Russian Federation-UNDP Trust Fund for Development

TFD/SC 6/6 revised

Template of Project Annual Narrative and Financial Progress Report (approved by the 6th meeting of the TFD Steering Committee)

February 10th, 2020

Russian Federation-UNDP Trust Fund for Development (TFD)Project Annual Narrative and Financial Progress Report
Template

Project title:	"Adapting to drought": Sustainable water management in the face of drought in Santiago de Cuba, for greater resilience and adaptation to climate change.
Project ID:	00103066
Implementing partner:	Provincial Delegation of the National Institute of Hydraulic Resources (INRH) of Santiago de Cuba
Project budget:	Total: 2. 036.526,60 USD TFD: 1.000.000 USD
Project start and end date:	Start Date: 30/05/2018 End Date: 30/05/2021
Period covered in this report:	January 1st, 2019 to December 30th, 2019
Date of the last Project Board meeting:	- October 15th, 2019 in Havana City with national counterparts of the National Institute of Hydraulics Resources, MINCEX and AMA (Annex 10.4.1) - December 18th, 2019 in Santiago de Cuba with a representative of INRH and provincial key counterparts (Annex 10.4.1)
SDGs supported by the project:	SDGs 6 and 13

1. EXECUTIVE SUMMARY

The Project is part of a UNDP strategy, aligned with national and local priorities to provide coverage to water supply systems in Santiago de Cuba, the second most important Cuban province. Previous projects have strengthened the main water supply systems of the city of Santiago, namely: Quintero, Parada and San Juan. This initiative is implemented in two areas to promote integrated drought management. On the one hand, through the strengthening of the Quintero water distribution system, that supplies water to 80% of the population of the Santiago municipality; and similarly, strengthening water supply and distribution sources from El Caney and Guamá municipality, that face difficulties in coping with droughts, given the lack of water supply sources and the risk of saline intrusion as they are coastal areas.

During 2019 project implementation progress has focused on the:

1. Identification of the technical specifications of the equipment to be transferred; opening of procurement proceedings for the specialized technology, IT and communications equipment. Said technology will strengthen hydrometeorological surveillance and monitoring, as well as, information management and data processing for timely decision-making. Similarly, the investments counterparts were to undertake in preparation for the installation of the equipment to be transferred were arranged for and followed up.
2. Organization and implementation of knowledge management actions required for the implementation of activities linked to: technology transfer; the command of methodologies and procedures to facilitate timely decision-making (i.e. Drought HVR Methodology and Drought Operational Procedures); Workshops for the training of promoters in gender-sensitive rational and safe use of water, among others.

3. Follow-up of required actions to ensure the installation, startup/commissioning, safety and sustainability of the equipment to be transferred.

Challenges and Measures

The Project faced three major challenges during this period:

1. Finding experts that could define the appropriate technical specifications of the specialized equipment that is going to be transferred for the first time and critical to achieve Project expected results;
2. The import process has been hindered by the impact of the US economic, commercial and financial blockade against Cuba. Some providers that had supplied the technology to be transferred to the country were unable to provide equipment with US components/parts forcing the search of alternative providers;
3. The country's complex energy situation brought about by the stepping up of US sanctions in the framework of the blockade. The shortage of fuel prevented the execution of some activities that required the transportation of participants.

Said challenges will continue during Project implementation in 2020; therefore, the UNDP staff has sought alternatives. To address challenge 1, in 2019 regular meetings were held in order to make the best definition of each equipment. To that end, it was decided to create a group of experts. To address challenge 2, new bidding processes were started by UNDP Procurement Unit. In the case of challenge 3, workshops were postpone for 2020.

While those circumstances have significantly delayed the year's financial performance, they will not prevent the achievement of project objectives. As one of the lessons learned, UNDP, in consultation with involved national stakeholders, has decided to prioritize the search of Russian providers, considering the wonderful relations existing between Cuba and Russia.

Hence, UNDP has applied to the second phase of the UNDP – Russia Program: "Knowledge Management Capacity Building in Russia-UNDP Partnership, to receive training that allows for the identification of available providers and technologies in the Russian Federation.
Likewise, UNDP held meetings with the INRH to make urgent decisions concerning the importation of some specialized equipment. The national counterpart decided to replace imported conventional rain gauges and pluviometers with nationally produced ones, since a new Enterprise had been recently created to that end.

2. RESULTS

Output 1: Local capacity-building for the implementation of actions to improve drought resilience and adaptation, using local potentials, energy saving and transfering sustainable technological solutions

Activity 1.1. Improve coverage of water supply to the population: controlling distribution volumes, water quality and leakages to reduce losses

The current initiative seeks to expand the distribution coverage of the Quintero system that supplies water to 80 % of the population of the city of Santiago de Cuba and other settlements of the Santiago municipality, like El Caney, where the project will have a direct impact. The project will extend to a second area, the Guamá municipality that faces more complex challenges in coping with droughts. Guamá is a coastal area that has no reservoirs or aquifers, only small wells with high saline intrusion risk given their

proximity to the sea. Consequently, water distribution cycles through the network are every 10 days and up to 43 days in areas that aren't connected to the network and rely on tank trucks.

In order to increase the water supply coverage to the population, the treatment system of the Quintero Plant and two pumping stations of the Guamá municipality will be strengthened with pumps. Procurement proceedings of the technology to be transferred have already started. Eight electric pumps have been purchased and expected to arrive in Cuba by end of February 2020. Six pumps will build operational capacities of the Quintero distribution system and the remaining two will go to Guamá.

The six electric pumps going to the Quintero plant will contribute to improve water treatment as they will facilitate filter cleansing and chlorination. Two of the existing pumps are out of commission and the four that remain operational have issues with the water flow. That limits the operating flow rate of the plant and in turn the treatment process, causing delays in deliveries to the population. The improvement of the service quality will not only benefit 80 % of the population of the city of Santiago, but as part of the Santiago de Cuba municipality, it will also benefit 70% of the population of El Caney, one of the pilot communities of the project.

The two electric pumps going to the Guamá municipality will be installed in Aserradero and Boca Dos Ríos, two settlements that have strategic wells for water distribution given they face no saline intrusion risk. That is why they are crucial in the distribution of water to other delivery points. Those pumping stations provide services through the network to the population in those and other settlements in the municipality of Guamá because they are connected to filling stations (See Annex 10.4.2**)**. Filling stations are points of delivery to tank trucks that distribute water to communities that are not connected to the network. As they only have one electric pump, water distribution to these communities through the network is significantly reduced when the station is pumping water to fill tank trucks.

Tank trucks provide services to almost 50% of the Aserradero People's Council that has 3,883 inhabitants and other settlements in the municipality of Guamá like Caletón, with 786 inhabitants. Installing electric pumps in both stations (Aserradero and Boca Dos Ríos) will make it possible to separate water distribution through the network from the filling of tank trucks, which will increase the water flow and hence the volume of water delivered. Thus, the coverage of water distribution through the network will be improved and water tank trucks delivery cycles will be reduced.

The technology transfer process of specialized portable technology has already began to improve water quality control in extreme drought conditions and support control mechanisms of distribution volumes, network vulnerability detection and loss reduction. It is expected to arrive in the country between March and April 2020.

Transfer of technology for strengthening Mogote Water Diversion also started. It transfers the water from dams located in other municipalities to those that provide coverage to the city of Santiago de Cuba, particularly the Quintero system. Therefore, it is necessary to improve the effectiveness of this government investment, improving its operation through the measurement of key parameters that will also contribute to the distribution of water to the population.

Knowledge management actions were planned for the use of these new technologies. Taking into account lessons learned and experiences from previous projects, the commissioning of all the technology to be transferred was also hired. In the case of hydrological cycle monitoring equipment, a 10-day training

course on the use of said equipment will be provided. The Project also seeks to contribute to widespread the use of alternative technologies in drought scenarios through technical exchanges and advice, like the use of purifying plants for the exploitation of alternative sources.

Training on georadar image interpretation was provided as one such equipment was given to the Empresa "Aguas Santiago" under the Joint Program "*Suma tu Gota". Streghtening resilience of families and vulnerable groups affected by drought in Santiago de Cuba*, financed by SDG Fund and implemented by UNDP, WFP and UNICEF ("Suma tu Gota"). Eight technicians of that enterprise took part in the training that was imparted by two professors of the "José Antonio Echeverría" Technical University (ISPJAE) of Havana. The use of the GPR improve the accuracy of leakage detection in underground pipes, making it possible to optimize resources, the reduction of downtimes in water distribution to the population and improvement of the distribution coverage to the Santiago de Cuba province (See Annex 10.4.3). As the georadar is a state of the art technology that barely exists in the country, it will be introduced in other provinces according to local priorities and needs. To make the best use of it, a manual on georadar use and image interpretation is currently being developed for distribution to the province and the rest of the country.

Activity 1.2. **Promote the rational use of water and water-saving measures in affected communities, and ensure safe water consumption.**
This activity will contribute to raise awareness among the population to educate them on the importance of making a rational use of water and safe water consumption. Workshops were organized to train facilitators, decision-makers, and housewives in each of the Project target/intervention areas: the Guamá municipality and El Caney settlement (See Annex 10.4.4). In each case, 25 to 30 people were trained (totaling 135) who shall lead community actions and make decisions. These actions include the contents required to ensure gender-equity.

Additionally, three workshops were held for capacity-building in gender-sensitive issues. One of them was attended by staff of the provincial radio station "Radio Mambí", reporters from the Provincial Government newspaper and the provincial TV channel. It was encouraged these professionals played a leading role in the project and promoted through radio and TV communication a broader participation and more effective and gender-inclusive response of the population to water management and city resilience. (See Annex 10.4.5)

The other two workshops were carried out in Guamá. One for key stakeholder decision-makers taking part in the project, including key actors from Agriculture, considering this project synergizes in this territory with the joint WFP and UNDP *Strengthening national and local capacities for a comprehensive management of drouthg in roder to reduce its impacts in water supply and nutritional food security in Cuba*, fase II, financed by DIPECHO and implemented by UNDP and WFP (DIPECHO II). The second workshop marked the beginning of a pilot action with participating men. This initiative seeks to create a debate and learning forum on communication for development that is inclusive and non-sexist and its relevance for Project purposes and outcomes and for sustainable development. As a result, 65 people were trained in the three workshops. (See Annex 10.4.5)

Technology procurement proceedings have begun to build Water Resources State Inspection capacities to oversee the rational use of water by households and enterprises. Motorcycles will be transferred to facilitate transportation to target municipalities and province, to detect illegal connections and unusual

consumption surges. The IT equipment to be transferred will contribute to relevant data processing and decision-making.

Activity 1.3. Local technical capacity-building to increase resilience and drought adaptation
Through its outcomes, the project promotes the adoption of adaptation measures to water shortage and the distribution cycles increasing in a drought context. In this regard, water tank production capacities will be strengthened to increase households' water storage capacities.

Procurement proceedings of the means that will be transferred and required to complete this activity have already begun. Four concrete mixers have been transferred to the Provincial Construction Material Production Enterprise (EPROMAC) and the rest of the equipment (i.e. tools, protection goods and other inputs to improve production brigades working conditions) for the brigades that will produce tanks for the communities of Aserradero (in Guamá municipality) and El Caney (in the municipality of Santiago de Cuba) are currently in procurement proceedings.

UNDP held meetings with EPROMAC's Staff and joint visits were made to production areas. In the course of this visit it was verified that conditions are created for brigades to produce the tanks. Vulnerable groups of most affected communities by long water distribution cycles will be prioritized.

Activity 1.4. Undertake pilot adaptation actions in Santiago de Cuba communities to increase the availability and rational use of water, through integrated water resource management, in a sustainable manner and considering climate change scenarios
The project focused demonstration activities in El Caney and Guamá pilot communities. Taking into account that Guamá is the largest municipality of the country, where secluded rural settlements prevail that are virtually cut off from the rest of the province during extreme hydrometeorological events, the communications system capacities of the Guamá Aqueduct UEB (Spanish Acronym: Base Enterprise Unit) under "Aguas Santiago" Enterprise are being strengthened. This system is composed by 15 fix radio stations and a repeater station. The last one will allow an efficient and quickly management of water in the municipality. In order to install communication towers where the stations must be, a monitoring was done to determine the investments to be undertaken jointly by Radiocuba's Provincial Enterprise and the beneficiary.

The technology to be transferred will facilitate communications between pumping stations, the municipal UEB and its provincial company. Stations will provide a daily basis information to the operating room of the Guamá aqueduct UEB by telephone. With the strengthening of its computing capacity, the data is digitized and through a new node (that will be created by this project) transmits the information to Aguas Santiago network.

In addition to the Guamá aqueduct UEB, the communications system of the Provincial Company "Aguas Santiago" and Caney is strengthened, with 6 fixed radio stations that will be located in the reservoirs, pumping systems and in the Aguas Santiago operations room. In addition, 13 trunking will be transferred that will reinforce the operations in land and the water treatment plants of the city. Also a transponder station will be transferred that will allow the communication of distant points with the operating room and mobile brigades with portable equipment. It will also allow communication with wireless data transmission systems from the network of precipitation monitoring stations. The communications equipment is expected to arrive in the territory of Santiago de Cuba in March-April 2020. The process of conditioning the 18 transmission towers of each station has already begun.

Within the framework of this project, the network of voluntary rain observers is strengthened, in some cases with automated rain monitoring equipment via GPRS and, in other cases, with a novel method that allows sending the rainfall data immediately through an APK with the use of mobile telephony. This information can be transmitted to the INRH data center and is automatically available in real time on the data network.

It should be stressed that the mobile phone transfer application is a pilot experience at national level for voluntary rain watchers to enter daily rainfall data. In current days, this information is transmitted monthly via radio. A communication manual and a manual for voluntary rain watchers are being designed and will be updated within the framework of this Project to include the training of beneficiaries (See Annex 10.4.6).

Besides, the procurement process for IT devices has already started. These IT devices will result in the creation of a hydrological situation room which will be located at the UEB in Guamá municipality. These devices will enable data collection, analysis and reporting on the surveillance and monitoring of water sources, control of water supply to the population, water quality control, etc. Likewise, the information on water sources monitoring provided by the Water Use and Management Enterprise–not existing in that municipality, since such information is assessed by the Aqueduct UEB- will be processed. The data received from the 14 pumping stations of that municipality will be processed in order to establish distribution strategies and set priorities. Similarly, this situation room will expedite the exchange of information between municipal and provincial decision-makers, thus facilitating the comprehensive water management and risk management process. This equipment is expected to arrive in Santiago de Cuba between January and February 2020.

Additionally, an IT node at the Guamá Aqueduct UEB will be created and the existing one in "Aguas Santiago" Provincial Aqueduct will be strengthened. In particular, with the installation of the Guamá Node, this municipality –with limited communication with the provincial seat and 2 hours away from it- will be able to exchange information on hydrometric sectors and water supply status in the municipality, and whether water is supplied by the network or by water tank trucks. The strengthening of "Aguas Santiago" Aqueduct Enterprise with state-of-the-art technologies will ensure communication between the provincial seat and the UEBs from the 9 municipalities in the province, including the one supplying El Caney (UEB Sources and Stations) and that in Guamá. This will improve supply and decision-making in case of extreme drought.

Premises are being refurbished for the setting up of the IT node and the situation room in the Guamá Aqueduct UEB. The UNDP, together with the National Institute of Water Resources (INRH), the provincial authorities from the Ministry of Foreign Trade (MINCEX), the government and beneficiaries followed-up these actions throughout the year. This investment will ensure the safety and sustainability of the technology to be transferred (See Annex 10.4.7).

Both, the Guamá Aqueduct UEB and the aqueduct provincial enterprise will be provided with portable measuring equipment to monitor and control distribution in keeping with volumes supplied, water quality and leakage control requiring the repair of networks. This equipment provides data which will be processed at the Operational Room strengthened by the project which, thanks to the node, can be shared in a dynamic fashion. These supply-aimed actions will improve a 34% coverage of people living in Guamá municipality (12 086 people receive water by networks) and 79% of El Caney population (29 648 people).

Workshops were held to train promoters (these actions are complemented with activity 1.2) with the purpose of promoting community and awareness-raising work on water deficit and the need for an efficient and safe use of water and the use of alternative sources. A plan was devised for the 2020 workshops, festivals and community fairs headed by Health and Education Promoters in order to share experiences of the two pilot actions. Folders, three-page leaflets and gigantographies to inform and prepare pilot communities for the rational and sustainable use of water and the prevention of health risks have being designed.

Besides, the transfer of promotional materials for community campaigns was concluded, as well as the transfer of office stationery to strengthen the health areas of the 2 intervention territories, namely, Guamá municipality and El Caney town (See Annex 10.4.8). Process of IT transfer to facilitate diagnostic and data processing in polyclinics (health areas) begun. This will provide knowledge on the hygienic and sanitary conditions in intervention areas and assist the decision-making process. Gender actions included in this activity are complemented by those already implemented in activity 1.2.

Output 2: Extend the coverage and effectiveness of the hydrometeorological Early Warning System emphasizing the surveillance and monitoring of water sources systems to forecast and follow-up droughts and to set up response and adaptation strategies.

Activity 2.1. Improve the exploitation control and monitoring system of superficial (reservoirs) and underground (aquifers) sources for the population to cope with existing risk vulnerability

Automated Hydrological Stations (AHS) transfer process started. It will be established to record the level and rainfall in key sources to supply water to El Caney town, as well as La Campana, Chaloons and Canasí reservoirs, which supplies Quintero. In addition, for Las Coloradas reservoir, which monitors the headwaters of the Cauto basin, through the Mogote transfer to the Quintero system, which benefits the city of Santiago de Cuba. The 35,583 inhabitants of El Caney will be indirectly benefitted by the surveillance and monitoring of La Campana and the Canasí reservoirs.

A Hydrological Station with a rain sensor will be installed in Potrerillo rural settlement, Guamá municipality. This point is strategic because it is part of the basic measurement network and allows the precipitation index in the Guamá municipality to be formed. With the information that is taxed, the monthly hydrological bulletin is prepared where the state of the drought is alerted to local and provincial authorities. The hydrological surveillance and monitoring will indirectly benefit the 29,648 inhabitants of the Guamá municipality. In the case of the voluntary observers of the rains that will be strengthened, the pluviometric stations will be installed in Guamá in different 4 strategic points and in 2 points to benefit the Quintero system.

The AHSs are more advanced than the ones transferred within the framework of previous projects, since they have been provided with other sensors to measure more variables. This will improve the hydrological cycle analysis with collected data thanks to its higher frequency to transmit in real time. An AHS use and installation manual will be made (now under design phase) that will be transfer to other Santiago de Cuba municipalities and provinces in the country (See Annex 10.4.9). For installing of this technology in these two reservoirs were built sheds to ensure their protection. Its engineering project was made together with UNDP during the monitoring mission made by UNDP and INRH (See Annex 10.4.10) in order to examine safety and coverage conditions for the location of automated hydrological

stations and rain-gauge stations. In the last monitoring visit, in December 2019 was confirmed that the sheds were finished (See Annex 10.4.11).

Activity 2.2. Improve coverage of hydro-meteorological surveillance and short- and medium-term drought forecast

ICT transfer for a situation room that the project will create at the Provincial Meteorological Center (CMP, its acronym in Spanish) started. It will improve coverage of hydro-meteorological surveillance and short- and medium-term drought forecast. Forecasts obtained by the CMP will result in a comprehensive drought management to monitor its different manifestations (meteorological, agricultural and hydrological drought) and take adaptation measures to reduce vulnerabilities in case of drought. Besides, they can anticipate hydrological droughts for the decision making process.

At the situational room will be processes the information on Hazard, Vulnerability and Risk studies since Meteorology is the one in charge of producing 70% of the information used by these studies. Therefore, this facility will be the seat for working meetings held by the provincial multidisciplinary group in charge of processing this information. Know-how of SAT Platform created on "Suma tu Gota" project will be transfer to the rest of East provinces as part of this project (See Annex 10.4.19)

As mentioned before, a technological transfer process began to improve the rain watchers network. The information provided by the rain-gauge network of the INRH is also used by the CMP which results in a comprehensive drought management between both institutions. UNDP and Hydraulic Resources provincial counterpart held exchange meetings with 2 of the 7 voluntary rain watchers who will be provided with automated rain-gauges and mobile phones (See Annex 10.4.12).

Activity 2.3. Support the updating of the SAT operational procedure (protocol) in case of drought: analysis to identify actions to cope with the hydrological drought

During this period, the first workshop was held to update the SAT operational procedure in case of drought. This workshop was conducted in synergy with the DIPECHO II Project. Operational procedure will be update considering the Drought Diagnosis and Prognostic Methodology elaborated in the framework of "Suma tu Gota" project. It will be also update in this initiative (See Annex 10.4.19). The workshop was attended by key actors from national monitoring institutions of the 5 eastern provinces and Camaguey (central province). Measures to be included in the Disaster Risk Reduction Plans and Drought Adaptation will be identified. To this aim, technical meetings were scheduled to validate actions during the drought different stages.

Output 3: Management capacities of the local government, administrative institutions and entrepreneurial sector have been strengthened to increase drought resilience mainstreaming the CCA and DRR agendas

Activity 3.1. Support the updating of Drought Hazard, Vulnerability and Risk Studies in the territory

Project resources will focus in the update of the methodology of drought HVR studies at national level and the update of HVR studies on forest fires which increase during drought periods. These studies will be also incorporated to the State Plan for Adaptation to Climate Change in Cuba: Tarea Vida. For this purpose, two training courses were imparted to the multidisciplinary group in charge of collecting risk perception information (See Annex 10.4.13). One was held in Havana and the other one in Santiago de Cuba. The objectives of these courses included the training of Santiago de Cuba specialists to implement

the pilot preparation, application and interpretation of a proposed gender-sensitive risk perception survey to be included in the forest fire HVR studies due to extreme droughts

The forest fire HVR workshop was held and attending forest authorities explained the working strategy for the 2020 forest fire campaign (See Annex 10.4.14). Emphasis was made on the importance of HVR studies for the decision-making process and integration to cope with both forest fire and drought hazards. The workshop included the training on the methodology to identify hazard-prone sites (susceptibility) as well as data collection and processing of theme maps for hazard estimates.

In order to update the Drought HVR Methodology, a workshop was held with the national group of experts which included meteorological, agricultural and hydrological drought hazards so as to improve the drought hazard estimates. The inclusion of drought hazard is based on the "Drought Diagnostic and Forecast Methodology" made by the INRH within the framework of the "Suma tu Gota" Joint Program (See Annex 10.4.15). Likewise, the workshop included the social vulnerability analysis and the gender-sensitive risk perception survey conducted as a pilot action within the "Suma tu Gota" Joint Program. During the Project, the UNDP will support the institutionalization of this initiative in the HVR Methodology used at national level.

A strategic prospective exercise was developed in synergy with the DIPECHO II Project to provided relevant information on the most probable scenarios to address drought based on the vulnerabilities detected in the municipality. This activity will be implemented together with activity 3.2, which will base its study on the information provided by the HVRs.

Activity 3.2: Support the updating of local development plans and strategies, land management plans, and watershed management plans with measures to increase resilience and build capacities for climate change adaptation, as well as executive outputs for decision-making.
Schedule for the workshops to be held to update the Land Management Plan (LMP) and develop a plan of action for the Urban Management Plan (UMP) of the Guamá Municipality was developed during this period. Chivirico is the most populated settlement in Guamá, and the most affected by sea penetrations. Water consumption in this town is causing overexploitation of the phreatic level and, therefore, increase risk of saline intrusion is greater.

A meeting with Hydraulic Resources was planned for the exchange of data from the measurement with portable equipment, with which a monitoring program on the behavior of salt content in groundwater sources can be carried out. These data will allow to know the level of exploitation of these sources.

This diagnosis is intended to support the development of an action plan that contributes to the reduction of vulnerabilities based on proposals for areas for relocation of housing groups. It is estimated that the level of extraction and consumption of water exceeds the recovery capacity of its sources of supply, accentuated in periods of extreme drought. Likewise, it will be a reference for other municipal Physical Planning offices in the country, proving the usefulness and effectiveness of such plans for making timely decisions like, for example, regulating the exploitation and increasing the monitoring of aquifers with the tools being provided to the Guamá UEB.

In terms of watershed management, this initiative will support the process of declaring the San Juan Basin as a watershed of national interest will be supported. This will improve its monitoring, protection

and exploitation and promote investment. During 2019, UNDP support the process of submitting the required documents to begin this process.

As mentionated before, a prospective analysis of drought scenarios was made in the Municipality of Guamá to identify the actions (adaptation and prevention measures) to be included in the local development strategy. This allowed us to determine the impact of water management on the production of food to increase drought-related resilience. A second phase will take place in April 2020, to detect drought-related water management vulnerabilities in the municipality of Guamá.

Activity 3.3: Strengthening management by the Territorial Watershed Council to promote an ecosystem based watershed protection.
IT transfer process with the purpose of strengthening management by the Territorial Watershed Council started. Strengthening of the Aguas Santiago computer node, the DPRH situation room with a video conference system and, the creation of the node in the Aqueduct UEB of Guamá, will strengthen the watershed management of the municipality and its interaction with the Council of Territorial Basins, based in the provincial capital. The vehicle procurement process also started. It will support watersheds management given the fact that these are located far from the city, difficult to reach and scattered throughout the territory, particularly in the Municipality of Guamá, which is the largest municipality of the country.

Meetings with key actors took place and a workshop on the importance of watersheds was held in the Municipality of Guamá (See Annex 10.4.16). As a result, a booklet on the importance, use and protection of watersheds is currently under review to be published accompanied by a gigantography and a three-page leaflet (See Annex 10.4.17). These products are being designed by Prosalud and the Watershed Council, since they will be distributed during the community campaigns for the rational and safe use of water.

Activity 3.4: Strengthen government management mechanisms to address drought, prioritizing information exchange and analysis among the different national, provincial and municipal actors, as well as support to the Drought Management Group.
Procurement process of a video-conference system to "Permanent Group for the Rational Use of Water" (Drought Management Group) started. It will facilitate simultaneous communications between all national and local actors involved in drought management. Likewise, through this mechanism implementation of the measures identified in the plans –the update of which will be supported in activity 3.2—will be followed up. Video conference system will facilitate direct communication with the 9 municipalities of the province and with the national level which is required when undergoing a period of extreme drought.

Activity 3.5: Promote the development of management strategies by enterprises in charge of water supply sources and aqueducts in order to make optimal use of water resources under extreme drought conditions.
Coordination has been established with the provincial Water Resources Office to identify priorities to promote the development of management strategies by enterprises in charge of water supply sources and aqueducts for the optimal use of water under extreme drought conditions. To this end, contacts have been made with the national counterpart to identify valid experiences in the country and promote exchanges on both directions under the Project. Technical exchanges on lessons learned and good practices in provinces with successful experiences were scheduled.

Activity 3.6: Strengthening knowledge management: space for technical exchange, innovation and development, supported by universities and research institutions.
This activity covered knowledge management actions in each of the Project outputs during 2019. Support has been provided for workshops to identify the drought hazard magnitude and facilitate decision-making; the update of operational procedure to organize the role of actors in the EWS; government and key sector management capacity building as a crosscutting action in the management of the whole process of response, preparedness, prevention and adaptation. Further support has been provided for the update and operative output of management tools such as studies and plans for decision-making; the training of health and education promoters to work with the community in the framework of the "Safe Water" campaign, as well as gender mainstreaming actions in each and every output.

Under this activity, follow-up meetings have been held with key sectors of the national counterpart. Project promotion material were designed and printed, namely, Project sheet, diaries, pens, backpacks, folders, among others (See Annex 10.4.8). Technical manuals resulting from Project activities for the use and maintenance of technologies transferred to increase hydrological monitoring and surveillance; drought diagnosis and forecast; the use of communication systems to be transferred; the strengthening of the distribution system (georadar and voluntary watchers manual) and community work, are on designed (See Annex 10.4.6.)

The following workshops were held:

1. Training in the interpretation of georadar images.
2. Workshops to update the drought-related HVR study methodology.
3. Initial workshop for forest fire HVR studies.
4. 2 Risk perception training for forest fire HVR.
5. Workshop for the update of the drought operational procedure.
6. 5 Workshops to train promoters on community work in the two pilot intervention territories.

3. PROJECT RISKS

Risk: The occurrence of natural disasters such as hurricanes, earthquakes or heavy local storms, which can seriously hinder the implementation of the Project.

Mitigation measures
Actions and measures to be implemented with counterparts in the province of Santiago de Cuba have been foreseen in order to protect resources and means in the wake of any natural disaster, thus ensuring the implementation of the Project.

A Project assistant has been designated by the UNDP to pay attention to the Project on a full-time basis. In the wake of a natural disaster, the UNDP has the funds and assistance of the Crisis Response Unit to reinforce the working group with personnel.

Risks: The economic, commercial and financial blockade against Cuba hinders the procurement process and monitoring therewith given its impact on the country's economy.

As expected, the procurement process was delayed by the blockade. However, its resurgence had a greater impact than expected from an accentuation of the sanctions supported by Article 3 of the Helms-

Burton Act. Given this situation, standardized suppliers, such as SEBA, who used to made arrangements through third parties to offer us certain technology, had no choice but to discard it. Therefore, not only were imports delayed but an increase in the prices of the products that will be tendered again could increase.

Mitigation measures
As a measure, the UNDP Procurement Unit had to open processes in the search for suppliers that are not affected by the blockade, among these Russia. In addition, together with the team of the UNDP Risk office, meetings were held with the INRH to determine the equipment that can be purchased in the national market.

Risk: Measures adopted by the government to address economic restrictions may limit the capacity of the counterpart in terms of logistic means, fuel, etc.

Mitigation measures
The UNDP Risk Desk has expertise in this type of scenarios with direct implementation in emergency situations. Hence, logistic support and fuel are guaranteed to ensure the implementation of Project actions. There is also the support of the risk portfolio personnel and the inclusion of a work plan to maximize implementation activities.

Risk: Changes in technical personnel may result in duplicating training efforts and implementation of local activities.

Mitigation measure:
A knowledge management plan has been designed that includes meetings to familiarize local technicians and officials of responsible or other entities involved at the local level with the Project, in case there has been changes in their personnel.

4. LESSONS LEARNT

- Need of establishing a technical group of experts at the national level to determine the technical details of the specialized technology to be transferred not only for Water Resources but for the other key sectors involved. This group should count with the criteria of local experts since they cannot always travel to the capital. Thus, the procurement plan must be complemented with a meeting of experts to determine the technical and commercial features of all the equipment to be transferred.
- Need to expand the portfolio of suppliers to those who its trade is not affected by the US blockade against Cuba, including the Russian Federation. In addition, options are sought so that payments to suppliers are not affected for this reason.
- One of the aspects in which the Project has focused its efforts has been the consolidation of the local counterpart management structure, in order to establish a relationship among the actors of the key institutions involved to ensure that each of them has a representative accountable for the actions to be implemented in order to achieve the goals foreseen in the activities and, hence, the expected outputs.
- Knowledge to establish synergies between the outputs of the Project with those of other ongoing or recently completed projects –such as the "Suma tu Gota" Joint Program or the two DIPECHO phases— has increased.

5. FUTURE PLANS

1. Follow-up the completion of the procurement plan:

- Complete the procurement process. Organize the logistics for the commissioning, use and sustainability of the specialized technology transferred. According to the contracts that have been finalized and are about to be signed, it is expected to have executed 100% of the procurement budget by the end September 2020. Even when the last equipment transfer must be in Cuba by the end of June (Watersheds Council vehicle), we must prevent some delays because of mentioned impacts of the US blockade. The rest of the budget, until the end of the project, will be used in workshops and trainings for the startup of transferred technologies, promotional campaigns for rational use of water, HVR update, lessons learned last workshop and others.

2. Follow-up missions and on-site verification will be carried out in each intervention area, key sector and recipient community in order to interact directly with local counterparts and validate the transferred technology. Such missions will be carried out together with the relevant national counterparts.

3. Follow-up of civil engineering works by the recipients to ensure the safety of the equipment to be transferred.

4. Hold community workshops to train health promoters and begin campaigns to build awareness on rational and safe use of water within recipient communities (Guamá and El Caney.)

5. Hold workshops to update HVR studies on forest fires and promote the inclusion of drought-related HVRs in the DRRPs.

6. Carry out activities in synergy with the DIPECHO II Project.

7. Begin collecting lessons learnt to systematize the results, to be completed in 2021.

6. PARTNERSHIPS

- The Project control mechanism led by the provincial government was consolidated since the provincial Water Resources Delegate that began this initiative was promoted to vice-president of the government in 2019. This has boosted the implementation of the Project since it has mobilized all actors involved and monitored the fulfillment of their commitments. Likewise, the Project is systematically checked at the local level by the highest authorities in the territory at a high-level provincial meeting that follows collaboration projects benefiting the territory.
- Partnerships with UN agencies in prior projects (with the WFP in DIPECHO I and II and with UNICEF and WFP in the "Suma tu Gota" Joint Program) were consolidated. This Project once again establishes synergies with the WFP regarding activities 1.1, 1.2, 1.4, 2.1, 2.2, 2.3, 3.1and 3.2, as well as with UNICEF regarding activities 1.2, 1.4, and 3.6.
- Partnerships with local actors in the Guamá Municipality and El Caney community have been consolidated.
- Partnerships with Central Administration State Institutions (OACEs) like INHR, Environmental Agency (AMA), Meteorology Institute (INSMET), and Civil Defense National Headquarter (EMNDC) have also been consolidated so that the contributions made by the Project may escalate to the national level and be included in national strategies.

7. PARTNERSHIP WITH THE RUSSIAN FEDERATION

- Technical training through Phase II of the UNDP-Russia Project "Knowledge Management Capacity Building in Russia-UNDP Partnership" has continued, given the optimal results enjoyed in the previous Project, in which the need for continuity was identified. In this regard, the expertise of Russian specialists was requested to seek suppliers from that country, facilitating the transfer of advanced specialized technology to improve hydrometeorological monitoring and surveillance.

8. COMMUNICATION AND VISIBILITY

Communication

Meetings were held during this period with main provincial and local media and decision-makers of the pilot communities, in order to build awareness on gender issues. This will allow the dissemination of messages with an adequate language to increase drought-related resilience and the safely use of water.

Training workshops and educational activities led by the health and education sectors, among others, are scheduled to be held in those municipalities where pilot actions will take place (Guamá and Caney), in order to build awareness on the rational use of water, saving measures and safe water consumption. The media will be involved in and disseminate these actions once the community campaign starts in September 2020.

The national counterpart and the experts of the entities involved in the Project validated resulting knowledge management products, namely, methodologies, technical manuals, documents for the systematization and comprehensive management of water resources at the local, provincial and national levels.

Visibility

Import of the promotion material that reflects the communication and visual identity of the Project ("Suma tu Gota") has been completed. This communication and visual identity identifies UNDP drought-related initiatives as the strategic communication line of the Disaster Risk Reduction area. The visibility and communication activities and products generated by this Project comply with the visibility requirements of both the donor and the implementing agency --Russia and UNDP— to ensure that the target population identifies the Project initiative, its financing source and the implementing agency.

UNDP-Russia and the Ministry of Finance of the Russian Federation made a follow up Project visit on May 2019. Russian Federation Ambassador in Cuba was part of the visit. During this exchange, they meet provincial authorities form Santiago de Cuba, held meetings with key actors of the project and visit CMP and Caney Hydraulic Resources Treatment Plant. Given the relevance of the visit, actions were covered by the main provincial media and disseminated nationwide (See Annex 10.4.18)

9. FINANCIAL MANAGEMENT

OUTPUT	**Budgeted for the reported year (USD)**	**Delivered for the reported year (USD)**	**Delivery rate for the reported year (%)**	**Budgeted for the entire project (USD)**	**Delivered since the project start (USD)**
Output 1				538,825.92	
Output 2				241,300.00	
Output 3				102,800.00	
Otros				**117,074.07**	
TOTAL:				**1,000,000.00**	**119,731.76**

In addition to the budget summary table please attach a Combined Delivery Report as an annex.

Submitted by_____

Date 9/02/2020_

10. ANNEXES

10.1 **Project performance data**

Indicator data disaggregated by gender when applicable can be organized in a table form following the results framework format:

Expected outputs	Output indicators	Data source	Baseline		Value for the previous year if different from baseline	Target for the reported year	Actual value for the reported year
			Value	Year			
Output 1	***1.1***						
	1.2						
…	**…**						

10.2 **Combined Delivery Report** for the reported year.

CDR will be submitted on March 2010.

10.3 **Media coverage report** with links to main publications

Given the importance of the visit paid by the Russia-UNDP and Russian Ministry of Foreign Affairs, several reports were published on May, 2019 visit by the national and local media (TV, radio and press.)

- Radio Rebelde: http://www.radiorebelde.cu/noticia/ratifica-embajador-rusia-apoyo-desarrollo-cuba-20190529/.
- Radio Rebelde: http://www.radiorebelde.cu/noticia/rusia-financia-proyecto-para-mitigar-sequia-santiago-cuba-20190528/.

Sputnik News: https://mundo.sputniknews.com/america-latina/201905291087428551-embajador-de-rusia-en-cuba-visita-zonas-donde-se-implementa-un-programa-contra-la-sequia/.

10.4 **Any other annexes** can be added if deemed necessary by the project team. Examples may include personal stories of project beneficiaries, outline of main projects supported under the area-based programmes, etc.

Annex 10.4.1. Project Board

A. Project board with national counterparts (MINCEX, INRH, AMA)

B. Project Board in Santiago de Cuba, December 2019 (all provincial key sectors)

Annex 10.4.2. Pumping stations of Aserradero and Boca Dos Rios connected to filling stations.

Annex 10.4.3. Georadar training in Santiago de Cuba

Annex 10.4.4. Workshop to train facilitators (promoters), decision makers and housewife of community activities and First gender-awareness raising meeting for health promoters.

A. Workshop to train facilitators

B. Workshop for decision-makers in El Caney community.

B. Workshop for decision-makers in Guamá community.

C. Workshop for housewives in Caney and Guamá.

Annex 10.4.5. Gender Workshops
A. Men initiative in Guamá

B. Workshop for building capacities to Gender sensitive issues in Radio Mambi and Guam

Annex 10.4.6. Manual of rain voluntary watchers and Manual on communications

Annex 10.4.7. Visit to UEB Guamá that is being rebuilt for operation and situation room.

Annex 10.4.8. Promotional

Annex 10.4.9. Manual on AHS (on design)

Annex 10.4.10. Mission to examine safety and coverage conditions for the location of automated hydrological stations and rain-gauge stations

Annex 10.4.11. Built shelds for AHS protection

A. La Campana reservoir

B. Potrerillo Settlement

Annex 10.4.12. Visit to rain voluntary watchers

A. Puerto Boniato, Santiago de Cuba municipality

B. Buey Cabon, Guamá municipality

Annex 10.4.13. Training course for specialists of the Santiago de Cuba Environmental Unit (UMA, its Spanish acronym). Seminars on risk perception

Annex 10.4.14. Inclusive workshop to initiate forest fires Hazard, Vulnerability and Risk (HVR) studies

Annex 10.4.15. Workshop for HVR Methodology Update

Annex 10.4.16. Workshop on watersheds in the Guamá municipality

Annex 10.4.17. Watershed folder, in design process

Annex 10.4.18. Visit of the UNDP-Russia and Russia MFA to Santiago Province, May 27th, 2019.

A. Government Meeting

B. El Caney's Water Treatment Plant Visit.

C. Provincial Meteorological Center Visit.

Annex 10.4.19. Manual on Use and installing of SAT Platform and Manual on Drought Diagnosis and Prognostic Methodology

A. SAT Platform

B. Drought Diagnosis and Prognostic Methodology