones, images, maps, and better data are not a solution in themselves, they constitute a crucial piece of the puzzle to take better decisions today and anticipate future scenarios. Data needs to be put into context. Between a risk map and a good emergency plan that is effectively executed there are many complex layers. A map is a good picture of the current situation, but what different factors contribute to the given scenario? How do they interact? What trends are emerging? How can better insights help decision-makers at different levels to respond adequately? To answer these questions, we need more than just data.

The term Big Data usually describes extremely large data sets that are computationally analysed to reveal patterns, trends, and associations. However, as we gain in scale, we might lose in depth and resolution. As defined by Tricia Wang, [Big Data needs thick data](#). Thick data "is data brought to light using qualitative, ethnographic research methods that uncover people's emotions, stories, and models of their world". While Big Data can help us to understand "what", thick data can be crucial to understand "why". Collecting thick data requires dedicated funding but can reveal an unparalleled depth of meanings. "Thick Data can rescue Big Data from the context-loss that comes with the processes of making



it usable”, according to Wang. One approach to gaining actionable qualitative insights is the collection of micro-narratives. Together with partners, UNDP has been investing in better understanding the complexities of decision-making patterns and the experiences of structural factors among populations to augment existing data. For example, UNDP Jordan collected rich datasets among host communities and Syrian refugees to improve the design of social cohesion and livelihood programmes. In various countries in Eastern Europe, UNDP worked with Roma communities and invested in micro-narratives that inform public policies to improve the living conditions of Roma communities.

Reliable data is the foundation for good decisions, but decisions require prioritization, grounding values, and ethical judgment. To accelerate the use of emerging data for better decision-making, UNDP and UN Global Pulse developed a *Guide to Data Innovation for Development: From idea to proof-of-concept*. The Guide is based on our joint experiences with data innovation. It helps to navigate important considerations and responsibilities on how to use data, for example, considering how to ensure privacy protection and meet regulatory needs. The ultimate formula to use data is a combination of user-centric methods and behavioural design, putting users and their needs in the centre of interventions.



To learn more about designing and executing data experiments, make sure to download the “Guide to Data Innovation for Development”, we co-developed with UN Global Pulse.

Available at:
undp.org/innovation

Augmenting Early Warning Systems

Lebanon

Seven years into the Syrian crisis and with almost a million Syrian refugees residing in Lebanon, surveys show that fatigue is rising in host communities. In 2014, 40% of Lebanese said that there were no tensions with Syrians. By 2018, that number had dropped to 2%. Despite US\$1.3 billion worth of programming annually for stabilization efforts, we still lack consolidated data to understand what drives Lebanese-Syrian tensions and how conflict can be prevented. Traditional data collection methods are resource intensive and lack capacity to provide real-time updates and two-way communication with marginalized populations in crisis situations. In the absence of rich qualitative data from the people themselves, it is left to the media to shape that discourse; and the media narrative increasingly uses blunt stereotypes pitting communities against each other.

In response to this pernicious data gap, UNDP Lebanon developed the [WhatsApp-based “Speak Your Mind” survey tool](#) with target users in one village to harness Lebanon’s vibrant social-media scape more effectively. Digital literacy is widespread among both host communities and refugees in Lebanon; 84% of refugee households use WhatsApp and younger people, in particular, consider information relayed through WhatsApp as more trustworthy than traditional media. UNDP employed an inclusive process to tap into digital possibilities for the collection of real-time, localized data for conflict prevention, developing the tool together with target users in a design-thinking workshop.

The first WhatsApp survey was piloted in November 2017 in Qaraoun, a village host to the highest number of Syrian refugees in Lebanon. Voice messages sent to over 1,400

mobile phone numbers asked participants to tell a story recorded as audio WhatsApp messages. The voice message option helped to reach people who struggle with literacy, soliciting their responses on questions related to community needs, conflict dynamics, and feedback on stabilization projects in the area. With different topics each week over the course of a month, inputs generated by more than 240 people in Qaraoun and 500 people in a second village provided rich narrative data comparable to conducting individual qualitative interviews.

This information on conflict dynamics will enrich early warning and tension analysis and the responses of international organizations and the Government. One key survey finding, for example, was that both Lebanese and Syrians have more nuanced understandings of inter-community relationships than the media narrative suggests. Respondents underlined that there is a diversity of Lebanese attitudes towards Syrians, which often depend on people’s interests. Many clearly distinguished between social and transactional relationships, revealing that interventions to combat exploitation and improve livelihoods opportunities for both Lebanese and Syrians would go a long way in mitigating tensions.

These initial results, and the hidden barriers they reveal by giving more voice to vulnerable communities, showcase the broad potential for the tool to bring about more effective conflict prevention efforts once scaled. The real-time communication channel between international organizations and affected populations on the ground will help to strengthen the inclusivity of needs assessments, improve stabilization interventions, and boost capacities to understand the impact of projects long after they have been completed.



Real-time communications between international organizations and affected populations will help to strengthen the inclusivity of needs assessments and improve stabilization interventions.



Creating Spatial Data Sandboxes to Protect Biodiversity

Global

Biodiversity and ecosystems provide the fundamental services for human well-being and national development priorities: nearly half of the world's population is dependent on natural resources for a livelihood. Nature provides a safety net for billions of people and the source of daily subsistence for the world's most vulnerable populations, yet biodiversity is in crisis. As population growth continues to place pressures on limited natural resources for food, water, and energy needs, rising biodiversity loss and environmental degradation compromise the achievement of 2030 Agenda for Sustainable Development.

Understanding the status and trends of biodiversity and ecosystems is paramount for development planning, yet governments lack the capacity to access and use spatial data, the mappable geographic data essential for decision makers to track the interconnections between environmental and human pressures. To help countries achieve full access to biodiversity and ecosystem data by 2020, as per the global Convention on Biological Diversity, UNDP joined forces with UN Global Pulse, NASA and a consortium of universities and NGOs in 2017 to develop a [Spatial Data Sandbox](#). The design of the global open data platform builds on country level experiences, scaling from the successful example of a pilot planning tool tested in Zimbabwe to inform National Biodiversity Strategies and Action Plans. Simple to use and easily accessible, the global data portal allows for a broad user base, from governments to researchers to communities, to share and access crucial information for spatial planning and natural resource management.

In the short term, the project aims to increase more than 100 governments' use of spatial maps by 300% to strengthen national biodiversity reporting. While still in its design phase, the initiative is already well on its way to creating a catalytic network of global players to support integrated spatial data planning. Following on the collection of baseline research in 110 countries and user needs assessment in 45, the partnership has experienced widespread demand for the Data Sandbox even before its planned 2018 launch. Some of the early feedback from governments and the private sector has generated promising applications of the tool, including the incorporation of new features, such as mechanisms to allow companies to trace the impact of supply chains on deforestation, or tools for policymakers to run scenarios using the data.

A critical role for this far-reaching partnership is maintaining an open data platform that connects the social and economic dimensions of development with the environmental; bringing together socioeconomic data sets, on livelihoods, food security, and disaster risk reduction for example, with biodiversity, ecosystem services, and conservation data. Integrated data across sectors is fundamental for designing, implementing, and monitoring policies to achieve an integrated global development agenda predicated on the interlinkages between people, planet, and prosperity. A global meeting of the Convention on Biological Diversity in 2018 will gather more than 40 international organizations and governments to build on this momentum by signing on to the Data Declaration. A key milestone for the initiative, the Data Declaration will further solidify the partnership, signalling commitments to support open data and data sharing to achieve the SDGs.



The global open data platform allows a broad user base to understand the status and trends of biodiversity and ecosystems, which is paramount for development planning.



Measuring Multidimensional Poverty Using Mobile Data

Sudan

Policymakers and development practitioners in Sudan face multiple barriers to acquiring adequate data to monitor and adapt the implementation of development programmes. Household surveys and censuses are expensive, time-consuming, and demand elaborate processes for data collection and analysis, compounded by constrained accessibility in areas with armed conflict. Timely measurement of socioeconomic indicators thereby suffers, resulting in data gaps that reduce the effectiveness of interventions to tackle poverty.

As part of UNDP's Big Data for Development Initiative, a regional project launched in 2015, UNDP Sudan with the Sudanese Central Bureau of Statistics began exploring the potential of alternative data sources, such as satellite imagery on electricity consumption and nighttime lights, as [proxies to estimate poverty levels](#). Building on this work to circumvent data gaps, the partners saw a potential for cell phone data to compensate for the inherent voids in coverage in electricity and nighttime lights. With 74% of households owning at least one mobile phone, and cell phones having a 77% market penetration rate in Sudan, cell phone usage provides a substantial opportunity to monitor socioeconomic behaviour across space and time, as a strong proxy for poverty.

In 2017, the partners collaboratively piloted a digitized method to survey Multidimensional Poverty Households. Tested in Al Gezira state using tablets, the digitization of the standard household survey resulted in a 70% reduction in time, cost, and data errors. Testing multidimensional poverty through three dimensions: education,

health, and standard of living, they found that 22.4% of Al Gezira state households are multidimensionally deprived. Rural households were more likely to be multidimensionally deprived, at 26.8%. While multidimensional deprivation increases with the increase in household size, lack of education was found to be the biggest contributor.

In partnership with Zain Telecom and the National Telecom Corporation (NTC), UNDP is working with Big Data analytics experts from Berlin University to analyse the viability of phone metadata as a scale-invariant method to complement official statistics and provide more granular data for robust measurement of progress addressing multidimensional poverty. Initial results of this proof-of-concept assessment showed a strong correlation between the multidimensional poverty index and covariates from call details records, at over 70%. The use of call detail records allows for a higher geographical resolution of the results, down to the level of antennas. These results, coupled with the cost-benefit feasibility assessment, will inform activities to upscale the approach to other states in Sudan.

Data privacy constitutes a critical focus of these efforts to harness Big Data for development uses. UNDP facilitated discussions on privacy rights between a human rights advisor and telecom operators, all signatories to the UN Global Compact, while the NTC continues to build regulations to protect Sudanese citizens' data privacy. As the first endeavour for Sudan, the project holds great potential for scaling measures to leverage mobile technologies in support of social impact and evidence-based policy.



The use of call detail records allows for a higher geographical resolution of the results, down to the level of antennas, bridging the data gaps in identifying multidimensional poverty.



Measuring the Unmeasured

Global

Across the Arab States, Africa, Asia Pacific, Europe and Central Asia regions, reliable and timely measurement of progress on SDGs is inhibited by structural constraints on institutions, low-quality data, limited technical capacities, and insufficient financial resources. Meanwhile, experimentation with alternative data sources, which can complement national statistics to fill data gaps, lags behind. As a result, countries lack the necessary data to foster a culture of evidence-based decision-making, develop informed policies and programmes, and strengthen state-society relations.

These limitations are exemplified by the fact that 84 of the 230 indicators for measuring progress towards the SDGs are classified as “Tier III” indicators: those for which no measurement methodology yet exists. This critical gap opens up a window of opportunity for national partners to use alternative ways of measuring such indicators, directly or via proxy. With a wealth of global experiences and lessons learned to draw from in supporting national partners to explore alternative data methodologies over the last couple of years, UNDP decided to launch a cross-regional initiative to help countries probe the tricky area of SDG Tier III indicator measurement.

Combining country-specific experimentation with global learning exchange opportunities, the initiative works with more than 10 countries across four regions to test methodologies for measuring Tier III indicators of high priority in each national context, harnessing sources such as geo-spatial, social media, sensor, and mobile phone data to address official data gaps. The results from country experiences feed into global discussions on SDG measurement

and will inform the development of guidance for others interested in exploring similar methods and technologies.

[The partnership to measure the unmeasured](#) kicked off in October 2017 in Istanbul. Here, UNDP Country Teams worked with leading international experts in design thinking and public policy data innovation to design action plans for scalable pilots to test methods for measuring prioritized indicators: from social media analysis and satellite decoding to understand the contribution of tourism to sustainable development in Albania, to remote sensing and geographic information systems to track the impact of invasive alien species on forests in India. Since the launch, nine countries have explored the prototyping stage. UNDP Botswana, for example, has begun to look at applications of Big Data to measure SDG 16.6.2 on public satisfaction with public institutions’ service delivery. The pilot draws sentiment data from Facebook to assess user experiences of public services in real time, as a means to bridge the gap between evidence and informed decision-making on service delivery.

As countries garner evidence on the limits and opportunities of new approaches to measuring indicators in their own contexts, their efforts are supported by the cross-regional network. UNDP regional innovation leads provide technical advice and link Country Offices to global players like Data Pop Alliance, helping to connect the dots between country-specific experiences leveraging diverse data sources. Most critically, this momentum has empowered Country Offices to forge robust multi-stakeholder partnerships within countries, which have allowed their pilots to be implemented and new findings to be reflected in national SDG reports.



84 indicators for measuring progress towards the Sustainable Development Goals are currently “unmeasurable”. UNDP is testing methods for measuring prioritized indicators, using social media analysis, satellite and remote sensing.



Instigating Systems Change

Guest article by Indy Johar,

Co-founder Project 00 & Dark Matter labs, Member of the UNDP Innovation Facility Advisory Board



The structural need for large-scale innovation is growing daily, as some 3.1 billion people continue to live below the US\$2.5/day poverty line, middle- and lower-class wages stagnate in the Western economies and the middle classes of many developing economies start to face a wall of growth stagnation driving a rise of political radicalization and the evident need for inclusive growth. When these realities are compounded with the growing scale of climate-change induced refugees (estimated to rise to 250 million people by 2050) and other large-scale system challenges, minor incrementalism, and innovations that merely address market failures leave states increasingly unequipped to address the scale and scope of threats facing us.

Globally, I would suggest we are at the coal face of massive change, staring into a 21st Century Great Restructuring. This restructuring, both in terms of speed and size, will need to be of a magnitude unwitnessed by a major global economy in modern history.

The closest precedent to such transformation would require us to look at major transitions in history, for example, the aftermath of the Second World War. This era included the rise of the Marshall Plan, the establishment of the National Health Service and the original UK Town and Country Planning act which nationalized all development rights in the UK. These were large-scale societal innovations focused on full transformation, not fixing and renovating market failures.

These transformations invite a new role and practice for UNDP and development practice globally:

Systems Change: Given the recognition that many of our social challenges or wicked problems are both complex and interdependent, it becomes obvious there is no single magic bullet, start-up or intervention, which can drive the change necessary. This requires a new model of innovation—one in which the “theory of change” cannot be restricted to singular services—but instead requires coordinated, collaborative and institutional innovation—across a movement of actors, agents, institutions, and organizations simultaneously. This challenges our current models of governance, accountability, incentive, investment,



[@indy_johar](#)

Minor incrementalism and innovations that merely address market failures leave states increasingly unequipped to address the scale and scope of threats facing us.

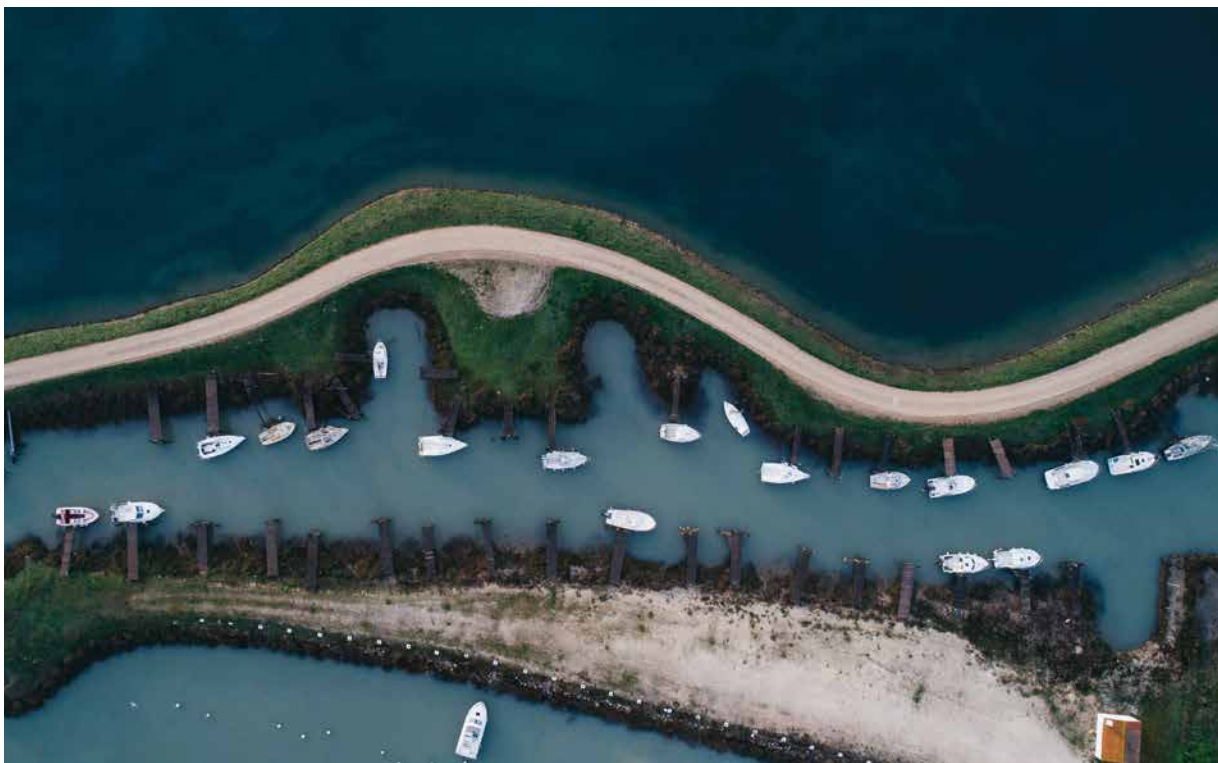


contracting, service design, organizational design and of course the leadership to support this. In the future, the challenge is not the public sector but the distributed, decentralized creation of public goods; the challenge is not public or private but interdependence. The challenge is not just the disruptive innovation of new products and services but the coordinated activity across our institutional infrastructure. “Change” increasingly needs a systems view, working diagonally and simultaneously across a system from policy to governance to public and private services to drive strategic outcomes, be it a fundamental shift in health or education outcomes.

Movements for Change: There is an increasing recognition that whilst evidence-based policy is great in theory the reality is somewhat divergent. Any meaningful transition needs to start by building engaged and informed movements for change amongst stakeholders and citizens, packaging a political constituency for innovation for politicians to leverage, scale and drive. In this reality, it is not sufficient to only create the product and service interventions, but it is also necessary to consciously design, create and build the politics (with a small p) for these innovations. This is a future which recognizes that change in this world cannot be designed as a strategy written by one organization or government but has to consist of the investment in growing a movement of change across supply, demand, and context; building on a shared mission which is an open invitation to take part and innovate to-

gether; a shared language and understanding of interdependent issues; and the distributed collective intelligence and agency of movements. This is a future which fundamentally asks us to rewrite the models of change—from hard power to soft power, from command and control to protocols, mutual accountability, investment and system leadership: co-creating, co-designing, co-negotiating, collaboratively investing in the space for civic conversation, interrogation, and learning. For example, a Universal Basic Income cannot be won on TV or with evidence alone; it will require a distributed and decentralized infrastructure for citizens in a given country to have meaningful slow conversations and experiences with each other—growing mutual trust, hope, and belief.

Boring Revolution: As we move to a complex, emergent and unknown world, we increasingly need a new institutional infrastructure which recognizes the reality: much of our social institutional infrastructure was designed to be fit for the Industrial Age, powered by the centralized efficiency and illusion of predictability of a Weberian managerial bureaucracy. This period is over, driven by a combination of the nature and scale of our challenges and the possibility offered by a combination of next-generation technologies, such as cloud computing, AI, platform and blockchain and smart contracting, and radically distributed processing power. We are entering a new age of bureaucracy. The new age of bureaucracy will require us to reimagine how nation states account



for future social liabilities and costs in order to unleash a preventative intervention economy; how we analyse not only institutional/organizational balance sheets, but also the wider system balance sheets; how we commission and procure to focus on systems change and enabling a movement of actors—to collaboratively drive outcomes; how we contract in real time for multi-actor, outcome-focused innovation; how we legitimately create smart and codified policy without accentuating disenfranchisement and inequality. We also need to consider how we reimagine risk management in a complex systems world; how to build the evidence and proof of change for a complex emergent world where social interventions have millions of design possibilities and outcomes dependent on complex combinations between them; and how we remake human rights for a post-automation society.

Multilateral Innovation: Many of our 21st Century Challenges do not recognize national boundaries, be it the impacts of climate change, environmental degradation, or economic development failure. This reality requires new multilateral models of innovation operating and investing across multiple states to resolve, mitigate and manage complex large-scale challenges; the emerging challenges of Syria or the Bangladesh river basin are clear examples of this emerging need. Multilateral actors such as UNDP have the mandate and the opportunity to become the honest facilitator and accelerator of necessary innovation as states increasingly become aware of their

systems interdependence and the need for collaborative multilateral innovation in a multipolar, complex world.

System Financing: Scaling this future requires designing and building a new generation of financial instruments, tools and “Marshall Plans”, which can not only mobilize the trillions necessary, but can also viably drive system-scale transformation, spanning the usual silos of public service, policy, civic, social and private sector innovation along with the generational divides. These financing instruments will need to be able to invest in multiple interventions at a system scale for virtuous cycles of benefits, they will need to be able to invest using a combination of means – grant, equity, debt, service delivery procurement etc. to mitigate future public liabilities and/or unlock future public value (either directly through tax returns and/or synthetically through the land economy) with outcome-based payments linked to this value creation. Finally, and perhaps most significantly, these instruments will increasingly need to look at operating beyond the 3 to 8-year horizon and across inter-generational liabilities, risks and mitigation models to the 25 to 50-year horizon.

UNDP has a clear space, opportunity and perhaps even a responsibility to use its global network of offices and labs for this Big and Boring Revolution, disrupting bureaucracy and traversing boundaries to address our systemic challenges and reimagine development practices fit for the 21st Century.

A Path to Universal Basic Income

Serbia

Serbia has a poverty rate of 13.6%, is 66 of 188 countries in the 2016 Human Development Index, 89 of 199 countries in 2017 in the World Bank's GDP per capita rankings and is experiencing an annual population decline that hovers around 0.5%, due to low birth rates and high emigration levels. These problems, not unique to Serbia, are compounded by broader global trends like automation, which present opportunities but also pose challenges to the industrial and agricultural sectors, the source of employment for more than half the population.

Structural economic reforms undertaken to date have helped to improve public service delivery, yielding notable outcomes in the health sector and to overall GDP and employment, yet underlying structural challenges remain critical obstacles to inclusive growth and poverty reduction. More radical approaches are needed to fundamentally alter the social welfare system and render it more resilient to interconnected socioeconomic challenges.

Universal Basic Income (UBI)—periodic cash payments delivered to citizens without conditionalities, offers an alternative to existing systems of social welfare, backed by strong evidence—suggesting that cash transfers can be an effective mechanism for alleviating poverty. No country has yet implemented UBI at the national level, but limited experiments are currently being carried out in a small number of countries. Joining the ranks of these pioneers, the Government of Serbia, supported by UNDP, has embarked on a pilot to [test the feasibility of national models of UBI](#) and other welfare policy alternatives in Serbia.

By making transfers unconditional, UBI can potentially increase government transparency and reduce costs by eliminating means testing, freeing up resources to focus on other issues. Besides providing consistent social safety nets to boost resilience in the short term, cash transfers stimulate economic activity by encouraging people to enter education and start businesses, as the guaranteed income reduces the risk associated with these activities. UBI, therefore, has the potential to increase tax revenues as well as reduce government expenditure in the long term, such as in health services spending.

In 2017, the project entered its first phase of research and design. Informed by this research, a small-scale UBI model will be launched within one municipality in 2018 to assess the impact on individual socioeconomic outcomes. Designed with scale and sustainability in mind, the project embodies an evidence-based approach with a long-term horizon. Following the results of the two-year pilot within the municipality, the project will assess the feasibility to scale to an entire municipality, bringing in new private sector, NGO, and government partners to support the work and monitor the results over four years.

Among the indicators of success to test whether the use of UBI will make the Serbian welfare system more effective and efficient will be the impact of the pilot on health and education outcomes, levels of economic activity, and reported life satisfaction. Equipped with these results, the Government will have the tools to adapt and refine the model and gradually scale to a national UBI-based welfare system that, over the next decade, will restore the livelihoods of citizens and ensure that no one is left behind.



By making transfers unconditional, Universal Basic Income can potentially increase transparency and reduce costs, freeing up public resources to focus on other issues.



Augmenting the Vaccine Delivery System

India

eVIN is an Electronic Vaccine Intelligence Network, which augments the entire vaccination system in India. It enables a simpler and smarter way for health workers to perform their routine task of ensuring vaccine availability at all health centres, at all times. By providing [real-time information on vaccine stocks and flows, and storage temperatures](#) at all vaccine storage points across 19 States and 2 Union Territories, the mobile- and web-based application is empowering last-mile healthcare workers, thereby strengthening immunization systems in India, home to the world's largest birth cohort of 27 million. Designed in partnership with the Ministry of Health and Family Welfare, Government of India, eVIN supports the government's ambitious Universal Immunization Programme that aims to immunize more than 156 million people every year.

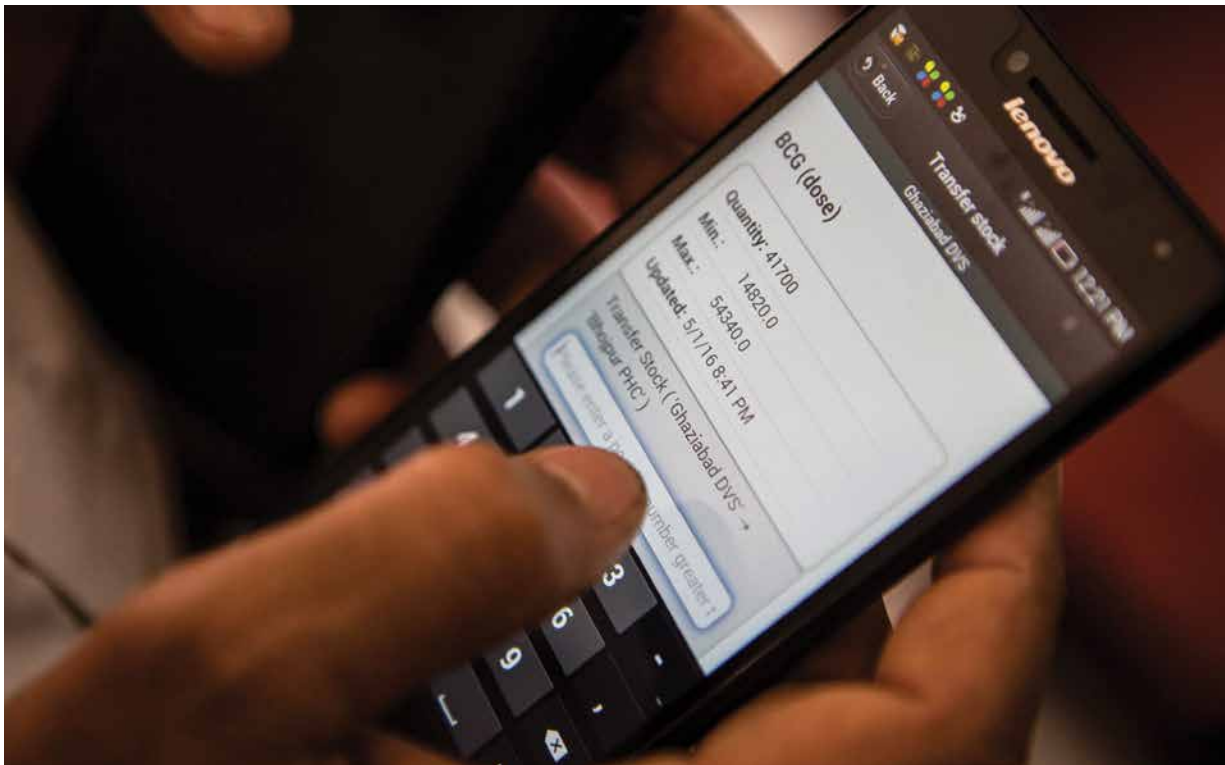
Using the [eVIN app](#), vaccine cold chain handlers, who are an essential part of the vaccine delivery, are able to get complete information about vaccine stocks at the click of a button. "My vaccine data is in my pocket now and this information has become my power. I get notifications well in time so I place orders for vaccines accordingly, and as a result vaccine stock-outs are rare. I am so happy that through this technology I am able to save more lives," says Alka, a vaccine cold chain handler.

This confidence is shared by many others. Fifty-year-old Potia Kundo from a tribal community in Madhepura, Bi-

har, is an auxiliary nurse and midwife. She doubles up as the vaccine cold chain handler at the public health centre in her block. Convinced she would never be able to use a smartphone, Potia refused to attend the eVIN training programme. With some motivation from the eVIN team and district officers, not only did Potia attend the training, but she now enters and tracks all the vaccine data of her store on the mobile app with ease.

Strengthening government health systems by skilling vaccine managers is one of the key components of eVIN. Intensive training programmes are organized at the state, regional and district levels to introduce cold chain handlers to smartphones and digital record-keeping. A large number of participants in these training sessions are women, and mostly from older age groups. Afterwards, continuous support is provided by the vaccine and cold chain manager, placed at every district by UNDP. The easy-to-use mobile-based application is bridging the digital divide, especially in rural pockets of the country. This, in turn, has encouraged ownership and accountability.

In 2017, eVIN won the prestigious GSMA Asia Mobile Award (AMO) for Outstanding Mobile Contribution to Sustainable Development Goals in Asia. The ceremony, held during the Mobile World Congress 2017 in Shanghai, recognized the contributions of several transformative mobile innovations making a mark in the Asian region.



eVIN supports the government's ambitious Universal Immunization Programme that aims to immunize more than 156 million people every year.



Exploring Frontier Technologies



“We won’t experience 100 years of progress in the 21st century, it will be more like 20,000 years of progress,” notes Ray Kurzweil co-founder of [Singularity University](#). Technological progress is happening at an unprecedented pace, increasingly outstripping governments’ ability to regulate it. Established models of regulatory bodies and accountability mechanisms are not designed to govern technologies adequately or to unlock their potential to address inequalities, redistribute power and support those furthest behind. We are witnessing a persistent digital divide, while simultaneously tensions increase in societies undergoing rapid digitalization in an era characterized by decreasing citizens’ trust in established institutions across the globe.

Unlocking the potential of frontier technologies, therefore, needs to incorporate experiments that test the added value of emerging technologies for development and humanitarian work. But engaging with frontier technologies also entails designing the future of governance: how can public bodies design regulatory mechanisms that enable testing new technologies, while safeguarding human rights, human security and the scope of civic participation?

To be equipped to support partners with designing the future of governance in the era of rapid change, we start with testing frontier technologies for direct development use cases. UNDP is using drones and satellite imagery globally to collect spatial data for better decision-making. In the Maldives, DJI [drones are used to enhance disaster preparedness](#). Spread out across 188 inhabited islands, 80% of which are at one metre above sea level, creating risk maps is essential. Using drones, an entire island can be 3D mapped in a single day. In Africa, across 120 sites and 10 countries, *One-Eye*, a NASA-UNDP Africa partnership, is using [satellite imagery, drones, and real-time data to monitor, evaluate and deliver results in some of the world’s most remote places](#). And most recently, with UN Environment, UNDP launched the [UN Biodiversity Lab](#). Powered by [MapX](#), the spatial data platform will help countries support conservation efforts and accelerate delivery of the [SDGs](#).

These initiatives, leveraging spatial data, provide ideal entry points for machine learning, and we are actively scouting for partners on Artificial Intelligence (AI). In one

Technological progress is happening at an unprecedented pace, increasingly outstripping governments’ ability to regulate it.



concrete AI experiment [UNDP teamed with IBM to automate UNDP's Rapid Integrated Assessment](#), aligning national development plans and sectoral strategies with the 169 SDG targets. First trials showed efficiency gains, cutting the required time for analysts significantly.

The UN Secretary-General, António Guterres, emphasizes the role of the UN System in fostering inclusion and transparency, along with upholding global values. In July 2018 he announced the [High-Level Panel on Digital Co-operation](#), aimed at connecting partners across sectors to facilitate international dialogue and collaboration. For UNDP, it is essential to work with Member States to design conducive ecosystems that foster innovation while ensuring inclusivity and transparency.

Here are the principles that guide the work of the UNDP Innovation Facility on frontier technologies:

Leaving no one behind: One of the first challenges to leave no one behind is how we can strengthen the analogues foundations of economies to bridge the [digital divide](#). To meet its full potential, [technology should be accessible and relevant for every citizen](#).

Addressing biases and transparency: Particularly with AI, algorithms are only as good and as biased as the data sets that feed them. Data Commons refers to the in-

teroperable infrastructure that co-locates data and computes with common analysis tools across geographical borders. UNDP, as an active supporter of the Open Data movement, supports the [Ministry of Data](#), an initiative to use open data for the public good in Armenia, Belarus, Georgia, Republic of Moldova and Ukraine.

Ensuring ethics and accountability: A key engagement path for UNDP will be joint work with government partners to set up cross-sectoral fora to jointly develop principles for the ethical use of frontier technologies. This includes also the design of accountability mechanisms and of [anticipatory regulation](#): this new class of instruments entails iterative rules, allowing an ongoing response to the constantly evolving digital revolution. Countries as [the UK and UAE are putting in place such flexible regulatory frameworks to enable innovation and, at the same time, are working on](#) dedicated strategies, to facilitate economic growth while protecting citizens.

Setting up ecosystems: A key component of successful anticipatory regulation is a joined-up multidisciplinary regulation through collaboration platforms that include a diverse pool of partners. UNDP is designing various types of country support platforms and frontier technologies are likely to play a central role in many, including their regulation. In August 2018, UNDP joined the [Partnership on AI](#), founded



by Google, Facebook, Amazon, Microsoft, and IBM. It was established to advance the public's understanding of AI, and to serve as an open platform for discussion and engagement about AI.

Combining collective and artificial intelligence: Collective intelligence describes the outcome of collaborative processes. While the concept is not new, digital technologies have exponentially expanded our options to collaborate. Increasingly, [governments are leveraging collective intelligence systems](#). In Armenia, UNDP engages citizens in designing solutions to wicked problems such as the [future of education](#) and [crowdsources foresight](#) through our [Kolba Lab](#). As UNDP gears up to deliver its [Signature Solutions](#) through country support platforms, collective intelligence strategies will be key to convene diverse actors, identify entry points in complex systems and facilitate integrated policy support.

Governments and development organizations, including the UN System, have the responsibility to facilitate dialogues on prudent and agile sectoral frameworks, and invest in their capabilities to understand frontier technologies, their potential, and risks. This entails going beyond regulating emerging technologies; it requires us to revolutionize our institutions and redefine the paradigms that guide our work, including value creation, human rights, and freedom.

It entails going beyond regulating emerging technologies; it requires revolutionizing our institutions and redefining the paradigms that guide our work, including value creation, and freedom.

Reintegrating Persons with Disabilities with 3D Printed Prostheses

Honduras

Despite significant progress in reducing homicide rates, Honduras still faces high levels of violence and delinquency associated with narcotrafficking and gangs, which particularly affect young people. Youth (aged 15 to 29) make up 67% of homicide victims. This is exacerbated by high levels of poverty, which affects 63.8% of households, and vulnerability to climate change which often forces internal displacement and migration. As many as 800 potential candidates were identified by migrants' reception centres, a number which exceeded by far the capacity of this newborn, pilot FAB LAB. Consequently, 18 persons were selected to participate in the initiative.

When Edwin lost his hand, his life changed drastically. "It takes time to accept that you are now disabled and to adapt to your new reality. Thank God there is this opportunity that helps us to get ahead, and start a new life project, a prospect that we thought impossible", said Edwin after receiving a 3D printed orthopaedic hand prosthesis from the FAB LAB, a social entrepreneurship module at the Chamber of Commerce and Industry of Tegucigalpa (CCIT), Honduras.

Frontier technology can contribute to the socioeconomic inclusion of poor and marginalized people. In Honduras, UNDP and the CCIT established the FAB LAB for pro-

ducing [3D printed orthopaedic hand prostheses](#), in collaboration with the NGO GUALA. The initiative focuses on young victims of violence and returned migrants with disabilities with a view to providing them with another chance to reintegrate and contribute positively to society.

Using 3D printing and laser cutting technologies reduced the cost and time required for production without compromising quality. The hand prostheses were produced and customized to the needs of the beneficiaries. The newly-gained autonomy was complemented with vocational and entrepreneurship training, occupational therapy (with the national university, UNAH), and seed funding for them to start a new and productive life.

The initiative is promoting an interdisciplinary approach, using innovative technology to increase independence, while developing skills to access the workforce. Through multi-sector partnerships, the initiative provides an [integrated solution to the reintegration](#) of returning migrants and victims of violence living with disabilities and localizing Agenda 2030.

The FAB LAB was handed over in 2018 to the CCIT, which will secure the sustainability of the social enterprise innovation module from the proceeds of paid enterprise solutions offered to its members.



Using 3D printing and laser cutting technologies reduced the cost and time required for production without compromising quality.



Smart Sensors Helping Farmers Manage Climate Risks

Rwanda

February 2018. Esther, a farmer in Rwanda's Murundi sector observes her maize field: "It is ripe now, but we should have harvested in December." With climate change, weather patterns in the natural-disaster prone country are increasingly unpredictable. In the absence of accurate data, farmers and cattle owners experience loss and "find it tough to survive," adds Esther.

Rwanda is highly prone to natural disaster, including landslides, flash floods, droughts, windstorms, lightning, and earthquakes. Over 157,000 people are vulnerable to drought, 7,431 are vulnerable to landslides and over 5,000 houses to windstorms, while forest and landscape degradation and climate change increase the risk and severity of disaster affecting the most vulnerable people, such as female-headed households and rain-dependent farmers.

Early warning is key for climate and disaster risk management, and thus accurate data is critical. Against the rapid changes, traditional meteorological stations fall short. Rwanda Meteorology Agency (Meteo) and UNDP have been testing the application of "Internet of Things" (IoT) technology to improve the accuracy and speed of climate and resources reporting. IoT is a network of interconnected physical devices, such as computing and digital machines, embedded with sensors, software, and connectivity, which enables real-time data exchange.

For its pilot stage, through consultation with local stakeholders, the initiative has been [testing open source IoT tech](#) using 12 sensors (testing temperature and soil moisture) in three drought-prone sectors: Murundi, Ndego,

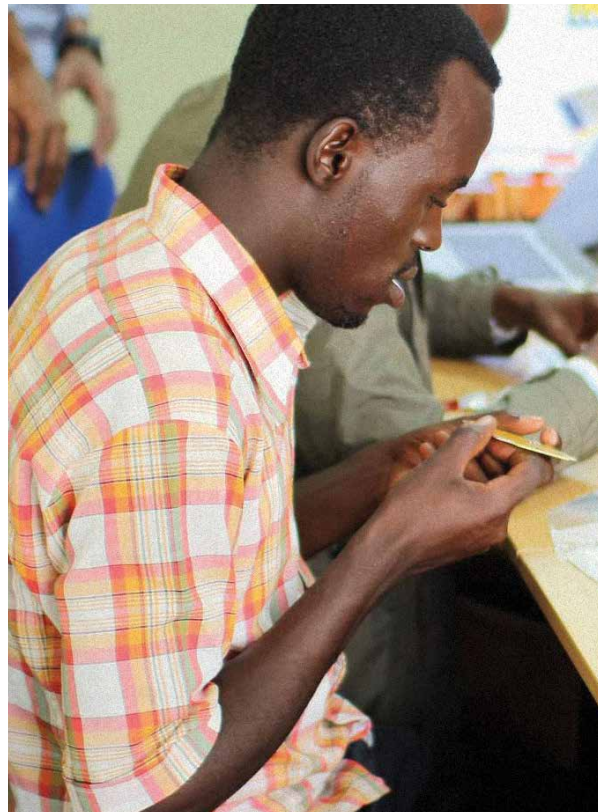
and Rwinkwavu. Considering the novelty of the technology in Rwanda, this work involved learning from practice. It has not all gone without challenge but working closely with the farmers allowed fast troubleshooting. Teams have addressed Wifi connectivity issues and electricity availability, waterproofed sensors and adjusted the sensor location.

"Getting data is something, and interpreting the data is something else," says Rashid, a farmer in Murundi, who is dependent on comprehensible accurate local data. From its inception, the IoT project aimed to prototype the complete value chain of a climate data collection system, from building technical capacity, through upstream (system assembly and maintenance), to downstream (data analysis, information dissemination and system usage). As such, in a final stage of the pilot, UNDP, Meteo and the University of Tokyo have collaboratively developed an innovation challenge, a [Design-a-thon](#), inviting local programmers to think how to convert real-time data into usable and accessible information.

In February 2018, 68 participants in 18 teams gathered in Kigali to pitch their ideas for web- and mobile- based applications, focusing on what the farmers need. As such, participants worked closely with the pilot's sectors and visited the communities in Rwinkwavu sector, to observe the IoT sensors and speak with local agronomists and farmers. Six teams were shortlisted to prototype a scalable solution. One product planned is an Early Warning System to improve disaster preparedness.



Using the Internet of Things technologies enables real-time climate data exchanges for early-warning in support of farmers' livelihoods.



Blockchain Powered Remittances

Serbia

Remittances, money sent to home countries by migrants, are one of the largest sources of capital inflow to developing countries. The [World Bank](#) estimates that officially recorded remittances to low- and middle-income countries reached US\$466 billion in 2017. However, currently the charge for remitting money to Serbia adds an additional 8% on average to the cost and there is no transparency regarding how and where the money received is spent.

In revising the business model for remittances transfer, UNDP Serbia was seeking to provide an affordable, accessible and secure transfer system for the diaspora, as well as to direct capital flows toward specific needs. In a partnership with AID:Tech they are [testing the use of blockchain for remittance transfers](#) to Serbia. Using AID:Tech blockchain technology, they are able to issue a digital identity to beneficiaries, essentially cutting out the middleman. The user can thus send, receive and hold digital assets. Their goal is to reduce the global average of transfer fees from about 8% to 2%.

Currently tested in the city of Niš in southern Serbia, a region heavily reliant on remittances, where existing frictions hamper development efforts, they have deployed the blockchain-based system via a UNDP portal. Through a unique digital identity, the system addresses issues of both identity and access. The recipient, once provided with a digital identity, can digitally receive entitlements. In this case, in addition to cash transfers, the diaspora can also send vouchers to pay for products and utilities, such as energy bills and groceries. Blockchain creates a universal unique identity that works across borders; being accessible to all, it also promotes financial and social inclusion. At the same time, the digital functionality enables businesses to reduce their capital requirements, while the transparency gives authorities and regulators more detailed oversight.

While harnessing the benefits of tech in designing this initiative they have emphasized four considerations, as described by Grace Ma of AID:Tech: Do no harm—ethical concerns; privacy and the rights of the individual are to remain at the forefront; Design with—the rights and interests of the individual are front and centre; Power dynamics—ensure the disadvantaged are the best served; Policy implications—blockchain is not merely digitization but affects how systems and approaches will have to be addressed.

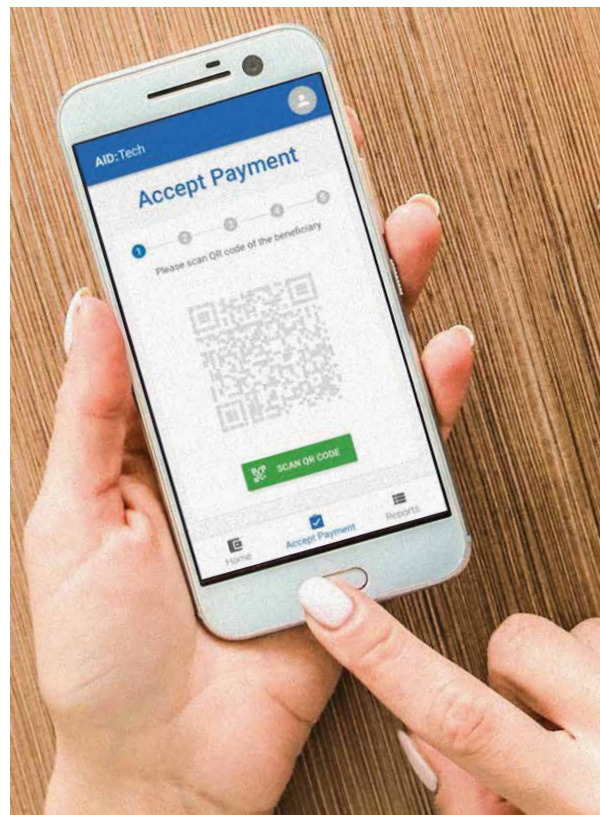
[The Future is Decentralised](#) is a publication exploring the uses of blockchain technology for development. A collaborative research project between UNDP, Blockchain (a global software platform for digital assets), UNHCR and WEF, it highlights the potential of the technology to policymakers, development workers and citizens to bring transparency to opaque systems as well as efficiency and effectiveness to the fields of development aid, supply chain management, renewable energy, economic growth, and others.



Available at:
undp.org/innovation



**Blockchain
creates a
universal unique
identity that
works across
borders, being
accessible to all.**



Drones for Crisis Preparedness

Maldives, Timor-Leste

As sea levels rise at an [accelerating pace due to climate change](#), coastal cities and countries experience devastating effects brought about by intensifying storms as well as tidal and rainfall flooding that threatens to sink coastal communities. Small Island Developing States (SIDS) are particularly vulnerable to these worsening developments. Surrounded by seas, SIDS disproportionately suffer from climate change effects due to natural disasters, but also limited resources and remoteness. Crisis Preparedness is critical, to mitigate the risk and allow planning as well as improve emergency response.

In the Maldives, one of the countries most vulnerable to climate change risks, [Drones \(UAVs\) are used to enhance disaster preparedness](#). The Maldives is the world's lowest-lying country and stretches across a vast and dispersed territory formed of 1,200 islands in the Indian Ocean; 188 islands are inhabited, home to near 409,000 people. As many as 80% of these islands are only one metre above sea level. Creating risk maps is essential in preparing and managing a crisis, yet it is a lengthy process, usually taking a year to map 11 islands. UNDP and the Government of Maldives partnered with DJI (market leader in the drone industry) to use drones (unmanned aerial vehicles) to create 3D maps in the Maldives. It now takes a single day to map an island.

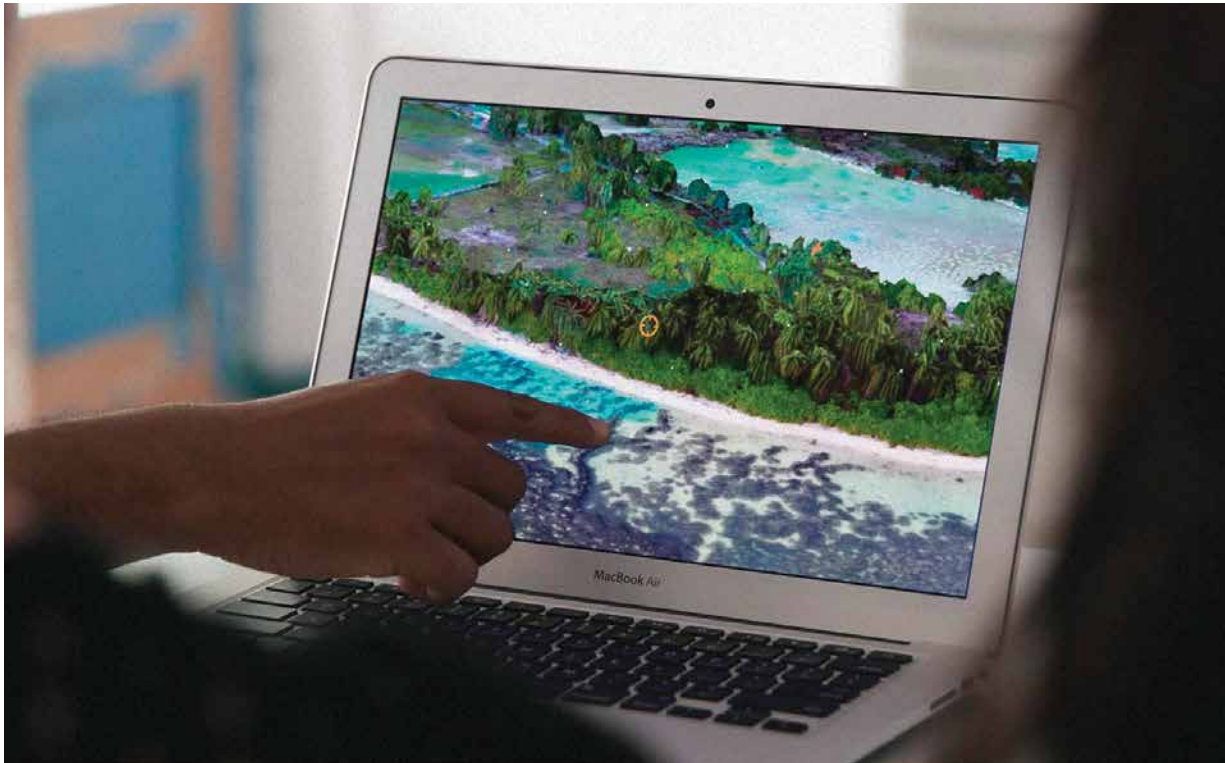
The rapidly changing coastline and unpredictable weather patterns are already affecting the community and risk maps can help mitigate the effects. "I have lost hundreds of banana plants, which my household income depends on", explained Ameena Hussain, a farm-

er. Providing the public with accurate data and forecasts can help citizens act to protect people, property, and livelihoods.

Over the past year, the project has been tested to create 3D risk maps that help plan evacuations and disaster response. Umar Fikry of the Maldives National Disaster Management highlights the importance of obtaining visual images of the island to plan response: "If we are to send relief items, what are the possible entry points in the island and what are the possible hazard-prone areas of the island." He further emphasizes that the spatial data offer a powerful tool to promote evidence-based decision-making.

Following a successful pilot, several Maldivian islands are now being equipped with drones and local emergency officials will be trained in how to use them and create risk maps. In 2017, this project was shortlisted for the Best Drones and Robotics Project award at the GovInsider Innovation Awards in Singapore.

This experience is also being shared with other countries. UNDP has provided the Government of Timor-Leste with two [drones to contribute to disaster risk reduction](#). Flying at an elevation of up to 250 metres, with a coverage area of 30 ha and photographic capacity of up to 2,000 ha in one day drones "can be particularly useful to identify natural disasters and sources of fires that cannot be reached by people", said Juliberto dos Santos of the Ministry of Agriculture and Fisheries. The aerial based rapid mapping system is intended to support disaster preparedness and recovery.



The project has been tested to create 3D risk maps that help plan evacuations and disaster response, simplifying and accelerating the mapping process.



Testing Emerging Concepts: Country Support Platforms



Given the complexity and scale of today's challenges, from rapid urbanization to heightened inequality and climate change, and the recognition that such interconnected and structural problems cannot be solved by any single actor, UNDP is introducing Country Support Platforms to help accelerate progress towards the SDGs.

Country Support Platforms represent a departure from “business-as-usual”, recognizing that fundamental change is needed to achieve the SDGs, much of it brought about by non-traditional partners. For this reason, Country Support Platforms focus on wicked or complex development problems, the root causes of development shortfalls, using highly networked ways of working that make vital connections possible within and across government, society and the development community, mobilizing social energy, capital, and capacities that would remain untapped otherwise. The net effect should be to integrate and accelerate efforts to achieve the SDGs.

Borrowing language from the software industry, Country Support Platforms embody a shift from “proprietary” or closed to “open source” development, where the ideas and efforts of many lead to results that exceed, by far, what could be achievable by a single organization such as UNDP or even a collective such as the UN development system or the development community working in traditional ways with government.

Several UNDP Country Offices, our trailblazers, are already working innovatively and collaboratively on platform-like ideas, which have one or more of the elements that could form the nucleus of a Country Support Platform. The case studies in this chapter are examples of this emerging concept being put into practice. Generally, Country Support Platforms are expected to share Eight Essential Features:

- **Focus on specific complex problems:** Platforms should address multidimensional challenges that are complex, persistent, and difficult to solve through the scale and reach of traditional, mostly sector-based, modalities or projects. At the same time, their focus needs to be sufficiently specific to enable collaboration around a shared, implementable, vision.

Country Support Platforms focus on wicked development problems, using highly networked ways of working that make vital connections possible.



- **Fix a market failure:** Country Support Platforms should address a “market failure”: major gaps that emerge when many different actors are unable to connect and cooperate for mutual benefit to help solve complex problems. It is, therefore, vital that platforms enable mutually beneficial exchanges or “transactions” that would not occur otherwise, especially between partners who would not normally engage with each other.
- **Capitalize on network effects:** To succeed, Country Support Platforms need to achieve network effects. They must bring non-traditional partners into the network, especially from the private sector and civil society, but also create conditions that attract an increasing number of partners with a steadily improving quality of interaction. This is critical because, as the network grows to its full potential, it begins to deliver additional value to its members which, in turn, increases the likelihood that they will discover integrated solutions to complex problems.
- **Trigger a wide range of mutually beneficial and autonomous “transactions”:** To work as intended, Country Support Platforms need to enable multiple transactions, tailored to the problem being tackled. They need to go beyond a single or stand-alone initiative or action, commensurate with the many dimensions of complex devel-

opment problems. It is equally important that platforms do not entail any one party controlling or intermediating all interactions and transactions, with the goal being free flowing engagement within the framework of agreed standards and safeguards, in pursuit of a shared vision.

- **Use innovation and learning as core drivers:** Country Support Platforms will need innovation and learning for multiple reasons. First, given their nature, complex problems will require innovative research and analysis for better understanding. Second, new and better solutions will be required for success. Third, resilient efforts will require a much greater use of innovative techniques such as futures thinking, scenario-planning, modelling, and strategic foresight, to build in adaptability to changing conditions.
- **Mobilize resources for the country:** Given their function and ambition, Country Support Platforms are designed to expand the scale and quality of resources—financial, technical, material—flowing into a country, or mobilized within it, to address complex problems. As a result, Country Support Platforms provide a powerful instrument to shift from funding development cooperation to financing sustainable development.
- **Transcend the normal boundaries of projects:** Country Support Platforms are not projects or joint programmes

Country Support Platforms are not projects or joint programmes; they move between horizontal and vertical governance approaches, top-down structures and a flexible approach of innovation and experimentation.

writ large. There are several points of departure between platforms and projects or joint programmes. These include: the nature of the problems being addressed, macro as against more micro or sectoral; between open collaboration driven by network effects, on the one hand, and reliance on a relatively small and “closed” circle of partners, on the other hand; between horizontal management and governance arrangements among peers versus vertical, top-down, structures based on a chain of command; and between a flexible approach that involves lots of innovation, experimentation and learning-by-doing, on the one hand, and the use of log frames that embed a linear approach to causality and action, on the other hand.

- **Build on trust:** Both the economics literature and experience in the private sector show that the ability to attract a wide range of partners and achieve network effects depends on high levels of trust and credibility. It also requires a strong sense of ownership and/or participation among those involved with a platform.

Moving forward, UNDP will pursue an initiation phase of 18-24 months to test its ideas on the ground, learn intensively and adapt using both successes and failures to help achieve greater success in advancing the SDGs.



Platform-Based Solution to Air Pollution

The former Yugoslav Republic of Macedonia

Air pollution has emerged as a serious threat in the former Yugoslav Republic of Macedonia. Three cities, the capital Skopje, Bitola and Tetovo, home to over 50% of the population, are among the top ten most-polluted in Europe. Harmful particle concentrations in Skopje reach as high as 219 $\mu\text{g}/\text{m}^3$, significantly exceeding the daily legal threshold of 50 $\mu\text{g}/\text{m}^3$. Rates of respiratory disease are soaring, costing 3.2% of GDP, coupled with the economic cost of forests cuts, land erosion, frequent flooding and crop yield losses.

UNDP in the former Yugoslav Republic of Macedonia initially aimed to design a small-scale pilot to test solutions based on data collected from non-traditional sources, but the complexity of the issue and a limited budget (US\$65,000) led them to change course and facilitate the power of “working together”. The small prototype idea grew into a [multiplayer platform-based air pollution intervention](#). Through the platform they have created an ecosystem of a wide variety of actors, helping them leverage the power of the platform and each other.

Starting in late 2016, in [designing a platform](#) to tackle pollution-related issues, UNDP combined innovative design approaches, system thinking and human-centred design with existing structures. Activities are implemented via the City of Skopje Innovation Lab, a UNDP supported initiative. And the actors collaborating through the platform, diverse as can be, share a common goal, with governmental ministries, local municipalities, over 40 private companies, five universities, innovation/tech funds, nonprofits and citizens on board.

The platform, which focuses on behaviourally informed solutions, provides its ecosystem of partners with tools

and space to promote locally driven action. Three key areas guide their work. First, collecting the data to design evidence-based solutions to drive behavioural change. To inform Government policy, they have facilitated crowdsourced data collection using mobile-based geo-tagging; 5,044 households were surveyed in three weeks, indicating that house heating is a major source of pollution, with 45% heating their homes by burning wood. This went on to influence five national legislative changes, including a legal ban on coal usage for heating by 2020. In other instances, Big Data was used to develop proxy indicators for pollutants’ emissions and ethnographic research methods to identify links between air pollution, waste, and socioeconomic status.

Second, using the data. The innovation lab developed a variety of tools to make the data available and accessible to the platform partners. These include computer modelled foresight scenarios, demonstrating the impact of different actions to combat air pollution by 2025, and an online calculator to drive behavioural change, helping citizens make informed energy consumption choices.

Finally, design, test, implement and fund solutions. As an enabler, the platform is running multiple local experiments. The Municipality of Aerodrom, in piloting a near-to-zero emissions street, and an air-purifying billboard is currently being prototyped. They also work to develop alternative funding mechanisms to support initiatives, including partnership modalities with the private sector, and a Social Impact Bond to fund energy efficient alternatives to home heating. Steadily growing, the platform enables a multi-partner action to address a systemic problem.



It grew into a multiplayer platform-based air pollution intervention and created an ecosystem of actors, helping them leverage the power of the platform and each other.



Alternative Financing Lab

Indonesia

The urgent need to unravel new sources of financing to overcome the US\$2.5 trillion financing gap for the SDGs in developing countries is widely discussed. What once worked may be in decline, but the world is at a moment of great opportunity. Alternative Finance Mechanisms provide access to financial resources, and rapid ICT developments allow these to move globally with speed and ease. But how can countries tap into these resources?

To overcome such challenges, the [UNDP Strategic Plan 2018-2021](#) envisions the Country Support Platforms. Through the Innovative Financing Lab in Indonesia, UNDP enhances its service lines to support partners in finding innovative financing for the global goals, addressing bottlenecks and accelerating solutions. This platform is not a single project, but a space to unlock and enable a flow of new capital to the SDGs.

Based in Jakarta, the Lab is global in its outlook. It is a [multi-partnership platform](#) offering space for, and enabling, a collaboration between UN, businesses, governments, investors and civil society. Since its launch, the Lab has developed alternative finance mechanisms with partners, working on multiple avenues: from impact funding to policy. Combining *Zakat* and CSR funds from

Bank Jambi, they fund micro-hydro energy plants in rural villages. To foster entrepreneurship and sustainable growth, Connector.Id is a match-making digital funding developed with Amazon and ANGIN to provide SMEs access to capital. In addition, the SDG Impact Fund Negara gives social enterprises access to private sector funds for agribusiness value chains.

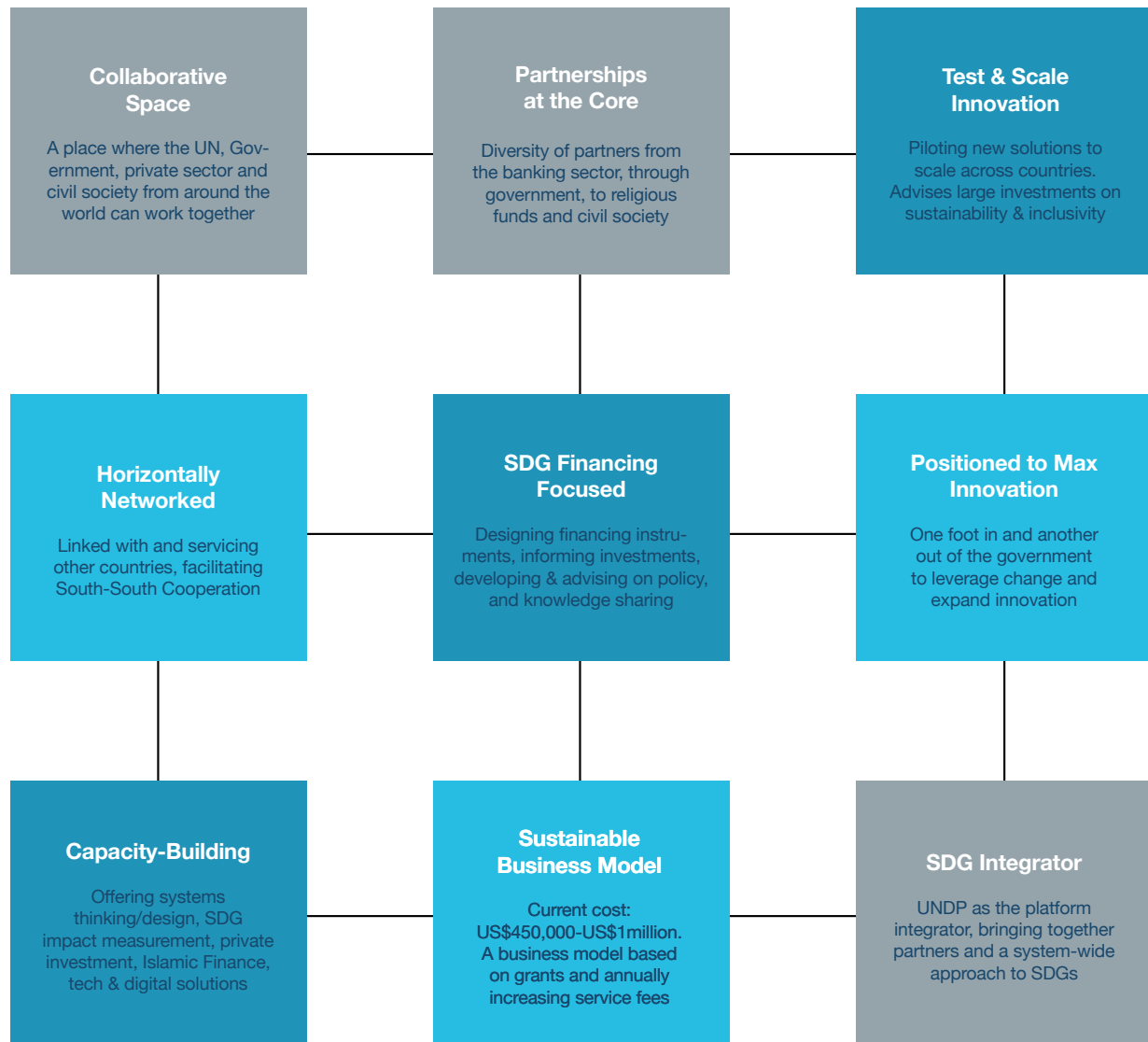
Placing cross-sectoral partnerships at its core, the Lab has been working on combined funding efforts. Using crowdfunding and crowdsourcing, they were able to provide solar-powered water pumps to communities without access to water, and currently work to fund school transportation services as part of the Makassar project to improve city services. The Lab is also working closely with public enterprises to address climate change and resilience. The state-owned Bank NTT committed US\$150,000 in 2016 to support water and renewable energy projects in remote areas, the first government enterprise to finance development projects with UNDP. Since 2011 UNDP has been working with the Indonesian Ministry of Finance to integrate the sustainable development agenda into the budget process. This ongoing effort resulted in a public financial information management system to track climate-related allocation and expenditures.



Placing cross-sectoral partnerships at its core, the lab has been working on combined funding efforts. It is a space to unlock and enable a flow of new capital into the Sustainable Development Goals.



The Lab began with UNDP Indonesia identifying the potential in tapping into *Zakat* as a resource. In the world's largest Muslim country, it is estimated at US\$16 billion annually. In 2017 an agreement was signed with Baznas, the national *Zakat* agency, on channelling *Zakat* funds for SDGs. To do “business unusual” and blur sectoral boundaries, they followed nine principles:





The lab began with UNDP Indonesia identifying the potential in tapping into the **ZAKAT** as a resource, which is estimated at **US\$16 billion** annually in Indonesia alone.

Agile Resilience to Climate Risks

The Pacific

The UNDP Pacific Risk Resilience Programme (PRRP) covers some of the countries most vulnerable to climate change risks. These risks increase and intensify at a rate that demands fast and adaptable interventions. Now in its fifth year, UNDP PRRP's Maverick Programme is using an "agile development" approach to programming, delivering more sustainable solutions with partners in the Pacific. "Build it, Measure it, Learn from it" is their motto: examining climate change from a development perspective, prototyping targeted interventions, using human-centered design, and measuring impact to learn what works.

Business model innovation is fundamentally about designing your work around a clear need, from your partners, recipient communities or the environment. According to the management consulting firm [BCG](#), it is "a necessary core capability to respond to—and capitalize on—a changing world." In 2013 UNDP PRRP started to programme for uncertain results by examining the root causes of community vulnerabilities to climate change risks. For example, they asked why schools are still built in flood-prone areas. Looking to find how development can address these risks, they created Maverick, testing experimental interventions through feedback loops, programming "from within" governance systems.

Running "business not as usual", in 2016 they have developed a [model for "risk governance"](#), to risk-inform development at all levels of governance, drawing on extensive testing of mainstreaming approaches in the Solomon Islands, Vanuatu, Fiji, and Tonga.

This has led to risk-informed initiatives, from small-scale food farming projects in Tonga to township development in Fiji. They have incorporated their model and interventions via three pathways: **Horizontally**, across all

sectors: integrating risk into national policies as with the "One Tool-Process" for the Tonga Strategic Development Framework (TSDF), and the Public-Sector Investment Programme (PSIP) for Fiji's National Development Plan. **Vertically**, community-led: embedding resilient development posts within local government, leading to the development of risk-informed sub-national planning guidelines in Vanuatu, and addressing food security priorities in Temotu. And **Diagonally**, sector-wide: helping to mobilize resources, including a public-private partnership to develop Food Banks in remote communities in Fiji, with the intention to scale this project further.

As early innovators, the team had run through challenges, but these resulted in great benefits. It is a "risky business", says Moortaza Jiwanji, PRRP Manager at UNDP Pacific in Fiji, describing the risk taking as exciting yet stressful, especially when it comes to convincing the stakeholders. Innovation requires a change in mindset, also among your stakeholders. Jiwanji described how early on, the lack of a clearly defined results and resources framework over a fixed time period challenged reputation and buy-in. Working from within the governmental bodies to build governance systems to risk-inform, proved the most positively received approach among decision makers.

Nonetheless, "agile development allowed us to get results that otherwise would have never emerged", explains Jiwanji. He adds that this has allowed them to tackle challenges much better while giving UNDP and partners the ability to adapt to a constantly changing environment: "Over time we saw that taking this approach was extremely beneficial, particularly to our government partners, in offering more sustainable and realistic solutions to the complexities of climate change and disasters in the Pacific."



**Build it – Measure it –
Learn from it –
is the motto:
examining climate
change from a
development
perspective,
prototyping targeted
interventions, using
human-centered
design, and measuring
impact to learn
what works.**



Innovation Metrics for Human Development

What Have We Learned?



The UNDP Innovation Facility does not invest in innovation for innovation's sake: we aim at changing systems and improving lives by doing development differently. Measuring the impact of our work and monitoring for unintended consequences is a key element to ensure innovation for development is on the right track.

We annually upgrade our *modus operandi* to reflect lessons learned. For example, in the early days, to stimulate prototyping and quick feedback loops, we requested proof of disbursements within eight weeks. Many times, this led to the design of quick outputs not connected to development outcomes. Realizing this misalignment, we dropped the speed of delivery as an indicator. The development world is rife with pilots and it is increasingly populated with workstreams labelled as prototypes that focus on the novelty of a process or technology, but not a solid vision of the desired development impact. Accordingly, our focus shifted away from individual innovators to venture teams with diverse capabilities, specifically: to navigate power and politics, market the concept and to raise follow-on resources, and with the operational dexterity to articulate a business model to deliver the solution at scale. From the get-go, we agreed not to report vanity indicators. These vanity indicators include the number of proposals received or ideas proposed at a given co-design event; the number of staff members and partners participating in innovation activities including training; the number of toolkits developed; or the number of innovation blog posts published. (The Innovation Facility sources qualitative data to track how blog posts from entrepreneurial offices inspired new work tracks and the adaptation of innovation in other offices. We have yet to explore social network analysis tools to better understand the dynamics in our peer-learning and peer-inspiration networks.)

One of our key lessons is: there is no universal set of metrics to measure the impact of innovation investments across all UNDP's thematic areas. Many development and humanitarian actors focus on "actual/projected number of lives saved and improved". In our case, this metric would only capture part of the impact. For instance, UNDP Georgia supported the Government to redesign the national emergency services to make them more accessible. Our

We annually upgrade our *modus operandi* to reflect lessons learned. One key lesson: there is no universal set of metrics to measure the impact of innovation investments across all UNDP's thematic areas.



For us, innovation means combining systems-thinking with ethically designed experiments to achieve the ambitious 2030 Agenda.

office led a co-design process with many stakeholders, which identified pain-points and structured testable prototypes. Fast-forward one year, the emergency services were totally redesigned on a national scale. This led to the launch of [Georgia's Service Lab](#), which has contributed to the redesign of numerous public services and the establishment of digital service centres throughout the country. This was a profound change in how the Government operates. Merely counting the number of people directly affected by the redesigned service would not reflect the full range of impact. It contributed to an incremental yet significant institutional change. Additional indicators are necessary to assess the impact on policy and larger systems change.

Acknowledging that no one size fits all, we agree with each office that receives funds from the Innovation Facility on specific metrics, in addition to standard indica-

tors. To track the pathway to scale we request data on whether the seed funding from the Facility has unlocked additional funding from third parties or created new partnerships. We also inquire about the inclusivity of the process, its cost-effectiveness, and time efficiency to reach targeted individuals and households, particularly those at the base-of-the-pyramid.

UNDP views innovation as a critical driver to do development differently and better. UNDP's Strategic Plan calls for innovation [beyond incrementalism, gizmos, and gadgets](#), but our metrics do not account for this ambitious approach. They do not yet measure progress towards mainstreaming new ways of working or fostering systems-change processes that require a multitude of interventions over a prolonged period of time. They do not demand evidence for innovation's comparative advantage or monitor for unintended consequences.





These are three things we, at the UNDP Innovation Facility, plan on doing differently:

1. Measure mainstreaming

We will test metrics that monitor the institutionalization of innovation. Our office in Rwanda has just institutionalized a mandatory budget line securing investments in iterative design and qualitative inquiry for all new projects. No global metric captures such mainstreaming success so far.

Below are a few indicators the Innovation Facility will test:

- Percentage of Country Offices and thematic teams that institutionalize foresight and horizon scanning functions
- Number of operational policies, partnership, and financial vehicles launched based on results from country-level experiments
- Number of mature service lines available, with the required infrastructure in place: internal capabilities, partnership agreements, policies, tools and methods
- Percentage of (senior) managers who have a dedicated goal in their annual performance assessment that is predicated upon “risk expectation” and which outlines a highly ambitious experiment

2. Test right-fit monitoring models

Currently, data on comparative advantage and impact is primarily self-reported by UNDP offices. Gradually offices are adopting more rigorous mechanisms such as randomized control trials (RCTs), quasi-experimental methods, and qualitative inquiry through micro-narratives. While building institutional infrastructure for RCTs, we acknowledge such rigorous methods are expensive and [not always the right thing to do](#).

Moving forward, we will focus on testing the applicability of M&E models to gain (near) real-time actionable insights to help learn and iterate quickly. This includes testing [IPA's Goldilocks Toolkit](#) and the [Lean Data](#) model, designed by Acumen's investment team.

Also, most data collected describe “backward-looking impact” or near “real-time impact”. This very same data can be harnessed to enable forward-looking learning. We will test simulation and modelling approaches to be more responsive to emerging needs, more cost-effective in meeting those needs, and future-ready by incorporating the necessary evolution of community needs. This requires changes to data protocols and processes within the organization and in our collaboration with partners.



3. Develop metrics to measure the contributions of innovation activities for systems-transformation and new development paradigms

For us, innovation means combining systems-thinking with ethically designed experiments to achieve the ambitious 2030 Agenda. One pathway to translate this into action is to formulate [ambitious, yet measurable missions](#) derived from the SDGs, such as carbon-neutral cities by 2030. Such missions need to be specific, time-bound, cross-sectoral and cross-disciplinary and they entail a portfolio of competing parallel solutions. Several of the incremental innovations we support have the potential to contribute to systems-change, yet we cannot claim causality as one actor in a complex system. Mechanisms to contribute and monitor systems-change include sense-making and network building [across sectors](#), experiments, co-creating movements and political bases for policy changes.

Moving forward, we will revise our investment framework to reflect dedicated budget lines for incremental innovation, mainstreaming innovation, testing of new business models, and for transformative innovation/systems-change. Knowing that [there is no golden rule to](#)

[split innovation portfolio investments between core, adjacent and transformational initiatives](#), we will start with an increased envelope for transformational innovation of around 30% of the innovation fund budget. A specific window will be earmarked for innovations that target previously unreached individuals and households at the base of the pyramid. We will assess opportunities to support fewer incremental innovations and cluster them in selected countries around clearly defined missions.



To learn more about metrics and impact assessments, check out the report “Insights on Measuring the Impact of Innovation” we co-developed with the International Development Innovation Alliance (IDIA).

Available at:
undp.org/innovation

This piece was inspired by the article, *Developing humanitarian innovation impact metrics: where do we start?* by our friends of the UNHCR Innovation Team. Check out their work: unhcr.org/innovation.



2017-2018 Innovation Facility Fund Portfolio

Cross Regional

Hacking the Project Cycle for Impact in Africa & Arab States



Africa (Benin, Burkina Faso, Chad, Ethiopia, The Gambia, Lesotho, Malawi, Mauritius, Namibia, Nigeria, Rwanda, South Sudan, United Republic of Tanzania, Zambia, Zimbabwe, Djibouti); Arab States (Egypt, Somalia, Sudan, State of Palestine); Experts from Armenia, the former Yugoslav Republic of Macedonia, Republic of Moldova, Regional Hubs of Addis Ababa, Amman and Panama

The SDGs are ambitious in scope and reach, designed to tackle a wide variety of development challenges and lead to lasting change. If the 2030 Agenda is to be achieved, actors need to collectively take on innovative approaches and find what works. To make innovation the “new normal” for UNDP, in a cross-regional initiative, 22 target Country Offices and “hacking” experts from six UNDP Country Offices gathered to learn and practice innovation for development; to scan, plan, implement, and monitor their programmes and projects. Providing an interactive hands-on learning environment, in a workshop in Cairo, UNDP innovators, joined by national partners from respective countries, gathered to identify tools, methodologies, and opportunities to design experiments and tackle bottlenecks. Through the workshop, participants applied new techniques to real-life contexts and needs, working on specific development challenges they had identified. Using the Project Cycle Hackers Kit tools, they have developed an action plan to prototype and test their hypotheses.



To learn more about the UNDP Project Cycle Hacker Kit, download the toolbox, question cards and background materials on undp.org/innovation

Measuring the Unmeasured: SDG Tier III Indicators



Europe and the CIS (Albania, the former Yugoslav Republic of Macedonia, Kyrgyzstan); Arab States (Egypt, Sudan, Tunisia); Asia and the Pacific (India, Mongolia); Africa (Botswana)

Across the Arab States, Africa, Asia Pacific, Europe and Central Asia regions, reliable and timely measurement of progress on the SDGs is inhibited by structural constraints on institutions, low-quality data, limited technical capacities, and insufficient financial resources. Fully 84 of the 230 SDG indicators are classified as “Tier III”, for which no measurement methodology yet exists, further challenging progress evaluation and policy design. In response to these challenges, UNDP launched a cross-regional initiative to test new and alternative sources of data and technologies for measuring progress on the Tier III SDG indicators. Across four regions, nine countries prototyped experiments to test diverse data sources for understanding progress on the SDGs in real time in light of context-specific challenges and opportunities. Projects range from leveraging Big Data collected through social media, to interactive surveys facilitated through community radio or SMS, and approaches capturing user-generated data. To date, 15 new partners, including the private sector and academia, have helped UNDP secure data through the launch of eight prototyped projects. The cross-regional scope of the project will also enable UNDP to share the lessons from countries that can guide global efforts on SDG measurement.



Behavioural Insights to Address Gender-Based Violence

Georgia and South Africa



Gender-Based Violence (GBV) is a historical expression of power inequalities between women and men and still persists stubbornly, with 35% of women worldwide having experienced physical or sexual violence from an intimate partner or non-partner. This is likely to be only the tip of the iceberg. GBV is a complex problem in advanced and developing countries alike, while societal, cultural and legal constraints prevent many from reporting it. Georgia and South Africa both experience high GBV rates, and the respective UNDP Country Offices partnered with each other and other organizations, such as UN Women and ServiceLab in Georgia, to test new ways to address the issue. Capitalizing on the experience of UNDP Egypt in addressing GBV using behaviourally informed messages to women through electricity bills, the teams went on to explore BI focusing on bystander apathy. The project aims to understand the psychological patterns of bystanders and use behaviourally informed interventions, such as “nudge”, to encourage bystander intervention and reporting cases of violence to the relevant authorities. Teams are also working to build local capacity among government and partner organizations to identify and run BI experiments.

Spatial Data Sandbox

Global



Accurate spatial data on the status and trends of biodiversity, ecosystems and essential ecosystem services is of paramount importance for evidence-based policy and evaluation. In response to the limited ability of countries to access and integrate spatial data into planning, reporting, and decision-making for the SDGs, UNDP in partnership with NASA and a consortium of universities and NGOs, designed a Spatial Data Sandbox through the UN Pulse Lab in Kampala. Building on the success of a beta version planning tool tested in Zimbabwe, the development of the global open data platform provides a user-friendly portal for governments, researchers, and communities to share and access information that can facilitate better planning and natural resource management. The open “sandbox” approach fosters a collaborative environment for data collection across sectors, integrating socioeconomic with biodiversity data, ecosystem services conservation, and areas under threat. In 2017, the project established baseline data in 110 countries to understand the existing use of spatial data, and conducted user needs assessments in 45 countries. UNDP and partners will work with governments to embed the data into national reporting and support decision-makers in applying data to policy through foresight.

Innovative Financing Lab in Indonesia

Indonesia, Turkey



The estimated US\$2.5 trillion finance gap to implement the SDGs in developing countries alone reflects the urgent need for innovative financing mechanisms to enable the flow of new capital to the development agenda. To help countries address this gap, UNDP has established an Innovative Financing Lab in Indonesia, a multi-sectoral partnership platform that offers expert support to UNDP Country Offices and partners globally. The positioning of the Lab in Indonesia builds on the momentum of alternative finance opportunities in the region, including UNDP Indonesia's launch of crowdfunding campaigns for environmental projects and its support to the establishment of the first sovereign wealth fund in Indonesia. The Lab particularly focuses on how to attract, channel, and direct private and Islamic finance for development, including from philanthropy, private investors, and religious organizations. Since its launch, the Lab has developed several new alternative financing models and business cases, including piloting an SDG Impact Fund to enable social enterprises to access private investor funding for agribusiness value chains, and a partnership that combined *Zakat* and CSR funding towards the development of a micro hydropower plant.

Blending Old & New: Islamic Finance with Alternative Finance Instruments

Turkey, Indonesia



Islamic Finance is one of the fastest-growing segments of the global financial industry, with global assets expected to surpass US\$3 trillion by 2020. To tap into this potent source of capital for development, UNDP in Turkey and Indonesia initiated a collaboration to explore new financial mechanisms, technologies, and partnerships to channel Islamic Finance into the implementation of the SDGs. In 2017, in Jakarta, UNDP hosted an international conference on innovative financing for development, bringing together the experiences of UNDP Istanbul and UNDP Indonesia in blending alternative finance with traditional Islamic Finance instruments. The partnership complements UNDP Indonesia's recent launch of the Alternative Financing Lab, as well as UNDP Turkey's work to test Islamic Finance in a local social innovation platform. Having established several key local partnerships in both countries, the cross-regional initiative is now designing four cases to test ways of blending alternative finance and Islamic funding for SDG projects. UNDP is also conducting analyses of the legal frameworks in place for Islamic financing in each country, the results of which will help identify potential bottlenecks or opportunities for effectively leveraging the financial instruments.

Africa

Closing the Gap on National Data Deficiencies

Botswana

In Botswana, national capacities for obtaining a reliable and timely measurement of interventions for sustainable development suffer from structural constraints. These include low-quality data, limited technical expertise, and insufficient resources for the collection, analysis, and use of data. As part of the cross-regional initiative to measure progress on SDG indicators, UNDP helped the Government of Botswana test the potential of social-media generated Big Data for improved public services. The pilot leveraged the social media platform, Facebook, for obtaining real-time data on user experiences of public services. Given its wide reach and existing use as a platform for people to rate services, Facebook-generated data is cost-effective and can provide invaluable insights for the Government on their customers' — the citizens' — sentiments. UNDP will continue to work with the Government in 2018 to set up a model for the practical application of the data as a decision-making tool. The tool will serve both as a regular feedback mechanism for line managers to improve public services in the short term, and an evidence base upon which to improve policies and make structural improvements to systems in the long term.



Legacy for Sustainable Development: Diaspora Bonds

Cabo Verde

Cabo Verde is a small archipelagic nation with a service-oriented economy accounting for about three-quarters of GDP. The public debt has rapidly increased in recent years, with regular runs into a budget deficit. When designing this initiative, in 2017, the deficit was forecast to reach 124% of GDP. UNDP Cabo Verde identified an opportunity with diaspora remittances, which account for 10% of Cabo Verde's GDP. Through this initiative, the Country Office is testing the design and introduction of Diaspora Bonds to the Cabo Verde economy. The team has conducted a study on how domestic bonds could be introduced into the Cabo Verde economy. It found that Diaspora Bonds can offer a middle ground financial alternative between issuing sovereign bonds on the international market and opening up the domestic bond market to foreign participation, offering similar benefits. UNDP in Cabo Verde continues to collaborate actively with the Government to launch the bonds.



Mobile Citizen-Reporting Mechanism to Improve Service Delivery to the Poor



Mauritius

Gaps and an uneven quality of public service provision in Mauritius disproportionately affect the most disadvantaged populations. Among the barriers to effective planning, budgeting, and performance tracking of public institutions are weak monitoring and evaluation capacities and social barriers for the poor to access services, such as stigma. To combat these constraints, UNDP and UNICEF supported the Government of Mauritius to pilot a mobile phone-based citizens' reporting mechanism as a platform for the poorest and most excluded groups to provide feedback on public service delivery. The tool, connecting to local TelCos in Mauritius, uses an open source software that allows personalized SMS messages to be sent to citizens and analyses responses in real time. Next, UNDP will continue to support the government in 2018 to roll out the tool across all key ministries for basic service delivery and carry out information campaigns to ensure its effective use by citizens. The launch of the mobile feedback platform will constitute the first time a participative, bottom-up data collection and analysis mechanism has been used to inform the development of pro-poor policies in Mauritius.

Internet of Things for Informed Climate Change and Water Management



Rwanda

In Rwanda, amidst frequent microclimate changes, traditional meteorological stations and weather forecasts fail to provide vulnerable groups in disaster-prone areas with useful and timely information to withstand climate shocks. UNDP partnered with Impact Hub Kigali to hold a Hackathon for the design of innovative climate early-warning systems, from which emerged the Internet of Things (IoT) for Water and Climate pilot. Planned by the Rwanda Meteorology Agency, UNDP and the University of Tokyo, the initiative leverages IoT tech to enable real-time data exchange between interconnected devices. To test the pilot, sensors were set up to measure real-time water, soil, temperature, and geographic data at selected sites, along with applications for data analysis and dissemination, and to collect and share relevant climate data with target populations. In the first phase of implementation, UNDP supported partners to conduct needs assessments with users and local government and to build stakeholders' capacities to apply user-centred design methods and prototype IoT tools. Using the early results from small-scale testing, the next phase will further develop the devices and build partnerships to ensure their scalability.

Mobile Data to Measure Multidimensional Poverty & Development Impact



Sudan

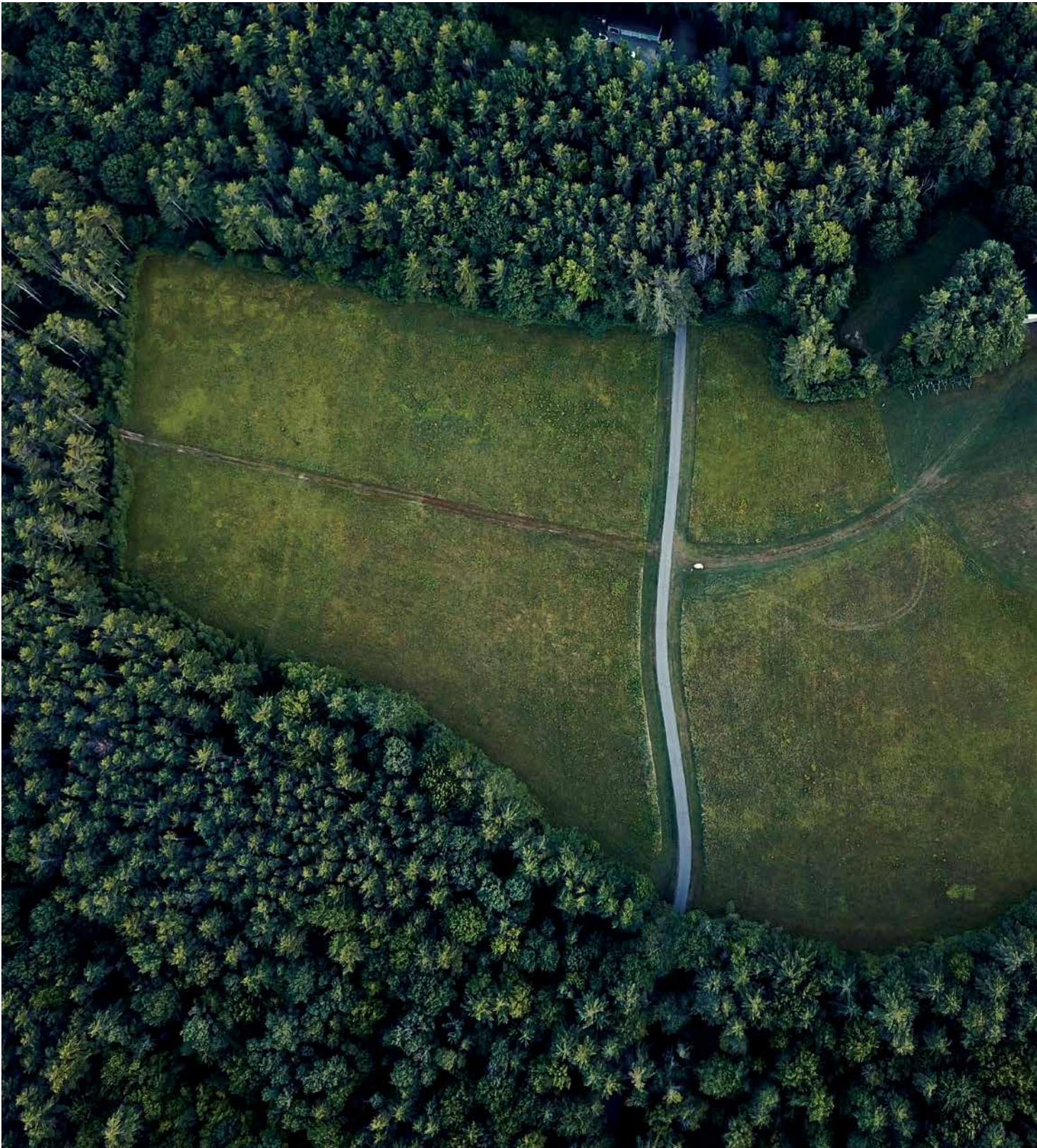
In Sudan, timely and frequent development planning, targeting, and progress monitoring suffer due to crucial gaps in the availability of up-to-date and reliable disaggregated data on poverty. To test the potential of Big Data to fill crucial data gaps hindering evidence-based policy decisions and monitoring, UNDP, with the Sudanese Central Bureau of Statistics, piloted a low-cost and nearly real-time alternative data collection method using Big Data on mobile phone usage as a proxy measure for poverty. First, the standard household survey was digitized, which resulted in a 70% reduction in time, cost, and data errors, when surveying multidimensional poverty in Gezira state. In partnership with Zain Telecom and The National Telecom Corporation, UNDP and Berlin University then evaluated the correlation between mobile phone data, including call data and cell towers, and multidimensional poverty. Initial results indicated a strong correlation, at over 70%. Based on these pilot results and a cost-benefit feasibility study, UNDP will support the application of proxy poverty data for development targeting, planning, and monitoring across other states in Sudan.

Behaviourally Informed Interventions to Improve Tuberculosis Treatment Outcomes



Zimbabwe

With over 10 million new infections and nearly 1.8 million deaths annually, Tuberculosis (TB) remains one of the deadliest infectious diseases worldwide. UNDP Zimbabwe runs Randomized Controlled Trials (RCTs) to test behaviourally informed interventions to improve TB treatment outcomes, tackling underlying causes. The proliferation and deadliness of the disease are closely associated with tobacco and alcohol consumption, with smokers being twice as likely to develop active TB and those who drink more than 40 grams of alcohol per day, three times more likely. Despite the statistically proven connectedness of unhealthy lifestyles and poor adherence to treatment, these issues are usually treated separately by policymakers. UNDP Zimbabwe is working to develop behaviourally informed strategies to reduce alcohol and cigarette use and thereby, increase the rates of adherence to tuberculosis treatment. The experiment first began in Angola; however, due to an unreliable supply of medications, it was moved to Zimbabwe, where resources were available. The project uses low-cost strategies to identify interventions that increase adherence to TB treatment. These are tested using RCTs with TB patients: a control group, and a group using behavioural strategies to reduce tobacco and alcohol consumption.





Arab States

Behavioural Insights to Enhance Social Protection Services



Egypt

National social protection services serve and protect the most vulnerable in society. UNDP Egypt has set out to enhance the capacity of social workers' decision-making and the services available using BI. The tested hypothesis is that if we better understand social workers' decision-making processes, specifically for children at risk, then we can design behaviourally informed interventions to guide social workers to make more informed decisions. The aim is to bring about a reduction of unnecessary enrolment of children into social care. The project started with a situational analysis of the specific behavioural challenges that exist through interviews with social workers in the foster care and children at risk departments. This was followed by a two-day brainstorming workshop with the Behavioural Insights Team and social workers, as an extension of the contextual analysis. The team is currently analysing the results to inform the identification strategy and the design of the RCTs to test the proof of concept.

Funding for Impact



Egypt

To overcome the financing gap for implementation of the SDGs in Egypt, UNDP Egypt began looking into enabling social entrepreneurship. They found that the two greatest challenges social entrepreneurs face are financing, particularly at the early stage, and regulation. These challenges are exacerbated by an additional difficulty in identifying and retaining talent. Through Funding for Impact, UNDP Egypt and the Egyptian Government collaborate to develop impact investment as a credible option, as well as to support the enabling environment, including mentoring and advisory services for startups. The aim is to develop a thriving ecosystem of social impact enterprises and innovative financing, that will also support the SDGs. UNDP and the Ministry of Investment and International Cooperation currently collaborate on policy for the executive regulations of the newly approved law on investment funds. UNDP also works to mobilize available capital, ready to be invested in socially responsible investments, as well as preparing a pipeline of impact enterprises. The project envisions establishing the first national impact investment fund and investing in five startups by the end of 2018.

Postal Innovation Lab

Egypt



Public service, as the name suggests, plays a pivotal role in society and accounts for a substantial share of economic activity. Improving the quality and inclusiveness of public services is crucial for the integration and protection of the poor, vulnerable and marginalized. Egypt Posts is a key public institution, with 4,000 offices delivering services in areas such as social security payments, pensions, licences and registrations, and for many, the only direct contact they have with the Government. The Post Innovation Lab is set to use a Public Service Innovation Lab framework to effect a paradigmatic change in Egypt Post, whereby stakeholders are brought together to use their creativity to explore solutions to complex problems and design and test new approaches and solutions. Greater citizen engagement translates into faster feedback loops and helps build a sustainable, inclusive infrastructure that improves governance, creates transparency and provides a foundation for new business models. As its digital ecosystem expands, new technologies will be used to spot trends and anticipate emerging customer and developmental needs as well as offer new platforms for civic engagement, further increasing collaboration with the citizen.

WhatsApp to Facilitate Dialogue and Prevent Conflict

Lebanon



Tapping into the digital possibilities of the vibrant mediascape in Lebanon, UNDP supported the Government to harness social media to fill crucial information gaps in the national response to the Syrian crisis and stabilization efforts. UNDP developed the “Speak Your Mind” survey tool together with target users in one village, leveraging WhatsApp. The popular texting application functions as a channel to collect real-time, localized data, while enabling two-way communication with refugee and host communities. Besides facilitating a cost- and time-effective means of information gathering, WhatsApp was particularly effective in overcoming literacy barriers and accessing otherwise hard-to-reach groups, mostly living in informal settlements. The rich narrative data, made possible by voice messages from over 240 respondents, provided critical analysis of host community and refugee relationship dynamics in tense areas. It also shed light on barriers for vulnerable groups to access assistance. This proactive data collection method allows to detect early warning signs of conflict and to proactively respond to populations’ fears and needs. UNDP plans to refine the survey design based on lessons from the initial trial and scale the survey tool to a larger town in 2018.

Behavioural Insights for Preventing Violent Extremism

Tunisia, Yemen



The recent wave of violent extremism has left governments and the development community with many questions, with the main one being: which interventions are most effective in reducing the influence of extremist groups? To address this complex and multifaceted issue, UNDP country offices in Yemen and Tunisia are using BI in collaboration with NudgeLebanon and local behavioural experts. The project is exploring the drivers and motivations behind violent extremism, as well as the types of interventions that work to counter radicalization. In Tunisia, the team has devised interventions through the Innovation Facility-supported BI4PVE workshop. In Yemen, the team is currently testing interventions to engage youth at risk through community support programmes and prevent radicalization or de-radicalize youth through behaviourally informed interventions, including nudges and psychosocial support for exposure to trauma. The initiative is being tested in three districts in Aden, using behaviourally informed messages to increase engagement. Next, they prepare to test psychosocial support group sessions. The findings from the project will be used to inform national prevention strategies on the policy level.



Asia and the Pacific

Social Security Digital Cash Transfers

Bangladesh

Millions of Bangladeshi citizens are enrolled in social security schemes in order to receive a cash transfer. Citizens collect these cash transfers physically, at local government offices, or at banks throughout the country. This process for delivering social security cash benefits is inefficient, both for the Government and for the citizen. In order to address this issue, UNDP Bangladesh began a project testing a widely used digital payment mechanism to replace the physical delivery of social security payments. The project is targeting participants from the Strengthening Women's Ability for Productive New Opportunities (SWAPNO) project, a Government social security cash transfer scheme implemented by UNDP. The beneficiaries were introduced to Dutch Bangla Bank Limited's (DBBL) Rocket service (mobile-money account). The project team provided participants with low-cost mobile phones and gave guidance on receiving their social security cash benefit. The project produced positive results and is in the process of being converted into a policy document to be offered to the Government as an alternative form of social security payment, in addition to physical transfers.



Integrated Mobile Model for Citizen Feedback: Grievances and Access to Justice

India

Citizen feedback is an essential mechanism for government accountability and effective delivery of public services. The successful implementation of social programmes introduced by the Government of India for marginalized people requires a decentralized, prompt, responsive and transparent grievance redressal mechanism. Formal grievance redressal mechanisms set up by departments and state governments have proved rather ineffective. The existing technological solutions are not widely accessible or familiar to marginalized communities, and interface channels are limited. When seeking access to entitlements and services, citizens usually resort to legal redress instead of the appropriate administrative grievance redressal channel. This leads to an increased burden of cases on an already overburdened judicial system. In the state of Chattisgarh, UNDP tested the Citizen Grievance Redress Initiative to promote greater community involvement for a more effective grievance mechanism. The team created an app to help citizens log their complaints and conducted a series of trainings among the local community to increase awareness, popularize the app, and assist citizens with filing grievances. The project is currently in the design and test phase and aims to mobilize local government action to improve the living standards.



Harvest Genius: Eco-Agriculture Platform for a Sustainable Future

China

Currently, there is no platform in China that can provide farmers with the detailed knowledge they need to farm sustainably and use fertilizers in an efficient and environmentally sound manner. If agriculture is to improve in China, an easy-to-use, tailor-made reference base, grounded on solid data for farmers is pressing-ly needed. The winning project in the open design challenge "Geek4Good", hosted by UNDP China in April 2017, addressed this very need. The proposed sustainable agriculture platform, Harvest Genius, channels existing Big Data on agriculture, from soil and land type to climate data, into a comprehensive database. Personalized information is then shared with farmers, using an algorithm that aligns sustainable farming approaches and the farmer's needs. UNDP partnered with the Heilongjiang Agriculture Institute in China to develop the platform and plans to scale the use of Big Data for agriculture and pilot this tool in 15 provinces. As an easy go-to reference for farmers with practical information, the uptake of this platform and the integration of its data into farming practices presents a promising means of reducing pollution and land degradation in China.



Public Sector Innovation Lab

Indonesia

The successful piloting of the citizen-led innovative bus sharing system, *Pasikola*, led to the new initiative of developing a public innovation lab, dedicated to creating more innovative and sustainable solutions for the city. In the city of Makassar, which is becoming increasingly densely populated, the *Pasikola* service is a bus service for students who do not have access to efficient public transportation. The concept was born in a multi-stakeholder workshop, involving citizens and officials. In design, they have considered frequently used routes, driving behaviour and existing resources. The experiment was so successful that the city of Makassar decided to adopt it as a core public service and dedicated a budget for its continuation in 2019. It has also inspired efforts to make room for collaborating with citizens, to further enable user-centred public services, through the Public Sector Innovation Lab. The *Pasikola* service is being scaled up to include more villages and reach more beneficiaries, while UNDP is working to develop an innovation lab that will provide the room and tools to develop initiatives aimed at improving the lives of Makassar's population and surrounding villages.



Outliers & Innovation: For Women's Public Participation



Pakistan

The Federally Administered Tribal Areas (FATA) is a conservative society with poor socio-economic indicators compared with the rest of Pakistan. Within this marginalized section, the female FATA population faces entrenched social, economic and political exclusion. The adult female literacy rate is 7.8%; it is the only Pakistani region with no female representation in parliament and in 40% of the *Tehsils*, fewer than 40% of the eligible female population are registered to vote. With local innovators such as DEMO and Accountability Lab, UNDP Asia Pacific is leveraging positive deviance to identify disruptive women leaders who have pushed the boundaries of traditional thinking to crowdsource indigenous ideas, replicate and scale-up these proven solutions. UNDP Pakistan identified positive outliers from the FATA region and conducted interviews with them and their families to understand what factors have led them to participate in public life. Based on input from these interviews, the team will hold community group discussions with men and women to discuss the possibility of taking up these strategies. Finally, the initiative houses a strong monitoring and evaluation component, focused on behavioural change within the FATA community, allowing women to participate in the workforce and receive an education.

CITRA – Social Innovation Lab



Sri Lanka

In devising the recent Development Plan for Sri Lanka, the Prime Minister identified the lack of proper mechanisms for effective policy formulation and policy implementation as a challenge. As a remedy to this issue, the Ministry of Science, Technology, and Research has partnered with UNDP Sri Lanka to launch the first social innovation laboratory—*Citra*. The recently launched lab will carry out the relevant interventions to overcome the gaps while providing the space and tools to trigger and design collaborative design. *Citra* is housed in the Ministry and supported by both UNDP and the Government, tackling a range of issues to support development efforts, from identifying bottlenecks in service delivery to informing policy while using future scenarios and removing barriers to SDG implementation through citizen engagement. Introducing a rapid prototyping facility for testing citizen (user)-centred solutions, they aim for a 28-day lab cycle, from identifying a challenge to prototyping. *Citra* unveiled its first pilot project in March 2018: the SDG tracker, an online platform comparing national development policies against the SDGs and tracking the achievement of the SDGs countrywide.





Europe and CIS

Impact Investment for Development Global Summit



Armenia

Gaining worldwide traction, impact investment has become a method for solving development problems with double or triple bottom line objectives. Building on this momentum, UNDP in Armenia partnered with INSEAD's Social Entrepreneurship Initiative to host the first International Impact Investment for Development Summit in 2017. The event brought together business leaders, impact investors and venture philanthropists, UN officials and other development practitioners, social entrepreneurs, government representatives and leading academics, enabling high-level dialogue on the nexus between impact investment and development. Through an action-oriented agenda, participants explored new models of collaboration to leverage expertise and resources across the impact business ecosystem. The Summit went on to catalyse a set of initiatives and concrete next steps for impact investment across participating countries. Among the initiatives spurred was the ImpactAim Venture Accelerator in Armenia, an accelerator supporting scaling up impact ventures for the SDGs. A follow-up conference will be convened in 2019 to assess progress and launch a new generation of impact initiatives.

Impact Venture Accelerator

Armenia



A new generation of financing mechanisms is needed to achieve the SDGs. Impact investment and social entrepreneurship represent an important framework for a new range of tools aimed at leveraging private investment for public good. However, before the potential gains from these new tools can be maximized, it is critical to enable social enterprises (SEs) to scale up. After incubation, SEs face a real viability test. They can only be sustainable if they are able to generate revenue or to obtain follow-on funding. To support SEs to grow and mature, the Impact Venture Accelerator (IVA) provides direct equity investments and facilitates access to mature buyers' markets, while offering technical support through impact-driven strategies, models, and solutions. The accelerator builds on the social innovation buzz generated by Kolba Lab, an innovation laboratory supported by UNDP Armenia, which has already incubated 14 successful start-ups. The IVA's primary focus is on impact ventures leveraging innovations and technology-enhanced initiatives to improve public and social services, education, healthcare, access to finance, agriculture, green economy and empowerment of vulnerable groups.

Experimental Government Model: Generating Growth Areas in Governance

Georgia

Governments across the globe are facing the challenge of connecting with citizens on a collaborative level, including them as partners in decision-making rather than employing a top-down approach. To tackle this challenge, the local self-governing city of Rustavi has requested the help of UNDP Georgia and ServiceLab, the government innovation laboratory supported by UNDP, to found an innovation hub in the city government. This initiative is a part of the larger effort to infuse the Government of Georgia with a culture of innovation to improve citizen engagement, policy planning, and service design. The project is a scaling out of the successful experience of the public-sector innovation laboratory, ServiceLab, based within the Ministry of Justice of Georgia. As a result of a partnership between ServiceLab, UNDP and the city of Rustavi, this initiative aims to create an innovation hub within the local self-government of Rustavi to design a new generation of public services, tailored to citizens' needs. Additionally, the project has a foresight focus and uses the methodology to prototype the future of the city.



Impact Funding to Reduce Traffic Accidents

Montenegro

Road safety is an issue of significant public concern in Montenegro. In 2016, over 5,200 traffic accidents occurred, killing 65 persons and injuring 2,500. To reframe road safety as an investment in prevention rather than a cost, UNDP Montenegro tested introducing social impact bonds (SIBs) to raise money for road safety reforms. The model transfers financial risk for investors and nudges governments to pursue better social outcomes, in this case, preventing traffic accidents instead of merely responding to them. In the first phase of this pilot, UNDP conducted multiple assessments to understand the main causes of accidents, the legal frameworks in place for SIBs in Montenegro, and the costs and benefits of the approach. Through a comprehensive feasibility analysis, they found that in addition to the life-saving aspect of the initiative, the total cost of traffic accidents amounts to nearly 1% of GDP, around €33 million, offering a cost-saving potential. Consequently, UNDP and stakeholders convened to evaluate effective interventions for a road safety SIB, concluding that the most promising would target risky drivers' behaviour. Such future pilots may include testing technologies and approaches to drive behavioural change, targeting education, enforcement, and public tolerance.



Behavioural Nudges for a Clean Environment

Mongolia

Behavioural nudges are being designed to improve waste collection efforts in Gorkhi-Terelj National Park, Mongolia, by reducing the antisocial disposal of waste. The collective burden of improper waste disposal has significant negative implications for the community: high costs of waste management; harm to the park's ambience and biodiversity; and contamination of the capital city's water source. The situation in Terelj National Park is exacerbated by the multiple users of the park, ranging from international and domestic tourists to households and tour camps, and a negligible negative impact on offenders. Due to these multiple stakeholders and the complexity of illegal waste disposal, the initiative conducted a preliminary baseline study seeking to identify a target population which makes the greatest negative impact but is simultaneously most amenable to change. Additionally, a user-journey-map was created to tailor-make the type and design of the intervention based on the context and stakeholder. The result of this baseline study culminated in successfully identifying contextual factors, behaviours, and potential points of intervention to better manage waste collection efforts and behaviour.



Behavioural Insights to Increase Compliance

Republic of Moldova

When conventional approaches and tools to increase tax compliance failed to achieve expected results, the Moldovan Tax Office approached UNDP to help tackle the issue of businesses' tax evasion, and VAT specifically. The initiative consists of creating a tax lottery and generating entries by printing numbers on purchase receipts. The aim is to incentivize people to request fiscal receipts for purchased goods and services, which in turn forces businesses to issue receipts. The project is a partnership between the State Chancellery and the Tax Office, and the UNDP-supported MiLab. In collaboration with the Mind, Behaviour, and Development Unit of the World Bank, they work to increase tax compliance in a cost-effective manner, using positive nudges, rather than through fines or other negative measures. The project will engage citizens in co-designing the lottery format, thereby increasing citizen engagement with government in the process.





Building the Path to National Universal Basic Income



Serbia

Strong evidence suggests that cash transfers are an effective mechanism for alleviating poverty. Universal basic income (UBI) is a periodic cash payment delivered unconditionally to individuals. No country has yet implemented UBI at the national level, but limited experiments are being carried out in a few. With the support of UNDP, the Government of Serbia has embarked on research to test the feasibility of national models of UBI in Serbia. The team initiated the research and design phase in 2017 and plans to pilot the model starting with an experiment in one municipality. By first testing the individual outcomes of UBI and monitoring the impact of a pilot at the municipal level, the project can generate evidence to expand the pilot and assess the feasibility of scaling the model to the national level. To test whether the use of UBI will make the Serbian welfare system more effective and efficient, the measures of success include the effect of the pilot on health and education outcomes, levels of economic activity, and reported life satisfaction.

Social and Prosperity Impact Fund



Brazil

Small and Medium-Sized Enterprises (SMEs) can be effective at reducing inequality and promoting economic growth. Brazil has 10 million SMEs generating 52% of jobs, accounting for 27% of GDP. However, SMEs' access to financial markets is restricted, compromising their ability to thrive. On one hand, insufficient cash flows and absence of guarantees limit entrepreneurs' access to finance. On the other, investors have difficulty finding sound SMEs, with a good track record. Leveraging partnerships with the private sector, government, academia, and civil society, UNDP Brazil developed the Social and Prosperity Impact Fund (S&PIF) as a holistic approach to bridge this supply and demand gap. The project harnesses the power of private capital through impact investing for the achievement of the SDGs. The S&PIF provides a finance mechanism to reduce social entrepreneurs' risks and generate better conditions for reaching scale and social outcomes. It catalyses the use of blended finance to raise awareness about social impact possibilities in the traditional market, amplifies opportunities for social impact entrepreneurs, connects social impact businesses with potential investors, and reduces the risk of losses by facilitating access to innovative financial instruments.

Latin America & the Caribbean

Removing Barriers in Access to Justice for Deaf and Hard of Hearing GBV Survivors



Argentina

Facing a very limited public support system, UNDP Argentina is working in several directions to improve access to justice for deaf and hard of hearing survivors of Gender-Based Violence (GBV). It brings together a variety of stakeholders to co-design solutions and drive policy reform from a users' perspective, developing relevant instruments, tools, and protocols. In partnership with the Ministry of Justice and Human Rights, and the NGOs *Enlaces territoriales para la equidad de género* and FUNDASOR, UNDP launched *Sordas Sin Violencia* (Deaf Without Violence). To facilitate access to justice, they provide survivors with a place to gather, share their experiences, learn their rights, and co-design solutions that will enable them to lead a life free from violence. Through the products they develop, they raise awareness among the deaf community, as well as across the referral pipeline, including among police, judges and other professionals, towards the particular challenges that these victims face. Ultimately, they facilitate access to justice, by providing information materials tailored to the survivors and offering hands-on guidance and legal assistance. Next, they work to integrate these methods at the government level.

Overcoming Stigma, Increasing HIV/AIDS Treatment Adherence



Chile

Building on a recent study on sociocultural factors affecting adherence in seven health centers in Chile, UNDP Chile sought a way to increase the adherence rate to treatment among HIV/AIDS patients. Through this initiative, they test the potential for a mobile application to address common barriers to treatment, such as depression and social stigma. For the pilot, the Sotero del Rio Hospital in Santiago provided a voluntary group of 35 patients in an HIV programme with the free mobile app. Twelve responded to the follow-up survey, with 66% giving it the highest score "considered the app totally and very safe" and nearly 60% of the respondents indicating they have never interrupted the treatment. The app, designed through a participatory process, uses an alert system, motivational messages, and advice to nudge patients to adopt self-care behaviours and treatment follow-up. With incorporated user feedback, the app has been reiterated and is being put to test for another pilot at the San Juan de Dios hospital. One of the features explored for a future version is the integration of medical information into the app.



Reintegrating Persons with Disabilities with 3D Printed Prostheses and Entrepreneurship



Honduras

UNDP Honduras is using 3D printing technology and vocational training to support the socioeconomic reintegration of returning migrants and victims of violence living with disabilities in Honduras. To explore the potential for young people with disabilities to be active agents in the production of 3D prosthetics and other social interest ventures, the Chamber of Commerce and Industry of Tegucigalpa partnered with UNDP to create the Fab Lab CCIT, a social entrepreneurship innovation module. The innovation module provides a space for generating new ideas and prototyping solutions to improve the production of 3D-printed prosthetics, bringing together academia, biomedical engineers, designers, entrepreneurs, and NGOs. In 2017, UNDP equipped the space with a 3D printer, a laser cutter and computers with design software. As a pilot, the module began working with the NGO GUALA to develop orthopaedic hand prostheses using 3D printing technology to help victims of violence and returned migrants living with disabilities regain autonomy. The initiative is also providing business training, occupational therapy, and seed funding to a group of young entrepreneurs, including 15 returned migrants and three people with disabilities, to develop their income-generating ventures.

The Last Mile Arrives First: Alert System & Social Media Monitoring for Disaster Risk



Uruguay

Information management is key for all stages of emergency management: monitoring risks for early detection; regular information exchange during the emergency, and the evaluation of recovery and rehabilitation efforts. High Internet connectivity and mobile phone use in Uruguay create an ideal context for harnessing social media data to strengthen emergency mitigation and response efforts. Leveraging Big Data analysis, social media channels and SMS, UNDP has supported the development of a real-time tool to monitor early signs of an emergency, collect fast and reliable information in the first mile, disseminate alert messages and guidance to affected populations, and reach the last mile with the most effective response. Having direct access to people in the midst of an emergency, the platform provides invaluable information to guide national responses during and after the events. In 2017, the project established key partnerships to develop the specifications for the software. In the next phase, it will test the data collection and warning system in real emergency situations to assess the accuracy of the social media data analysis and refine the tool to generate precise and relevant information for the management of an emergency.



Glossary

in•no•va•tion, inə'vāSH(ə)n/ *Noun*

Innovation at UNDP entails incremental improvements and transformative systems-change efforts. Innovation means changing the status quo and as such it is political. There is no single approach to doing development differently. Here is a taste of approaches and technologies UNDP explores to create more impact.

- **Alternative Finance** – Testing new ways to fund and deliver development outcomes such as social and development impact bonds, pay-for-success systems or equity-based investments in social good projects
- **Artificial Intelligence** – Leveraging technologies that can simulate intelligent behaviour in computers, to perform tasks as well as or better than humans. This includes machine learning and deep learning of data, to unlock the potential for improvements in areas such as preventative health-care, smart cities, disaster preparedness and more
- **Behavioural Insights** – Tapping into insights from behavioural economics, psychology, and neuroscience to understand how humans behave and make decisions to design evidence-based intervention
- **Blockchain** – Coined as the “Internet of `Value”, a blockchain is a decentralized, distributed and public digital ledger that records data chronologically, publicly, and immutably. It is often used to record transactions, establish identities and contracts, eliminating the need for intermediaries
- **Challenge Prizes** – Encouraging ideas, often from unusual sources, and awarding prizes for the top solutions through an open process
- **Crowdfunding** – Expanding digital tools to raise financing by mobilizing individuals for a new or existing business venture, a creative project or a charitable project
- **Crowdsourcing** – Collecting community information and inputs to spot trends and solve problems
- **Foresight** – Exploring multiple future scenarios and designing more adaptable and resilient plans
- **Games for Social Good** – Leveraging games to enhance civic learning and facilitate behaviour change
- **Human-Centered Design** – Starting solution design with the needs of the user; including prototyping and iteration cycles in the project design
- **Innovation Camps** – Bringing diverse actors together, usually for an event, to specify development challenges from a user-perspective and to generate testable solutions

- **Innovation Labs** – Bringing diverse actors together, usually on an ongoing basis, to generate testable solutions to a series of development challenges. Labs can be hosted within governments, with private sector partners and/or academia
- **Internet of Things** – Using the interconnection via the Internet of computing devices embedded in everyday objects, enabling them to send and receive data in real time.
- **Micronarratives** – Transforming stories from users to quantitative data through a standardized system to inform decision-making
- **Positive Deviance** – Identifying local solutions from positive outliers in communities and scaling them up
- **Randomized Controlled Trials and Quasi-Experimental M&E Mechanisms** – Conducting an experiment that assigns treatment and control groups, trying to minimize biases to evaluate whether a cause-effect relation exists between treatment and outcome. Usually used to assess the cost-effectiveness of an intervention
- **Real-Time Information Systems** – Using mobile devices and other ICT to enhance information collection, facilitating fast responses and spotting trends to inform decision-making
- **Remote Sensing** – Using quantitative and qualitative data gathered through sensors to gain insight into real-time societal issues and changes.
- **Robotics** – Leveraging automation in conjunction with varying levels of artificial intelligence to tackle labour-intensive or complex tasks. These include examples from unmanned aerial vehicles (drones) collecting spatial data and developing maps, through self-driving vehicles to deliver goods, to robots equipped with voice- face-recognition.



We are committed to working in partnerships.

The UNDP Innovation Facility cultivates new ways of working for better impact through its membership in:



United Nations
Innovation
Network
(UNIN)



International
Development Innovation
Alliance (IDIA)



Global Alliance
for Humanitarian
Innovation
(GAHI)



PARTNERSHIP ON AI

Partnership
on AI

Photo Credits in order of appearance

Pok Rie / Pexels, Aude Rossignol / UNDP DRC, UNDP, Ministry of Foreign Affairs of Denmark, UNDP Bangladesh, Vladimer Valishvili / UNDP Georgia, Albert Gonzalez Farran / UNAMID, Fauzan Ijazah / Indonesia, Vladimer Valishvili / UNDP Georgia, Vladimer Valishvili / UNDP Georgia, Vladimer Valishvili / UNDP Georgia, UNDP PNG, Serahphina Aupong / UNDP PNG, Ismael Ferdous / UNSGSA, Ismael Ferdous / UNSGSA, Agriculture Bureau of Longsheng County, Nicholas Hurt / UNDP Indonesia, Paula Mariane / UNDP Brazil, Paula Mariane / UNDP Brazil, Nicholas Hurt / UNDP Indonesia, Paula Mariane / UNDP Brazil, Paula Mariane / UNDP Brazil, Nicholas Hurt / UNDP Indonesia, UNDP Indonesia, UNDP in Gambia, Lucia Horta / UNDP Brazil, Milos Vujovic / UNDP in Montenegro, UNDP in Montenegro, Vladimer Valishvili / UNDP Georgia, Nathan Stedman / UNDP China, Albert Gonzalez Farran / UN, Malin Fezehai / UNDP Nigeria, UNDP Pakistan, UNDP Pakistan, UNDP Pakistan, UNDP Yemen, Albert Gonzalez Farran / UN, UNDP India, UNDP Indonesia, SSV for UNDP Argentina, SSV for UNDP Argentina, SSV for UNDP Argentina, Armenia SDG Lab, UNDP Armenia, Atdhe Mulla & Arben Llapashtica / UNDP Kosovo, UNDP Serbia, UNDP Serbia, UNDP Sri Lanka, Joshua Stevens / NASA Earth Observatory, Claudia Amico / UNDP Albania, UNDP Lebanon, UNDP Lebanon, UNDP Lebanon, NASA, NASA USGS, Blickpixel / Pixabay, Alessandro Squassoni / Pixabay, Claudia Amico / UNDP Albania, Claudia Amico / UNDP Albania, UNDP Benin, UNDP Brazil, Sweet Ice Cream Photography / Unsplash, UNDP Serbia, UNDP Serbia, Prashanth Vishwanathan / UNDP India, Prashanth Vishwanathan / UNDP India, Aude Rossignol / UNDP DRC, UNDP Maldives, UNDP Rwanda, UNDP Honduras, UNDP Honduras, UNDP Rwanda, UNDP Rwanda, Jodi Hilton / UNDP Serbia, UNDP Serbia, UNDP Maldives, UNDP Maldives, UNDP Pakistan, Ljubomir Stefanov / UNDP in FYR Macedonia, Dario Jankovic / UNDP in FYR Macedonia, UNDP in FYR Macedonia, Ljubomir Stefanov / UNDP in FYR Macedonia, UNDP Indonesia, Arthur Lumen Gevorgyan / UNDP Armenia, UNDP Indonesia, UNDP in the Pacific & PNG, UNDP in the Pacific & PNG, UNDP Bangladesh, Aude Rossignol / UNDP DRC, Sasin Tipchai / Pixabay, Abdelhamid Ezzat / UNDP Egypt, UNDP Rwanda, NASA, NASA:GSFC:METI:ERSDAC:JAROS & U.S.:Japan ASTER Science Team, UN Cabo Verde, Alex Bertha / Unsplash, Albert Gonzalez Farran / UN, UNDP Egypt, UNDP Pakistan, Vladimer Valishvili / UNDP Georgia, Atdhe Mulla & Arben Llapashtica / UNDP Kosovo, Marcelo Oliveira / UNDP Brazil, Isabella Juskova / Unsplash, UNDP Kenya.

Thank you

This report is made possible through the generous support of the Government of Denmark, the Innovation Facility's co-founding donor. We would also like to thank the Government of the Slovak Republic for supporting our work on Alternative Finance and Data Innovation in Eastern Europe. We are grateful for the insights and guidance from the UNDP Innovation team including the Regional Innovation Leads: Milica Begovic (Eastern Europe & Central Asia), Jennifer Colville (Arab States), Alex Oprunenco (Asia), Johannes Schunter (Pacific) and Marc Lepage (Africa) and the Innovation Facility team in New York: Bernardo Cocco, Benjamin Kumpf, Malika Bhandarkar and Eti Shechtman; and the inspiring work of innovation champions across 87 UNDP Country Offices who together with our partners explored new grounds. We would also like to thank Turhan Saleh for the input on Country Platforms and Indy Johar for the guest post on systems transformations.

A special note of appreciation to our the coordinator and manager of this report Eti Shechtman and the contributions of our team members Mariam Tabatadze, Sophia Roebele, Laura Oller, Nabila Amarsy and Doulat Bibi Aliyar; the designer of this report Vilmar Luiz and Georgina Wilde for her review and edit.

Innovation for the Sustainable Development Goals



LEARN MORE
undp.org/innovation

REACH OUT
innovator.support@undp.org

JOIN US
[@UNDP_innovation](https://twitter.com/UNDP_innovation)