Reporting Agency: **UNDP**
Country: **Armenia**

MONITORING ACTION AND STANDARD PROGRESS REPORT

No. and title: **Innovative Solutions for SDG Implementation in Armenia (SDG Lab Phase II)**
00109316-00108696
Reporting period: 04 May 2018-1 May 2021

SDGs currently supported by the project: 1.a; 2.a; 3.4; 5.b; 7.2; 8.9; 16, 17.18; 17.19

I. PURPOSE

Project's goal and objective: The goal of the Project is to increase the use of sustainable and innovative mechanisms and frameworks for advancing Armenia National Agenda 2030 in collaboration with government, civil society and private sector. The project aims at piloting the accelerated implementation solutions/models of the Sustainable Development Goals (SDGs) in Armenia.

Duration: 4 May 2018- 1 May 2021 (36 months)

Theory of change: The central hypothesis that underpins the Theory of Change is that by applying innovative methodologies/solutions to Armenia's SDG challenges, such as behavioural experimentation, design thinking, data-analytics for evidence-based policy and decision-making and piloting an SDG-accelerated implementation model, SDG implementation will be maximized. This in its turn will support the advancement of the Armenia National Agenda 2030. To achieve these, the Lab serves as a platform to bring together diverse stakeholders such as the Government, UN agencies, academia, civil society, the private sector and provides for space to look at persisting development challenges from a systems perspective.

Implementing partner: Prime Minister's Office of Armenia
Responsible parties: United Nations Development Programme

II. RESOURCES AND FINANCIAL PERFORMANCE

	Total Project Budget	Current Year (2021)			All Years Delivery (USD)	All Years Delivery rate (%)
		Annual Budget	Delivery as of SPR date (USD)	Delivery rate as of SPR date (%)		
Government of RF	1,250,000	6,687.61	6,687.61	100	1,250,000	100
Government of Sweden	22,804	0	-	-	22,804	100
Government of Norway	99,944	0	-	-	99,944	100
Total	1,372,748	6,687.61	6,687.61	100	1,372,748	100

III. RESULTS, PROGRESS, INNOVATIVE AND TRANSFORMATIVE ASPECTS

UNDAF Outcome 7: By 2020, sustainable development principles and good practices for environmental sustainability resilience building, climate change adaptation and mitigation, and green economy are introduced and applied.

UNDP CP Output 4.3: Government uses innovative mechanisms and tools for evaluation and decision-making over conservation and sustainable use of natural resources.

UNDP Strategic Plan 2018-2021: B. Accelerate structural transformations for sustainable development. Output 2.5.1 Solutions developed, financed and applied at scale for energy efficiency and transformation to clean energy and zero carbon development, for poverty eradication and structural transformation. Output 2.2.1 Use of digital technologies and big data enabled for improved public services and other government functions**.**

Increasing the take up rate of cervical cancer screenings among women in Shirak Region
*Contributing to SDG 3.4: By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being*

Cancer is among the top causes of premature death in Armenia, and cervical cancer is proven to be well-treatable in case of early diagnostics. In line with the Government's priority of putting the emphasis on preventive healthcare, the experiment on increasing the take up rate of cervical screenings among women was identified as a priority intervention and was implemented together with the Ministry of Health, making use of the functionalities and databases of the e-health system.

The experiment carried out by the Lab aimed at increasing the take up rate of free cervical cancer screenings for women of 30-60 years of age, focusing on 10 healthcare institutions in Shirak region. In the first quarter of 2019, the Lab has succeeded in finalizing the project design together with all relevant stakeholders and setting up key partnerships with healthcare institutions and HayPost to ensure smooth implementation of the Project. Already in the second quarter, the experiment entered its active phase of implementation with letters being sent out to the participants of the experiment. The last batch of letters was sent out on 5th of July officially ending the active phase of the experiment.

During the 3 months of the intervention, 20,800 women in the target age groups (30-60 years old) received behaviorally informed letters and reminders to encourage them attend the check-ups. The data analyzed in August-September exposed 461% increase in take-up rate for cancer screenings for women receiving only letters and 667% increase for women receiving letters and reminders compared to the same period in 2018. Notably, the combination of letters and reminders were proven to be the most effective type of intervention. Moreover, according to the results of data analysis, the take-up rate was higher in rural communities, than in urban communities, with women above the age of 44 showing higher attendance rate than those aged 30-44. During the presentation of the results of the experiment, the Minister of Health acknowledged the unprecedented impact of the intervention and the need for scaling it up not only on national level, but for other types of preventive healthcare measures as well (such as breast cancer check-ups).

Some of the intervention results are presented in the below infographic.
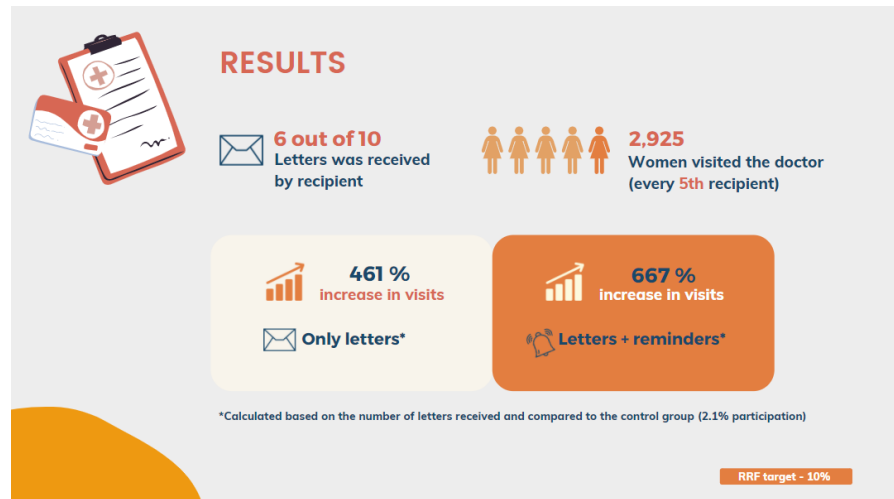
Increasing Tax Compliance in the Republic of Armenia with the help of Behavioral Interventions
Contributing to SDG 17.1: Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection

Tax reform overall and improved tax collection were named as a key priority for the new Government. To aid the authorities in developing a dialogue with the citizens and change their perceptions on taxes, the Lab together with the State Revenue Committee (SRC) designed an intervention to nudge citizens to pay their taxes. As a result of the experiment, the Government will have a clear understanding of the types of behavioral nudges that are most effective and possibly scale up the project to wider target groups.

To launch the experiment, five different types of e-mail nudges were put forward by the Lab:
- Ordinary Letter - neutral reminder to pay the taxes in a timely, responsible and conscientious manner.
- Public Good - neutral reminder to pay the taxes and a statement about the Government spending the taxes for public good, namely on army-related expenses.
- Tax evasion threat - neutral reminder to pay the taxes and a statement about ongoing tax inspections and a possibility of being fined in case of non-compliance.
- Whistleblowing threat - neutral reminder to pay the taxes and a statement about the possibility of their business being reported by people aware of tax evasion through SRC hotline and other means of correspondence.
- Inspector rotation threat- neutral reminder to pay the taxes and a statement about regular tax inspections on a rotating basis by different inspectors, and a possibility of being fined in case of non-compliance.

The intervention targeted 28503 turnover taxpayers with a total number of 12660 e-mail notifications sent. The intervention measurement period of the experiment was January 2020 through April 2020.

Below is the overview of the intervention presented in an infographic[1].

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[1] Please explore the full infographic [here](#).

According to the results, the most effective notifications are the ordinary threat and the whistleblowing threat. More specifically, the whistleblowing threat increases the average turnover declaration by around 376,000 AMD (around 13.7%) compared to the control treatment (those, who did not receive any e- mail notifications). In a similar vein, the ordinary threat increases the average turnover declaration by around 354,000 AMD (around 12.8%) compared to the control treatment. Public good and ordinary emails also result in increase of turnover declarations, albeit the effect size is much smaller (and the result is marginally significant). More specifically, a public good e-mail increases the turnover declaration by around 297,000 AMD (around 10.8%) while an ordinary e-mail increases the turnover declaration by around 277,000 AMD (around 10%). Most likely we face a power problem, given the limited number of observations.
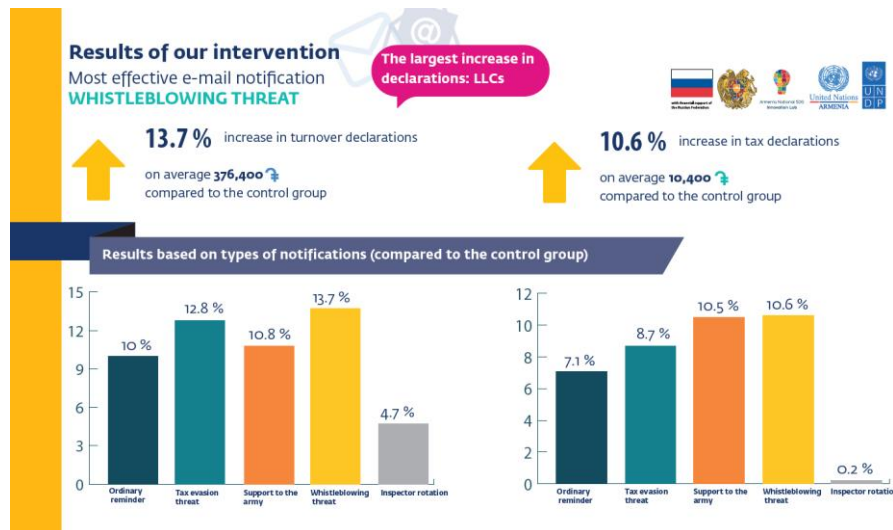
In sum, a costless e-mail can increase the average turnover declaration for LLCs from roughly 277,000 AMD in the ordinary e-mail treatment to 376,000 AMD in the whistleblowing threat treatment compared to the control treatment with no communication.

Furthermore, compared to the control treatment, increased turnover generates increased turnover tax declarations. More specifically, in the public good treatment taxpayers declare around 10,000 AMD more taxes (around 10.5% increase) than in the control treatment (those, who did not receive any e-mail notifications). In a similar vein, in the whistleblowing treatment the taxpayers declare around

10,400 AMD more taxes (around 10.6% increase) compared to the control treatment. The positive (albeit non-significant) coefficients of the other treatments suggest that taxpayers declare more taxes in the other treatments as well (DRT is an exception). For instance, in OT the tax declarations increased by around 7,000 AMD (7.1% increase), while in ODT tax declarations increased by around 8,500 AMD (8.7% increase).

The Lab has successfully put together a comprehensive report and overview, as well as communicated the results of the experiment to the SRC for initial review and feedback. The presentation to the Chairman of the State Revenue Committee took place on 18 February 2021, where the Committee expressed interest in exploring the scaleup of the project to include other urban and rural communities, as well as other types of taxpayers.

In May 2021, the State Revenue Committee initiated a meeting with the Project team to discuss the scaleup of the project. It was particularly encouraging to learn that the SRC has applied the behaviorally informed messages in their communication with taxpayers and have marked notable results. Particularly, they shared the combination of Tax evasion threat and Whistleblowing threat messages to reach out to 700 sole entrepreneurs, who did not have registered employees and the sole entrepreneur was employed full-time somewhere else with a labor contract. As a result of this communication, 260 sole entrepreneurs have registered over 300 employees. The SRC is interested in exploring the effect of behaviorally-informed communication on other types of taxpayers, as well as develop a communication strategy together with the Lab.
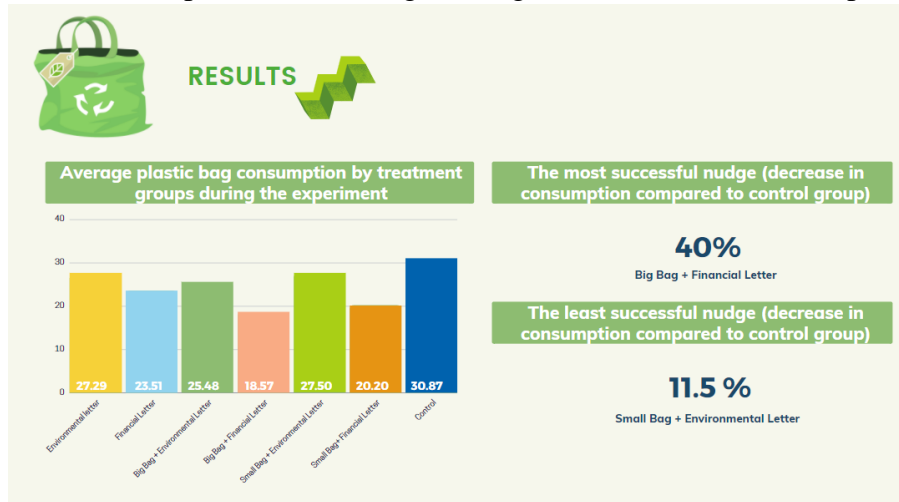
Reducing Plastic Consumption During Shopping at the Supermarket Through Behavioral Interventions
Contributing to SDG 12: Ensure sustainable consumption and production patterns

During this reporting period the Lab has also successfully completed another behavioral experiment which was designed and implemented as a result Lab's successful portfolio of behavioral experiments. While this experiment was not initially planned and included in this project, the project team was actively engaged in the design, implementation and analysis phases of this experiment.

Armenian Government has introduced a new policy that aims at waiving certain types of plastic bags starting January 1, 2022. To make sure that the society is prepared for the new reality, in parallel to the nation-wide campaigns, the Lab together with My Step Foundation decided to test various monetary and non-monetary incentives to see what drives individual behavior to reduce plastic consumption during shopping at the supermarket. Testing these interventions would allow us to discover the most effective interventions and communication strategies in the context of LMICs like Armenia, and beyond.

The behavioral experiment to tested various monetary and non-monetary incentives to see what drives individual behavior to reduce plastic bag consumption during shopping at the supermarket. During the 6 months of the intervention targeting 5809 individuals, and according to the results, the most successful incentive composed of a free big tote bag and an invitation to take part in a competition of cutting down on plastic bag consumption with the promise to win a symbolic amount of money succeeded in decreasing plastic bag consumption at the supermarket by 40 % (against the control group). Even the "least successful incentive" of the experiment, a letter that reminds about environmental concerns of plastic consumption, succeeded in decreasing the consumption of the plastic bags by 11.5 % (against the control group). The results of the experiment were published in the Ca' Foscari University of Venice, Department of Economics.

Output 2: Increased availability of data for evidence-based policy and decision-making.

Travelinsights.ai
Contributing to SDG 8.9: By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products

To help to improve Armenia's emerging tourism industry together with the travel ecosystem in Armenia, the Lab launched Travelinsights.ai - its first ever data analytics product. The online tool that operates on AI algorithm to collect, analyze and categorize tourist sentiments about Armenia expressed on popular travel websites, such as TripAdvisor and Booking.com, fuses travel storytelling and machine learning. The platform visualizes the results of sentiment analysis of over 174,000 touristic reviews about Armenia, scraped from Booking.com, TripAdvisor and Facebook.com, with disaggregation of 25 detailed aspects per 4 categories (hotel, restaurant, museum, landmark).

The final version of the tool was planned to be presented to Government counterparts, partner organizations and stakeholders in 2020. After making final polishes in the website, such as bug fixes and language adaptations, a big launching event hosting over 100 participants was scheduled in March, 2020, with the event venue already booked. However, due to COVID-19 outbreak and the escalated hostilities in and around Nagorno Karabakh, the event was reframed into an online launch through e-mail. Over 120 partners and potential beneficiaries, including Government counterparts, international organizations, local businesses and other partners received e-mails about the launch of the platform.

AI for Mulberry

Contributing to SDG 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels; 16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreement

The inefficient processing of information in the current Government internal electronic document management system – Mulberry – has led to decreased operational performance and productivity as well as inefficient use of resources within the Government. To tackle this, the Lab has initiated another product to improve citizen-government correspondence and optimize the letter flow and resources. This will be achieved through redesigning the processes of receiving, categorizing, processing and answering citizens' letters, applications and complaints through integration of AI. The project has been evolving in 3 main directions: working with data, designing and implementing a behavioral experiment and prototyping design thinking methodology.

After the signature of an NDA with the Government, Ministry of Education, Science, Culture and Sports in August and the Ministry of Health, the Lab has gained access to over 50000 pieces of citizen correspondence. The Lab has successfully initiated negotiations with the Ministry Labor and Social Affairs for the signature of and NDA and data transfer, however given the emerging COVID-19 outbreak in the country and the escalated hostilities in and around Nagorno Karabakh, the process is being prolonged, considering the overloaded schedule of this particular ministry.

In 2020 the Lab has piloted the integration of machine learning algorithms into Government's official document management system-Mulberry. Over 100.000 pieces of citizen correspondence from 48 units of Ministry of Education, Science, Culture and Sports and 27.816 pieces of digital citizen correspondence from 24 units of the Ministry of Health were studied for multi-label classification have been reviewed and over 35.000 have been used for multi-label classification. The tokenization and word segmentation of over 150.000 Modern Eastern Armenian sentences through Armenian Natural Language Processing (NLP) tools has significantly affected over 43% accuracy rate already achieved during the initial testing phase of the language model.

In order to assess the efficiency of the AI model, the Project assessed the % of time saved to categorize digital correspondence by Mulberry users responsible for reading and categorizing citizen letters. A baseline online survey was conducted among Mulberry users with a number of questions regarding the average time spent on reading and categorizing digital correspondence. Based on the survey results, the average time for reading and categorizing a fully-written A4 format digital correspondence was 5.3

minutes. The AI model introduced groundbreaking results: the algorithm processes and classifies inputs in approximately 1 second, which saves 99.7% of the time needed to read and categorize digital correspondence. The figures may vary slightly depending on network performance and document size. The AI-powered classification model is integrated in the Mulberry system, bring to significant saving of costs and leading to the increase in productivity. Below is a screenshot of the Mulberry interface demo with the AI suggestion box integrated in the system.
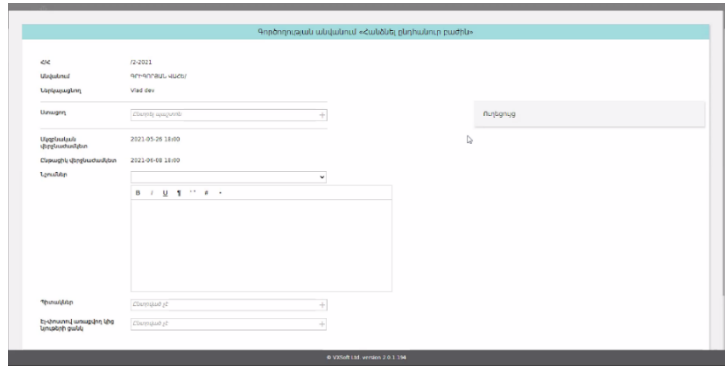
In parallel, empathy mapping – an essential step of design thinking aimed at defining and understanding user needs and expectations – was launched in July-September 2020. With significant impediments to the process of conducting interviews and focus-group discussions with several key stakeholders (Adviser to the Deputy Prime Minister and the Head of Deputy Prime Minister's Office, Deputy Minister of Education) due to COVID-19 outbreak, the project team has nevertheless succeeded in finalizing one of the most important phases of this component and presented it to the team. The design thinking team held more in-depth interviews during July-September with more technical-level representatives from the Ministry of Education, Science, Culture and Sports and the Government to reveal more detailed needs. The design thinking team has put together the co-design session methodology which was planned to be held in October 2020. However due to the escalated hostilities in and around Nagorno Karabakh, the Project held the co-design session on 25 February 2021 with participants from the Deputy Prime Minister's Office, MESCS, MOH and VxSoft. As a result of the meeting, the Project came up with a new model for sustainable and centralized collaboration between the Mulberry users and VxSoft to redesign the processes of solving the ongoing technical and operational issues within the Mulberry system. The project shared the recommendations with the Deputy Prime Minister's Office and is currently anticipating a follow-up meeting to discuss the next steps.

Furthermore, in September 2020, the Project has initiated the design phase of the behavioral intervention to increase the uptake of digital services in Armenia. The design was discussed both with the Government and the MESCS. Due to the twofold crisis in the country, some operational hurdles in the MESCS have led to reframe the planned intervention. As a result, the Project used the A/B testing tool on Facebook to nudge the followers of the Government's official Armenian unified infocenter page through the publication of 2 posts presenting the advantages of using the E-request platform- Government's unified portal for online requests and detailing the disadvantages of not using the unified portal. As a result of

RESULTS

Posts with positive framing
- 3124 clicks
- 2852 unique clicks
- 503.274 impressions
- 126.539 reach

VS

Posts with negative framing
- 3181 clicks
- 2846 unique clicks
- 514.964 impressions
- 127.370 reach

E-request total reach

5 April- 21 April- 42.910   5 March - 21 March- 33.407

Referrals from Facebook (Increase x 5)

5 April-21 April- 2645   5 March - 21 March- 540

the intervention, from 5 April to 21 April 2021, the increase in e-request total reach is 28.4% (compared to the same period of the previous month) and the increase in referrals from Facebook is 489.8% (around x5 increased compared to the same period of the previous month).

Armenian Natural Language Processing
Contributing to SDG 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels; 16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreement

Closely linked to the previous component, this particular activity comes to fill the gap of necessary technological solutions available to the Government to fully benefit from analysis of Armenian language text data gathered in various formats. Through the combination of deep knowledge of Armenian linguistic structures with state-of-the-art statistical approaches, the Lab is testing its AI solutions on automation of routine internal operations and therefore improve Government's operational efficiency. The Armenian NLP technology will be integrated into Government's internal operations, service delivery and policy development initiatives that will require language processing and analysis such as analyzing public feedback, improving predictions to aid decision-making, enhancing policy analysis and improving the regulatory compliance.

The tokenization and word segmentation system for Modern Eastern Armenian has been finalized in October 2020. Instead of the initially planned segmentation and tokenization of 50.000 sentences, the experts engaged by the Project completed 150.000 sentences. The process was accelerated thanks to the pro-bono partnership established with DataPoint, a USA-based initiative of students and professionals experienced in data science, who join efforts to advance the development of Armenian NLP through engaging necessary human resources in performing labeling of a large number of Armenian texts.

The advancement of Armenian NLP has significantly contributed to not only this project, but to all other projects of the Lab anchored on data and AI.

Digital Service Standards
Contributing to SDG 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels; 16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreement

To ensure that the Government designs and delivers public services which are simple, clear and fast, the Lab has planned to join the efforts of the Government to provide its expertise for the development of unified and universal standard and procedure for co-creation and co-production of public services to increase the effectiveness through increased uptake rate of digital services. To ensure the practicality of the project, one of the public services with low uptake rate and high scalability would be selected to serve as a model. The service would then undergo re-engineering and re-design process in compliance with the standards and procedures. A well-designed behavioral experiment has planned to help understand the real needs of the user and to identify the factors influencing on usage of digital services. The Project held a meeting with the Ministry of High-Tech Industry in August 2020, which expressed its interest and willingness in contributing to the development and adoption of digital service standards. The process of finding a qualified local expert in this field started in September 2020, with a potential candidate selected before 25 September. The escalated hostilities in and around Nagorno Karabakh on September 27 have significantly affected this component of the project. Namely, the Ministry of High-

Tech Industry shifted its priorities to address other emerging needs, and this particular component was cancelled.

SDG Monitor

Contributing to SDG 17.18: By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

In order to advance the conceptualization of the SDG Barometer, a user-friendly data visualization platform that will help monitor the SDGs' progress, inform policy and decision-making, and measure the impact of policy interventions in the long run, the Lab, in partnership with the "Rule of Law and SDGs in Armenia Reform Agenda" UNDP project, has been engaged in collecting, analyzing and visualizing data on SDG 16-as a pilot and then adding the rest in the process.

After the finalization of data mapping, the Project held an extended Working Group meeting on 16 January 2020 to introduce the results of data mapping and outline the next steps. During the meeting, the Working Group put forward recommendations on additional data sources that could be integrated in the data mapping report. The report was finalized in February and the data collection stage of the component was launched.

The data collection activity was envisaged to be carried out in 2 dimensions: a) collecting the data mapped from different public institutions and setting up sustainable mechanisms for regular data transfer and b) collecting data from different non-conventional sources through artificial intelligence. For the implementation of the latter, specific emphasis has been put on SDG 16.7.2, and social media platform, namely Facebook, was identified as a primary data source. The time-series analysis of Facebook posts of current and former officials, keyword trends of the posts and sentiment analysis of the comments will help reveal the proportion of population who believe decision-making is inclusive and responsive. Furthermore, E-draft, the official website for the publication of draft legal acts, will serve as another non-conventional data source to carry out analysis of citizen response and participation to the discussion of legal acts.

During this reporting period the Lab has successfully completed the scraping of E-draft and Facebook. A total number of over 40 profiles of former and current officials have been scraped through Facebook, with over 60.000 posts and around 700.000 comments analyzed. The report will be shared with DPM's office for review and feedback.

As for the data collection from non-conventional sources, due to COVID-19 outbreak, the planned activities faced some delays. Data transfer modalities, channels and frequencies have been set up with 13 institutions to ensure the sustainability of the component following the initiative of the Lab to pass a Government order to all listed institutions. Consequently, data has been obtained from 8 institutions, however given some data gaps, there is need to further follow-up to complete the missing data.

The Lab has also successfully engaged a web development and design company to develop the online [SDG Monitor platform](#) that will visualize Armenia's progress towards achieving SDGs through advanced features, such as an interactive visualizations marking the progress of achieving SDG 16 targets as a whole and specific indicators separately with real-time data. While the initial RRF included 4 SDGs as targets to be visualized on the website, the Project, in consultation with the DPM's office have put specific emphasis on SDG 16 as the priority area of the Government.

Output 3: Enhanced capacity of National SDG Champions in innovative research methods and skills.

Contributing to SDG 17.9: Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation

Throughout the course of its implementation, the project has actively contributed to the capacity enhancement of National SDG Champions through different events, some of which are presented as follows. In 2018, three SDG Lab champions from the Government took part in the Stanford Change Labs Systems Thinking Masterclass. Two UNDP representatives took part in the Systems Thinking workshop organized by the UNDP Moldova's MiLab in cooperation with Alberta CoLabs for knowledge and experience sharing. In 2018, Armenia National SDG Innovation Lab hosted "Partnerships for Innovations in Development" regional workshop in Yerevan. Supported by the "Knowledge Management and Capacity Building in Russia-UNDP Partnership, Phase II" regional project and UNDP in Armenia, the workshop was the second event in the series of seminars for Russia-funded UNDP projects to touch base on progress and exchange knowledge on challenges and success stories. In 2019, Members of the project team took part in a regional data event *DataFest Tbilisi 2019*, where the Lab delivered a *talk* on the main stage on the use of data for public policy innovation and the SDG Lab's data initiatives. Furthermore, given the importance of enriching the project experience and learning from our Russian partners, the SDG Lab team participated in the Foresight training by experts from *Skolkovo-Moscow School of Management* co-organized by the colleagues at UNDP Kolba Lab. In 2020, the project team participated in a 3-day workshop "*Behavioral Insights Applied Live Academy*" with the UK's Behavioral Insights Team. During the workshop, the team learn from the best in the field, put their knowledge into good practice and design behavioral experiments with fellow policymakers. The project presented its activities at the "*Governments in Bosnia and Herzegovina on the Digital Transformation Journey*" event organized by UNDP in Bosnia and Herzegovina.

On 4 March 2021, the Project attended a webinar with the Dominican Republic UNDP Country Office to share insights from their work on the transformation of the tourism sector, organized by Strategic Innovation and SIDS teams in BPPS. This work is a part of the Deep Demonstration program that seeks to explore a different approach to tacking complex issues, going beyond single point solutions and embracing system approaches. UNDP in the Dominican Republic has asked whether the pandemic can trigger a fundamental rethink of how the country conceives the value at the heart of its tourism offer. They seek to support the Government to pivot from a focus on a single sector to a more comprehensive strategy where leveraging ecosystem services, rethinking waste disposal and employment regulation, and integrating health and wellbeing all contribute to a different value proposition for the country. The Project shared the experience on Travelinsights and learned from the experience of the Dominican Republic.

On 12 March 2021, the Project attended the "SDGs and COVID-19 - how can data and statistics help building back better?" online peer-learning round-table discussion organized by UNECE/ Statistics, Statistics Canada, UK Mission to the UN and WTO (Geneva). A number of important questions were raised and discussed, such as hardships of shifting to "COVID-19 operation mode" for all

authorities/stakeholders involved in the COVID-19 response actions, the affects of data availability as a result of the COVID-19 pandemic, how to make better use of both traditional and non-traditional data sources taking into account the timeliness and quality concerns. The Project had the opportunity to share brief information about the SDG Monitor initiative and share its experience about the successful use of non-tradition data sources as a reliable alternative to fill the existing gap in conventional data.

Output 4: Successful model for accelerated implementation and financing of Goal 7 (Affordable and Clean Energy) is designed and tested.
Pilot 1 - Competitive financing instruments for facilitating "Green energy" production at household level in Armenia's vulnerable communities

Contributing to SDG 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services

During the first quarter of 2020, additional $250000 was attributed to the R2E2 fund for the implementation of the second phase of the project. Innovative approach of the project is the revolving mechanism earlier tested by R2E2 for public buildings energy efficiency financing. Under this mechanism the households are provided 8% annual interest loan for up to 8 years and repayments are used to finance new households needs.

As part of the potential beneficiary mapping activity, 20 meetings have been carried out. In total, 427 applications were received out of which 418 for installation of solar water heaters and 9 for solar PV modules (with cumulative installed capacity equivalent to 33.03 kW). As a result of this activity 379 families installed solar water heater, with 11 small PV installations. In total 1,223,200 kW of "green energy" will be generated annually through installations reducing carbon emissions equivalent to 535.7 tons of CO_2. Mapping and awareness of potential beneficiaries under the component has been completed throughout July 2019 – February 2020. Additional research carried out during March-May 2020 identified beneficiaries with three or more children who did not receive bank interest compensation (due to exhaustion of the amount allocated to 100 families under the first phase of the project or improper information about the number of children). In order to arrange reimbursement of the corresponding amounts, clarifications were made with the partner banks and full compensation was paid afterwards. The total number of families benefiting from this activity is 192. The progress monitoring carried out by R2E2 revealed that around 30% of these beneficiary families are women-led households. The infographic prepared by the project reflects the results achieved through this component.

Within the framework of the project R2E2 Fund's experts have regularly visited non-gasified beneficiary communities of Gegharkunik and Shirak regions[2], organized meetings with the households and with the regional and community authorities responsible for the project implementation, carried out surveys on the project progress, quality of completed works, operation and maintenance of installed systems. Some of the key monitoring findings are the following: (i) households who took part in the survey expressed satisfaction with the project implementation framework and the results. There were very rare cases of defects or malfunctions during the operation, but these were fixed very soon after the reveal; (ii) due to the availability of solar water heaters, women and girls were the first to enjoy the

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[2] Given the COVID-19 outbreak in Armenia, however, very few photos with beneficiaries were taken, which can be found here.

improvement of their living conditions and comfort. Both women and men were pleased largely due to no need to for previous practices necessary for obtaining hot water (buying firewood, transporting, cutting, sticking, drying, making a fire, heating water, moving that hot water, buying liquefied gas, moving containers, connecting, disconnecting them, and other inconveniences); (iii) surveys also revealed that households had previously used electricity, liquefied gas, firewood or manure to heat water for domestic purposes. Based on the experience of the past period, the monthly savings of the majority of households, depending on the type of the previously used heating source and family members, ranged from 4,000 to 8,000 AMD, and in some cases up to 14,000 AMD.

Output 5: Implementation, monitoring and evaluation

Continuous smooth implementation of the Project in accordance with the ProDoc and detailed workplan.

On 28 April 2021, the Project held its final Board meeting. The Board meeting was attended by the Deputy Prime Minister of Armenia Tigran Avinyan, Mr. Shombi Sharp, UN Resident Coordinator in Armenia, Ms. Mihaela Stojkoska, UNDP Resident Representative a.i. in Armenia, Ms. Natalya Viktorova, Third secretary, Embassy of the Russian Federation in Armenia, Mr. Konstantin Kulikov, Counsellor, Department of International Organizations, Ministry of Foreign Affairs of the Russian Federation, Mr. Anton Tsvetov , Deputy Director, Department of Multilateral Economic Cooperation and Special Projects, Ministry of Economic Development of the Russian Federation, Ms. Olga Martynenko, Mr. Alexander Averchenkov and Ms. Anastasia Maximova from Russia-UNDP Trust Fund for Development. Mr. Tigran Tshorokhyan, SDG Innovation Lab Lead thoroughly presented the Lab, its partnerships, and the project overview, which was followed by a detailed presentation of the project outputs and activities, comparing them against the RRF indicators and targets. Mr. Tshorokhyan particularly highlighted the data-driven products delivered by the project, namely Travelinsights.ai, SDG Monitor and AI for Mulberry. Moreover, specific emphasis was put on presenting the results of the behavioral experiments in health, tax and environment sectors in Armenia. It was mentioned that regardless of the COVID-19 pandemic and the escalation of hostilities in and around Nagorno Karabakh, which have caused unplanned delays in some activities, the project was successful in terms of its delivery and impact.

The Board meeting minutes are attached below:

Inno4SDGs_Board
meeting minutes_si̇

Output 6: Mapping of Armenia and Georgia's reform priorities regarding EU approximation and the SDGs

Armenia and Georgia have been members of the European Neighbourhood Policy (ENP) since 2004 and the Eastern Partnership (EaP) since 2009. More comprehensive agreements for collaboration were signed in 2017 and 2014 respectively in the form of the Armenia-EU Comprehensive and Enhanced partnership Agreement (the CEPA) and the Georgia-EU Association Agreement (the AA). Despite the fact that the SDGs are not explicitly mentioned in the CEPA and AA, many of the provisions of the agreements are in line with the Agenda 2030. It is thus assumed that the implementation of these agreements will contribute to the achievement of SDGs and bring the countries closer to fulfilling their

commitments related to sustainable development. However, no detailed mapping of the synergies between these two processes have been done to date.

In response, a study has been conducted to highlight key differences and similarities between the CEPA and AA and their links and synergies with Agenda 2030, including the SDGs with an objective to provide policy makers and international development partners with a framework that links the countries' respective EU approximation commitments to the Agenda 2030. The analysis was carried out along the following lines: SDG mapping, country specific highlights, comparison of commitments and key opportunities for cross-country collaboration. The draft has been circulated in the Government and ministries for their feedback. The Deputy Prime Minister's Office, with the support of the Ministry of Foreign Affairs coordinated the processes and submitted their feedback in February 2020. The report has been successfully finalized.

Output 7: Techfugees Accelerator

The core mission of Accelerator #5 (ACC5) program is to empower women and girls living in Armenia by delivering tech and business trainings, as well as, helping them to come up with startup projects. The program was led by UNDP Armenia ImpactAim Accelerator in close cooperation with the SDG Lab, tailored to the needs of girls and women, who have little or no field knowledge. It was designed for 2 age groups: 7-14 (ACC #5 for Kids) and 14+ (ACC #5 for Women and Girls) with respective structures and curriculum.

The program kicked off on June 5th, 2019 and lasted 20 weeks. Within the first 6 months of the acceleration program several conferences, workshops, and hackathons were held in addition to business and tech trainings. This was done in close cooperation with the UNHCR, UNICEF, Armenia National SDG Innovation Lab, and private companies, including Girls in Tech Armenia, Founders Institute Armenia, Innovative Solutions and Technologies Center, Vanadzor Technology Center, Gyumri Technology Center. These events exposed the startups to the local and global tech and business communities, assure the quality of solutions and open new investment possibilities.

For Accelerator #5 14+ women and girls 148 applications were received, among the ages of 16-50. 50 % from Yerevan and 50 % from the regions. 100 applicants were screened during the interview and 60 shortlisted for the Accelerator program, based on the vulnerability criteria set by the selection committee. Accelerator #5 took place in two locations – Yerevan (ISTC Foundation) and Vanadzor Technological Center. Accelerator #5 for girls and women kicked off on May 24, 2019 during the ImpactNightOUT event and lasted 20 weeks.

For ACC #5 for Kids, 24 kids were selected from Gyumri and 27 kids were selected from Vanadzor. Lists of vulnerable young girls were provided by Orran in Vanadzor and World Vision social workers in Gyumri.

After the first 10 weeks of Accelerator #5 all the participants, having gained all the business and technological knowledge and skills in hand, had the opportunity to participate in the "Drive Towards #5: Hacking Gender Equality to Advance SDGs" event on 27 August 2019, during which, through teamwork, they developed their own ideas linking those to SDG 5.

The project was successfully completed in 2019 with new ideas on leveraging innovative technological solutions to drive towards advancing Sustainable Development Goal #5: Gender Equality.

Output 8: Big Data and AI for agriculture

In February 2019, the Lab established a Data Hub within its premises to conduct a research/feasibility study on leveraging new technologies and AI for crop yield estimation and forecast. A detailed cost-estimation was provided on several data collection mechanisms on different levels, such as through satellite, drone, etc.. Based on the findings of the research and the cost estimations, and to increase the project impact, the Government and the project decided to allocate the funds to UNDP ImpactAim Agri-Tech incubator.

UNDP ImpactAIM ANAU Agri-Tech Incubator aims at helping startup companies and inspiring entrepreneurs with agrotech solutions to scale up their business and impact models by providing tech & business services, co-working space and seed funding. The Incubator is designed to act as a catalyst tool for entrepreneurs in the field of Agri-Tech.

			Current Year (2021)					
			Planned				Actual	
Activity/Output	Expected Results	Amount ($)	Q1	Q2	Q3	Q4	Status	Comments
1. Increased use of environmentally-friendly practices as a result of behavioural experiments.	1.1: Solar water heating and PV installations is increased in the population of interest.	$0					Completed	See section 2.
	1.2: Wasteful water consumption is decreased in the population of interest.						Substituted	Government has put forward other priority fields for the Lab to focus on, such as reduction in consumption of plastic bags.
	1.3: An on-demand behavioural insights facility is set up within the Lab.						Completed	
2. Increased availability of data for evidence-based policy and decision-making.	2.1: Big Data application identified and piloted in two policy making areas.	$0					Completed	
	2.2: An SDG-specific monitoring mechanism, the SDG Barometer, is scaled up.						Completed	
3. Enhanced capacity of National SDG Champions in	3.1 A series of hands-on co-creating workshops on behavioural experimentation in policy making is designed	$0					Completed	

innovative research methods and skills.	and piloted for SDG Champions.								
	3.2 A series of hands-on co-designing workshops on Big Data use in policy making is piloted for Armenia's SDG Champion.						Completed	.	
	3.3 Research exercises on alternative finance and blockchain are designed and piloted for SDG Champions.						Completed		
	3.4 An on-demand training facility is set up within the Lab to socialize the Lab's most advanced public policy tools.						Completed		
4. Designed and tested model of SDG-accelerated implementation of Goal 7 on Affordable and Clean Energy.	4.1 Sustainable financing mechanism for installation of solar water heaters and PV systems by inhabitants of targeted regions is available and functional.	$0					Completed		
	4.2 Increased awareness on benefits of renewable energy and energy efficient technologies and promotion of "Green jobs" in the target regions.								
5. Project Implementation Costs		$ 6687.61					Completed		
6. Mapping of Armenia and Georgia's reform priorities regarding EU approximation and the SDGs	6.1 CEPA (Armenia) and AA agreement (Georgia) commitments mapped with regards to the SDGs 6.2 An in - depth	$0					Completed		

	review of sectors, based on Armenia Development Strategy for 2014 - 2025, specific EU approximation commitments and Armenia's national SDG priorities conducted								17
7. Techfugees Accelerator	7.1 Basic coding skills are transferred to refugee girls to gain entry - level jobs with immediate income, in data entry, programming, and IT work 7.2 A training of trainers designed to prepare future trainers/mentors who can further transfer the knowledge in their community schools. 7.3 Entrepreneurship track is developed which will be obligatory for racks (1) and (2) and will aim at the group projects that will	$0					Completed		

	exit viable solutions for future impact ventures with further rounds of acceleration								18
8. Big Data and AI for Agriculture	8.1 A data innovation hub is created on the SDG Lab platform 8.2 Remote sensing based agricultural data collection and monitoring system is in place for production forecast and yield estimates	$0					Completed		

IV. GENDER MAINSTREAMING, CROSSCUTTING RESULTS, TARGETING

The project has strong emphasis on gender equality and women empowerment (Gender marker 2). With a strong focus on one of the guiding principles of the 2030 Agenda for Development – the concept of "leaving no one behind," the SDG Lab puts a strong emphasis on investing in the acceleration of the implementation of SDG 5, as reflected Lab's current initiatives.

SDG Barometer

When carrying out data mapping for SDG 16, special emphasis has been put on mapping the existing data with gender-based disaggregation. Consequently, data was mapped from 13 institutions with due consideration of gender, amounting to a total of 3 indicators with available gender-based disaggregation. When it comes to collecting data from non-conventional sources, such as social media, through innovative approaches, and namely Facebook page scraping, the Lab has put special emphasis on scraping the pages of female political leaders and officials.

Successful model for accelerated implementation and financing of Goal 7

Under the revolving mechanism earlier tested by R2E2 for public buildings energy efficiency financing the households are provided 8% annual interest loan for up to 8 years and repayments are used to finance new households needs. With only US$12 monthly repayment and significant savings of energy bills it is affordable even for vulnerable families. The total number of families benefiting from this activity is 162. The progress monitoring carried out by R2E2 revealed that around 30% of these beneficiary families are women-led households.

V. RISKS AND CHALLENGES

The COVID-19 outbreak in Armenia and the escalated hostilities in and around Nagorno Karabakh have led to the necessity to readjust the ongoing projects and request a no-cost project extension, which was granted until 1 May 2021. Despite the postponements, the Project has successfully readjusted its timeline to deliver all planned activities by the end of the Project.

The escalated hostilities in and around Nagorno Karabakh on September 27, 2020 and the post-conflict situation in Armenia have negatively impacted the project implementation in terms of shifts in Government priorities and the limited availability of Government counterparts and stakeholders Nevertheless, the Project has successfully managed to readjust its timeline and activities to ensure the timely delivery of the Project.

The updated risk log is attached.

IV. PRODOC CHANGES, HORIZON SCANNING

Given the fact that the COVID-19 and the escalated hostilities in and around Nagorno Karabakh crisis that he country faced during 2020 had a significant impact on the progress of the Project and delayed

or put on hold several key activities, a decision was made to request a no-cost extension of the project. The project no-cost extension was approved by the donor until 1 May 2021.

VI. PARTNERSHIPS, COMMUNICATION, KNOWLEDGE MATERIALS

Partnerships

In 2019, the SDG National Innovation Lab established partnerships with key government stakeholders-Ministry of Healthcare of the RA, Project Implementation Unit of the Ministry of Health of the RA, Tourism Committee of the Ministry of Economy of the RA, Shirak Marzpetaran (Governor's office), State Revenue Committee of the RA, 10 healthcare institutions in Shirak region, businesses-restaurants, hotels, hostels, museums, Armenian Hotels' Association and Armenian Restaurants' Association, academia-American University of Armenia, Zhongnan University of Economics and Law, University of Padova, University of Venice, Mannheim University, international partners- Behavioral Insights Team, UNDP Istanbul Regional Hub, World Bank, Government of New Zealand.

2020, the Lab has established successful pro-bono partnership with DataPoint, a USA-based initiative of students and professionals experienced in data science that helped the Lab in advancing the natural language processing component of the project. As a result of the engagement of pro-bono data labelers, instead of the initially-planed 50.000 sentences, the project has successfully completed the word segmentation and tokenization of 150.000 Modern Eastern Armenian sentences, thus significantly contributing to the Lab's efforts in advancing Armenian Natural Language Processing. Moreover, becoming a national hub for Global Data Barometer was another significant achievement for the Lab, laying solid ground for featuring Armenia in the first edition of the Global Data Barometer report in 2021.

As part of the Lab's efforts in scaling up the SDG Monitor component of the project, successful partnership was initiated with UNDP's Oslo Governance Center. As a result of this partnership, the Lab attended the living compendium on measuring, monitoring and reporting SDG 16 with the aim to enable knowledge exchange among different innovation teams. The SDG Monitor Platform was one of the 3 innovative country experiences presented during the webinar, together with El Salvador and Cabo Verde. As a follow up to this partnership, and with plans to scale up the project, the Lab is currently exploring funding opportunities together with Oslo Governance Center, to spread innovation globally and across all SDGs.

As part of its efforts in developing capabilities to process English, Russian and Armenian language data, and mapping open source resources for NLP and developing proprietary datasets, training corpuses, predictive models and heuristic algorithms for tasks in topic classification, sentiment analysis, knowledge graphs, the Project has initiated partnership with Yandex Research, DeepPavolov and Russian Research Institute of Artificial Intelligence in 2021.

As a result, successful partnership has been established with DeepPavlov. The Project uses the resources made available by the DeepPavlov project team daily, and DeepPavlov's open-source repository as an invaluable facilitator of our work. The project makes extensive use of the DeepPavlov multi–language BERT Named Entity Recognition model, using it in combination with the Stanford NLP morphological parser to extract information from Armenian – language text. DeepPavlov's open-source AI framework for text analysis and the creation of dialog systems has been a valuable asset to

advance the Lab's machine learning pipelines. As a result of the meeting with DeepPavlov in March 2021, a new communication channel will be created between the 2 teams through Slack for knowledge and experience exchange, as well as for ongoing collaboration. An informal agreement has been reached to share ideas and collaborate on topics such as temporal knowledge graphs, something that the Lab envisions doing in the near future. The partnership with DeepPavlov renders the Lab's machine learning workflow much more streamlined and object oriented. Notably, the resources of DeepPavlov will be used not only within the framework of this project, but will pay the way for a more sustainable and institutionalized partnership between the two institutions. The shared passion of pushing the boundaries of AI in both teams is something we will be building on to partner with technology pioneers and apply their knowhow in our pursuit of SDGs. The partnership model with DeepPavlov is featured in a blog post. Moreover, the DeepPavlof team reach out to the project with a suggestion to sign a Memorandum of Understanding the formalize the collaboration. The MoU will be signed in June 2021.

During the reporting period, the Lab has worked closely with several key institutional partners, bringing together various sectors and networks both on local and international levels. Key achievements of the reporting period are the knowledge products developed by the SDG Lab. The reporting period coincided with the COVID19 outbreak in Armenia and the escalated hostilities in and around Nagorno Karabakh, which put most of the planned events, including product launch of Travelinsights.ai and other public presentations on hold.

Knowledge products, Events and Workshops

1. To raise awareness about ***Travelinsights.ai*** online platform, a ***blog post*** was developed and posted on one of the biggest public policy innovation communities — ***Apolitical***.

2. An academic ***paper*** with the findings from the behavioral intervention in healthcare aimed at increasing participation in a nationwide cervical cancer screening program was submitted to **Management Science** scholarly journal in 2020.

3. The Lab team has successfully finalized the **"Increasing Tax Compliance in the Republic of Armenia through a Behavioral Experiment."** The aim of the experiment was to test the impact of low-cost behavioral interventions on tax compliance in the Republic of Armenia as a

4. complementary measure to conventional policy instruments (i.e., costly audits and fines). The results of the experiment are available in the summary as well as in ***infograph.***

5. One of the underlying principles of the Lab is to make sure that all the products are created with the user in mind. The SDG Lab team came up with a strategic solution to build an in-house capacity of design thinkers who would always ensure the human factor in the solutions. As a result of this initiative, the **design thinking** team managed to make extensive research on design thinking methodologies and come up with its own set of principles.

   Some of the lessons learnt are documented in the blog posts available on the Lab's ***Medium*** page and are being distributed through the Lab's social media channels. In fact, one of the pieces has been ***retweeted*** by the UNDP Administrator Achim Steiner. The Lab has recently shared a ***piece*** on the importance of empathy and real human needs while addressing COVID19 crisis. In our latest ***blog post*** the Lab has addressed the Government-citizen divide

in behavior changing policies. **A Design thinking toolset** was developed to be in tune with the local context and with the peculiarities of the public policy innovation problems that the SDG Lab team generally deals with.

6. The Lab was highlighted — for disrupting traditional policy making in Armenia — in Asian Development Bank's latest publication on Strategic Foresight "***Futures thinking in Asia and the Pacific***" in April 2020 (p. 14).

7. Armenak Antinyan, the SDG Lab's Behavioral Insights team Lead and Professor at Zhongnan University of Economic and Law, presented the results of our Healthcare RCT aimed at increasing the participation in a nationwide cervical cancer screening program during the 7th Workshop in ***Behavioral and Experimental Health Economics*** in Innsbruck. The experiment received positive feedback from academia and policymakers.

8. The SDG Lab team participated in a 3-day workshop "***Behavioral Insights Applied Live Academy"*** with the UK's Behavioral Insights Team. During the workshop, the team had a chance to learn from the best in the field, put their knowledge into good practice and design behavioral experiments with fellow policymakers representing the education and employment sectors.

9. The Project presented the Lab and its ongoing activities at the "***Governments in Bosnia and Herzegovina on the Digital Transformation Journey***" event organized by UNDP in Bosnia and Herzegovina. During the panel discussion we shared the details of our Lab's innovative solutions for fighting COVID19 with our UNDP and UN colleagues as well as policymakers. The dynamic panel was a great opportunity not only to share our lessons learned but also to learn about good practices from around the region as well.

10. In August, the Project Team an online presentation of its projects to the Chargé D'affaires of the UAE Embassy to Yerevan Ms. Ahlam Rashed Al Salami. The Lab covered its flagship projects and latest achievements in behavioral science and some of its data products. As a result of the event, various directions for wider cooperation with UAE Embassy to Yerevan were identified.

11. The Lab was interviewed by one of the leading media outlets in Armenia — ***Mediamax*** — and presented the ongoing activities and the support provided to the Government during the pandemic.

12. A working paper on randomized controlled trial to test several interventions to reduce disposable plastic bag purchase in Armenia was published under the auspices of the Department of Economics of the Università Ca' Foscari Venezia. **Working Paper:** Take me with you! Economic Incentives, Nudging Interventions and Reusable Shopping Bags: Evidence from a Randomized Controlled Trial

13. **SDG16 Monitor (previously, SDG Barometer)** *website*.

14. On February 25, SDG Lab team held **a co-design session** named "Improving the written correspondence with the citizens by applying human-centered design principles" within the framework of our AI4Mulberry project — aimed at improving the citizen-government correspondence process and resource optimization. During the session, we identified the top

challenges in this process and came up with solutions with the representatives from the DPM office, Ministry of Health, Ministry of Education, Science, Culture, and Sport, and VXSoft.

15. On 18 February, the SDG Lab presented its **"On Increasing Tax Compliance through Behavioral Insights: Experimental Evidence from Armenia"** behavioral intervention results to the representatives of the State Revenue Committee. This experiment was conducted within the framework of the State Revenue Committee of Armenia- UNDP in Armenia cooperation.

16. A **blog post** sharing our experience of collaboration with the Deep Pavlov Project team at Neural Networks and Deep Learning Laboratory at Moscow Institute Physics and Technology. The piece is showcasing how such collaborations are critical because they enable a mutually rewarding opportunity to leverage community knowledge and open-source datasets for positive public change. Moreover, in our case it also meant doing cutting-edge public policy analysis and having unprecedented data access for experimentation.

17. The Lab team has also revived the *blogs* section of the SDG Lab website and *Fishtalks* format— inspirational talks which tend to promote a more adaptive and learning-oriented approach within the Lab team to achieve better results.

Digital communications

The key medium of communication is social media, the most active and engaging being Facebook. Since the beginning of the project, the *Facebook* page reached around **1,990,959 people, has 4437 page likes and 4555 followers.** The page features posts covering activities of the Lab, important meetings, and various online events relevant to the Lab. The social media channels of the Lab were not active since the escalated hostilities in and around Nagorno Karabakh, the activity will be resumed once the situation is more stable.

VII. EVALUATIONS

No evaluations were foreseen within the framework of the Project.

VIII. DONOR REPORTS

The semi-annual and annual reports for 2020 have been submitted to the donor as per requirement.

IX. VALIDATION OF RESULTS (FIELD VISITS) AND QUALITY ASSURANCE

The design stage implementation quality assurance was completed in 2019. The implementation quality assurance was completed in December 2020, and the closure quality assurance will be completed in June 2021.

X. FUTURE ACTIONS, WORK PLAN

N/A

1. Results Framework

| EXPECTED OUTPUTS | OUTPUT INDICATORS | DATA SOURCE | BASELINE | | | TARGETS | | DATA COLLECTION METHODS & RISKS |
			Value	Year	Year 1 May 2019	Year 2 December 2020	Results May 2021	
Output 1	**Increased use of environmentally-friendly practices as a result of behavioural experiments.[3]**							
1.1: Solar water heating and PV installations are increased in the population of interest	*1.1.1% of installed solar water heaters and PVs in the population of interest*	*Official statistics, private company statistics and baseline and endline surveys*	*1 % of the population has solar water heaters and PVs*	*2017*	*2% penetration rate in the population of interest*	*3%*	*N/A*	*Official date sources, annual primary data collection*
	1.1.2 Price of the solar water heater and rooftop	*Private company statistics*	*1000 (solar water heater); 2-3*	*2018*	*n/a*	*n/a*	*N/A*	*The final price will be decided as an outcome*

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[3] In parallel with reviving Component 4 of the Project together with R2E2, the Project conducted a qualitative research among target populations in Shirak and Gegharkunik regions. The success of the R2E2 revolving fund was unprecedented and the "solar ambassador" effect drove the installations of solar panels and water heaters at an accelerated rate. With more installations and more talk on the new technology, the ambassadors led their communities by example, even without an intervention. In other words, the "experiment" happened organically without much external intervention. This behavioral intervention was consequently substituted with another behavioral experiment aimed at reducing plastic consumption during shopping at the supermarket, with significant results detailed above.

PV in the population of interest			*kW per household (800-1000$ per kW in average)*					*of the experimental intervention depending on the number of people who would like to install solar water heaters and rooftop PVs.*
1.2: Wasteful water consumption is decreased in the population of interest	*1.2.1 Quantity of drinking water consumed per household (m^3)*	*Private company statistics (Veolia)*	*n/a - to be set*	*2017*	*-*	*5% decrease[4]*	*N/A*	*Baseline household survey to understand the socio-demographic characteristics of treatment and control groups, data from water supplier company.*
1.3: An on demand behavioural insights	*1.3.1 # of SDG challenges treated at the behavioural insights facility*	*Project logs*	*0*	*2018*	*1*	*1*	*4*	*Project progress reports*

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[4]In other countries (for instance Costa Rica) a similar intervention resulted in 4-6% decrease in consumption of drinking water.

facility is set up within the Lab	*1 . 3 . 2 # of behavioral experiments carried out*	*Project logs*	*0*	*2018*	*1*	*2*	*4*	*Project progress report*
	1.3.3 % of increase in the uptake rate of cervical cancer screenings	*Project logs*	*0*	*2018*	*10%*	*-*	*461% (letters) 667% (letters + reminder)*	*Project progress report*
	1.3.4. % of increase in tax compliance among turnover taxpayers	*Project logs*	*0*	*2018*	*-*	*5%*	*13.7% (turnover declarati ons) 10.6% (tax declarati ons)*	*Project progress report*
	1.3.5 # of policy insights generated	*Project logs*	*0*	*2018*	*1*	*2*	*4*	*Project progress report*
	1 . 3.6 digital service standard submitted to the Government for approval as a binding document	*Project logs*	*0*	*2018*	*-*	*1*	*0[5]*	*Project progress report*

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[5] See page 9, "Digital Service Standards" section.

	1.3.7 % of increase in the uptake rate of digital services	*Project logs*	*0*	*2018*	*-*	*5%*	*28.4%*	*Project progress report*
Output 2	**Increased availability of data for evidence-based policy and decision-making.**							
2.1: Increase in Big Data-generated policy insights	*2.1.1 # of policy insights generated*	*Project logs*	*0*	*2018*	*1*	*1*	*2*	*Project progress reports*
	2.1.2 # of Big Data sources analysed	*Project logs*	*0*	*2018*	*1*	*1*	*7*	*Project progress report, interviews with stakeholders*
	2.1.3 # of partnerships with Big Data holders	*Project logs*	*0*	*2018*	*1*	*1*	*3*	*Project progress reports, MoUs*
	2.1.4 # of platforms developed	*Project logs*	*0*	*2018*	*1*	*1*	*2*	*Project progress reports*
	2.1.5 % of time saved on categorizing digital correspondence with the citizens and the Government	*Project logs, progress reports*	*0*	*2018*	*-*	*20%*	*99.7%*	*Project progress reports*
	2 . 1 . 6 # of annotation guidelines developed for the Armenian Language Treebank	*Project logs, progress reports*	*0*	*2018*	*-*	*1*	*1*	*Project progress reports*

	2.1.7 # of tokenized words from digital correspondence between citizens and the Government	*Project logs, progress reports*	*0*	*2018*	*-*	*15000*	*150,000*	*Project progress reports*
	2.1.8 universal dependency treebank from the digital correspondence between citizens and the Government	*Project logs, progress reports*	*0*	*2018*	*-*	*1*	*1*	*Project progress reports*
	2.1.9 # of linguistic data banks, dictionaries for most commonly researched tasks in natural language processing	*Project logs, progress reports*	*0*	*2018*	*-*	*2*	*2*	*Project progress reports*
2.2: An SDG-specific monitoring mechanism, the SDG Barometer, is scaled up	*2.2.1 Digital platform of the SDG Barometer*	*Project logs*	*0*	*2018*	*-*	*1*	*1*	*Secondary research, project progress report*
	2.2.2 # of SDGs reflected in the barometer	*Official reports, project logs*	*0*	*2018*	*1*	*3*	*1[6]*	*Secondary research, project progress report, website*
Output 3	**Enhanced capacity of National SDG Champions in innovative research methods and skills.**							

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[6] See page 10, "SDG Monitor" section.

3.1: A series of hands-on co-creating workshops on behavioural experimentation in policy making is designed and piloted for SDG Champions	*3.1.1 # of participants in the workshop/s*	*Project logs*	*0*	*2018*	*15*	*15*	*73*	*Secondary research, project progress report*
3.2: A series of hands-on co-designing workshops on Big Data use in policy making is piloted for Armenia's SDG Champions	*3.2.1 # of participants in the workshop/s*	*Project logs*	*0*	*2018*	*10*	*10*	*72*	*Secondary research, project progress report*
3.3: Research exercises on alternative finance and blockchain are designed and piloted for SDG Champions[7]	*3.3.1 # of counterparts involved in the research exercise/s*	*Project logs*	*0*	*2018*	*4*	*4*	*-*	*Secondary research, project progress report*
	3.3.2 # of ideas generated on the application of alternative finance and blockchain in Armenia	*Project logs*	*0*	*2018*	*1*	*1*	*-*	*Secondary research, project progress report*

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[7] February 2019, the Lab established a Data Hub within its premises to conduct a research/feasibility study on leveraging new technologies and AI for crop yield estimation and forecast. A detailed cost-estimation was provided on several data collection mechanisms on different levels, such as through satellite, drone, etc.. Based on the findings of the research and the cost estimations, and to increase the project impact, the Government and the project decided to allocate the funding from the Russia-UNDP TFD for the implementation of other project activities and to allocate part of the co-funding to UNDP ImpactAim Agri-Tech incubator for the implementation of this component.

3.4: An on-demand training facility is set up within the Lab to socialize the Lab's most advanced public policy tools	*3.4.1 # of co-creating workshops in to-be-identified areas*	*Project logs*	*0*	*2018*	*1*	*1*	*2*		*Secondary research, project progress report*
Output 4	**Successful model for accelerated implementation and financing of Goal 7 (Affordable and Clean Energy) is designed and tested.** *Pilot 1 - Competitive financing instruments for facilitating "Green energy" production at household level in Armenia's vulnerable communities[8]*								
4.1. Sustainable financing mechanism for installation of solar water heaters and PV systems by inhabitants of targeted regions is available and functional.	*4.1.1 - # of households in the target regions that are financed to install solar water heaters and PV panels from revolving fund through partner banks*	*Official statistics, private company statistics and baseline and endline surveys*	*-*	*2018*	*300*	*500*	*390*		*Official data sources, annual primary data collection*
	4.1.2 # of households with 4 or more children in the target regions that benefits from significantly reduced interest rates	*Official statistics, private company statistics and baseline and*	*0*	*2018*	*150*	*310*	*192*		*Official data sources, annual primary data collection*

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[8] Updated result figures as per the R2E2 report.

		endline surveys							
4.2. Increased awareness on benefits of renewable energy and energy efficient technologies and promotion of "Green jobs" in the target regions.	*4.2.1 % of population realising socio-economic benefits of using solar energy solutions at their homes*	*Official statistics, private company statistics and baseline and endline surveys*	*5%*	*2018*	*15%*	*25%*	*24%*	*Official data sources, annual primary data collection*
	4.2.2 # of people self-employed in the sector	*Project logs*	*-*	*2018*	*20*	*40*	*35*	*Annual primary data collection*

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2. Risk Log

Description	Date Identified	Type	Impact & Probability (scale 1 min. - 5 max.)	Countermeasures Management response	Risk Status Update 1/122020
1. Project's outputs may be at risk because of reduced or slowed operational processes in the Government or in UNDP by a number of reasons.	Jan 2018	Operational	I = 4 P = 2	Close monitoring of the Project's workplan/implementation timeline, raising critical issues and discussing bottlenecks in advance, including at Project Board, for a consensus-based management decision.	The risk remains the same.
2. Low level of engagement and commitment from local counterparts/key partners because of apathy, lack of trust, and/or other reasons.	Jan 2018	Political	I = 3 P =1	Capacity development, outreach strategy and motivation of staff, encouraging professional networking.	The risk remains the same, the Lab continues to mitigate the risk by socializing its innovative methodologies within partner organizations.
3. Methodological issues may reduce project effectiveness due to lack of capacity, understanding, or contextual issues.	Jan 2018	Strategic	I = 2 P = 2	Capacity development, active participation of key partners, including SDG champions.	The risk remains the same, the Lab continues building on the activities focused on capacity building among key partners.

4. Major natural disaster, e.g. earthquake; escalation of Nagorno-Karabakh conflict may disrupt the process.	June 2017	Environmental, political	I = 5 P=3	Contingency workplan development.	The risk remains the same.
5. Change of the security situation along the border of Armenia and potential escalation of the NK conflict	October 2020	political	P = 5 I = 5	Difficulties/security restrictions for operating in certain communities and impose risk for sustainability of actions. The Project will adapt a conflict-sensitive approach to implementation, do close monitoring of the situation and adjust activities accordingly, if needed, as per the programme contingency plan.	The risk remains the same.
6. Major virus outbreak and related health emergency may disrupt the process.		Health	I = 5 P=5	Contingency workplan development.	The risk remains the same.

3. Workplan for 2021

The below workplan presents the planned activities of the Lab until 1 May 2021 as per the extended timeline.

Activities		2021											
		Q I			QII			Q III			QIV		
		1	2	3	4	5	6	7	8	9	10	11	12
Output 1. Increased use of environmentally-friendly practices as a result of behavioural experiments													
1.1	Increasing tax compliance in the Republic of Armenia with the help of behavioral interventions												
1.2.	Behavioral experiment to increase the take-up rate of digital services												
Output 2. Data for decision-making													
2.1	Travelinsights.ai version 2.0 launch												
2.2	SDG Monitor (Barometer)												
2.3	AI for Mulberry												
Output 3. National SDG Capacity													
3.1	Capacity building in Behavioral Experimentation												
3.2	Capacity building in Data Analytics												
3.3	Internal learning and development based on experimentation												
Output 5. Implementation, Monitoring and Evaluation													
5.1	Project implementation in an efficient and transparent manner												

Output Verification Template

Field Visit Report Format

1 May 2021

Innovative Solutions for SDG Implementation in Armenia (SDG Lab Phase II) – 00109316-00108696

Purpose of the field visit:

Outcomes	Update on outcomes	Outputs	Update on outputs	Reasons if progress below target	Update on partnership strategies	Recommendations and proposed action
By 2020, sustainable development principles and good practices for environmental sustainability resilience building, climate change adaptation and mitigation, and green economy are introduced and applied.	Following the political changes in Armenia back in 2018 and the restructuring and repositioning of the Lab, the outcome of the Project has been enlarged and diversified to also include experiments in healthcare, tourism and taxation in close alignment with the Government priorities.	**Output 4.3:** Government uses innovative mechanisms and tools for evaluation and decision-making over conservation and sustainable use of natural resources.	The Lab has succeeded in completing its second behavioral experiment in the tax sector, with significant results. The Lab has also managed to significantly advance the AI for Mulberry component, establishing legal grounds for partnership with the Government, MESCS and MoH, developing robust language classification models and piloting the design thinking methodology, which was a success. Noticeable progress has been made in the natural language processing component of the project, a pro-bono successful partnership has been established with DataPoint, a USA-based initiative of students and professionals experienced in data science. The Project has registered significant progress in mapping and collecting data for measuring the progress towards achieving SDG 16 in Armenia, with the introduction of innovative methods of gathering data from non-conventional sources. The development of SDG Monitor website is another notable achievement of the Project. The R2E2 component was also successfully finalized, benefiting many households and vulnerable families.	COVID-19 outbreak in Armenia since March 2020, and the escalated hostilities in and around Nagorno Karabakh from September to November 2020 have led to the necessity to readjust the ongoing activities and delay or put on hold several key activities. the situation is still fragile and uncertain both in terms of internal political escalations and external threats. Nevertheless, the Project has successfully managed to readjust its timeline and activities to ensure the timely delivery of the Project.	During the course of its implementation, the Project has established successful partnerships with a number of local and international partners, such as BIT, NESTA, University of Podova, Mannheim University, Columbia University SIPA, Zhongnan University of Economics and Law, Oslo Governance Center, Global Data Barometer, Data Point , Unleash, Global Pulse, Apolitical, DeepPavlov, Skolkovo, Stanford Change Labs, High School of Economics of Moscow, Moscow Innovation Agency, AGBU, American University of Armenia, EKENG, IDeA Foundation, FAST Foundation, ImpactAIM, Kolba Lab.	Given the successful completion of the project with 100% delivery, the Project is eligible for closure.

PROJECT PERFORMANCE—IMPLEMENTATION ISSUES

The main implementation issues of the Project were related to the COVID-19 outbreak in Armenia and the escalated hostilities in and around Nagorno Karabakh from September to November 2020. The declared state of emergency, followed by martial law and general mobilizations have significantly shifted Government priorities, resulting to the reallocation of resources of different partners on addressing the twofold crisis in the country. This has led to impediments in meeting the initially-set deadlines and readjusting some activities under different components to best tailor the project to new needs and expectations of the Government and stakeholders. Nevertheless, the Project has successfully managed to readjust its timeline and activities to ensure the timely delivery of the Project.
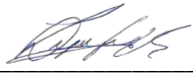
PROGRESS TOWARDS RESULTS

Despite the challenges and impediments in Project implementation, the Lab has succeeded in advancing a number of key project components with significant results. With 100% project delivery, the Lab has successfully redesigned and repositioned itself as the go-to partner of the Government for complex issues that require innovative methodologies, advanced data analytics for evidence-based and citizen-cantered policy making.

LESSONS LEARNED

Having to operate during a health crisis and state of emergency, as well as the escalated hostilities in and around Nagorno Karabakh, the Lab has generated important lessons learned process-wise to be applied to future undertakings. The Lab has also successfully learned the process of smoothly shifting from initially-design activities to for flexible arrangements, which have greatly contributed to the progress made even during the COVID-19 crisis and escalated hostilities.

Participants in the field visit:

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