

**Subject: Reimagina Puerto Rico Comments on the Economic and Disaster Recovery Plan for Puerto Rico published by the Puerto Rico Central Office of Recovery, Reconstruction and Resilience (COR3) on July 9, 2018**

Reimagina Puerto Rico reviewed the Economic and Disaster Recovery Plan for Puerto Rico published by the COR3 on July 9, 2018 and was able to identify many recommendations included in the Reimagina Puerto Rico Report (published June 20, 2018) within the Recovery Plan. Below we present some general and specific comments on the Recovery Plan:

**General Comments on the Recovery Plan:**

- There are no recommendations or actions focused on the development of a unified recovery plan centered on effective community-based participatory processes to define a joint vision and a blueprint for all the recovery efforts and plans. Although the presented recovery plan is an instrument mandated by the Federal Congress, it is not addressing the need for a comprehensive plan and multi-sector deliberative processes, such as the Unified New Orleans Plan, OneNYC and NY Rising Community Reconstruction Plans. Therefore, recovery funding should be used to develop a consistent document with structures that (1) assess regional and local needs, (2) involve the participation of multiple sectors (e.g., municipalities, communities, and professional organizations) in the decision-making, and (3) support a dynamic and transparent process.
- A planning framework needs to be included to describe how the proposed actions will be planned, implemented, maintained, and monitored. It should include the project prioritization criteria and process, cost-benefit methodology, delivery sequences, monitoring indicators (short, medium, and long term), and strategies to manage the tradeoffs between speed and deliberation.
- The Recovery plan's methodology should be presented. The document only narrates the process, and there is no information regarding the framework, participatory methodologies or prioritization criteria.
- Since this a plan, actions need more detail. They should be more punctual as to what the goal is; this might help to better understand the actions' context.
- The repetition of the actions throughout the documents makes it difficult to read and understand the approach. Whenever an action is crosscutting, this could be alluded to in a graphic way or by simple mention of the sector or number of the action that is crosscutting.
- The sector abbreviations need to be defined before they are used (ex. NCR, HOU, PBD, ECN, etc.)
- Improve actions' number ordering and organization. Since actions are not presented in sequential order, it is unclear whether actions are missing or not.
- Acronyms should be defined before they are used.
- Correct the name of source in reference to Reimagina Puerto Rico: Use "Resilient Puerto Rico Advisory Commission (Reimagina Puerto Rico)" and eliminate (100 RC).
- A Spanish version should be presented for adequate comments and public participation.

**Reimagina Puerto Rico identified 17 cross-cutting and impactful priority actions for the reconstruction of Puerto Rico, which are detailed and compared below with the current Recovery Plan actions.**

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**Reimagina Puerto Rico Priority Recommendations:**

- **Priority Recommendation 1: Develop feasible models to establish land tenure and community ownership in informal housing.** This recommendation is covered in some way on recommendation HOU 12, however does not address the need to research and develop feasible models that are aligned with Puerto Rico condition.
- **Priority Recommendation 2: Establish reliable and diversified backup energy systems for vulnerable individuals and critical facilities, such as hospitals, schools, and emergency shelters and services facilities.** This recommendation is mentioned as part of recommendation ENR 5. The recommendation should specify the need for reliability and diversification on backup energy systems.
- **Priority Recommendation 3: Develop Resilient Community Centers to improve the provision of services during emergencies and disaster relief.** This recommendation is mentioned in recommendation PMB 15. The recommendation should be expanded and emphasize on facing communities' stresses that reduce the capacity to recover after a disaster.
- **Priority Recommendation 4: Invest in improvements to the physical infrastructure of educational infrastructure and healthcare facilities to improve the provision of services on a regular basis and in the face of multiple hazards.** The recommendations included in the Recovery Plan do not address healthcare facilities.
- **Priority Recommendation 5: Prioritize Workforce Innovation and Opportunity Act (WIOA) funding on training, re-training, and skills credentialing in priority industry clusters.** There are several recommendations within the report that include aspects of this recommendation. However, these recommendations should emphasize the use of WIOA funding and priority industry clusters.
- **Priority Recommendation 6: Update the Island's digital land cadaster to include: use and occupancy of structures, land tenure data, housing characteristics in informal housing, and information on insurance coverage.** Recommendation HOU 5 mentioned the need for an integrated data based. This recommendation should be expanded and integrate the Island's digital land cadaster. Data should include occupancy of structures, land tenure data, housing characteristics in informal housing, and information on insurance coverage.
- **Priority Recommendation 7: Commission a study for deploying more resilient telecommunication infrastructure using underground conduit systems and/or aerial using utility poles.** This recommendation is mentioned in recommendation CIT 21.
- **Priority Recommendation 8: Enforce open space determinations with programs/ guidelines for the dedication of lands to the creation of parks, green infrastructure projects, land conservation, or other adequate uses.** This recommendation is not included in the Recovery Plan. A program and guidelines should be developed to support Puerto Rico and municipal governments to effectively promote the acquisition of open spaces from private lands and properties in high hazard areas. Besides reducing the number of individuals living in high hazard areas, these guidelines will define land use requirements, establish processes for place-based projects, and promote multifunctional projects. Projects might create multi-function recreational parks, urban forests, and edible urban gardens, as

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well as restore dunes and wetlands and improve wildlife habitats while providing economic and social benefits.

- **Priority Recommendation 9: Prepare a new Integrated Resource Plan (IRP), with public, community and private sector participation, to be used as the foundation for the energy sector transformation, that includes updated analysis and forecast of the demand base, aggressive renewable generation targets, and a risk-based analysis of the sector to strengthen utility oversight and operator decision making.** This recommendation is not included in the Recovery Plan. An updated IRP should be an inclusive guiding document for the transformational processes in Puerto Rico's energy sector regarding the energy mix, grid structure and development, demand management and resilience.
- **Priority Recommendation 10: Develop a master integrated Continuity of Operations Plan (COOP) for critical infrastructures and providers.** This recommendation is not included in the report. A master integrated Continuity of Operations Plan (COOP) should be developed to include actions that characterize Island's critical facilities, infrastructures and dependencies, and ensure their continued operation.
- **Priority Recommendation 11: Improve data collection, management and dissemination to ensure information transparency, reliability, and access.** Recommendations CIT 17, CIT 18, CPCB 1, ENR 19, MUN 6 cover the general intention of this recommendation. However, these recommendations lack emphasis on the use of technology, data collection, and GIS mapping to assemble evidence of specific data, then use the data to develop place-specific health and social service policies.
- **Priority Recommendation 12: Develop a water efficiency program to improve water demand management through water conservation and use of alternative water sources.** This recommendation was referenced within different recommendations, WTR 1, 2, 4, 5 and 7.
- **Priority Recommendation 13: Optimize health care financing to reduce the proportion of uninsured people and shortage of healthcare professionals, and improve quality, access, and continuity of health care provision in disaster-related emergencies.** This recommendation is not mentioned in the Recovery Plan. The action seeks to evaluate the financial sustainability of the healthcare system, recognizing that the reduction of the insured population and reduction of health services coverage is never a goal of healthcare systems.
- **Priority Recommendation 14: Develop and begin implementation of a disaster resilience strategy for the micro and small businesses of Puerto Rico.** We propose to include this recommendation. The initiative presents tools for the micro and small business sector to support baseline economic resilience through disaster preparedness, such as create a mechanism to provide micro or small businesses with grants and loans so that they may reopen, while incorporating resilience considerations in their operations. Community Development Financial Institutions (CDFIs) and Community Development Banks (CDBs) are highly encouraged. Establish technical Assistance Programs that will also enable existing Non-Government Organizations (NGOs) to grow and develop.
- **Priority Recommendation 15: Develop a public policy to promote the use of nature-based solutions in the reconstruction process of Puerto Rico.** This recommendation is not included. In the short-term, this action will consist in the development of a public policy that informs policy- and decision-makers, local

permitting agencies, and the public on how nature-based solutions, such as green infrastructure, should be incorporated in the reconstruction process.

- **Priority Recommendation 16: Introduce alternative energy sources to power transportation-related infrastructure.** The recommendation is not included in the Recovery Plan. This action focuses on assessing opportunities to generate alternative energy and introduce independent energy sources and add redundancy to the system, to ensure greater reliability and resiliency. Building-up on best practice initiatives, such as increasing roundabouts, this assessment includes the evaluation of diverse distributed energy sources, including the use of solar power, batteries, and kinetic energy as a means of generating electricity.
- **Priority Recommendation 17: Improve the Puerto Rico Dam Safety Program to ensure coordination between responsible agencies and enhanced community preparedness.** Recommendations WTR 22, 23, 24 and 25 include initiatives of priority recommendation 17. However, there is a need to improve the Puerto Rico Dam Safety Committee responsibilities and actions to ensure coordination between responsible agencies and enhanced community preparedness and warning systems that is not addressed within these recommendations.

#### Comments on the Housing Section of the Recovery Plan:

- **HOU 4** should be expanded to include initiatives from Relmagina PR report: *Action 13- Create loans, grants, or subsidy programs to incentivize and support improvements to the physical resilience of existing housing;* *Action 14- Create training and skills building certification programs in the construction trades focused on locally appropriate housing repair, retrofitting, and resilient building technologies and techniques.;* *Action 16- Develop and disseminate a manual that provides practical guidance for do-it yourself repairs that will improve housing safety.* These actions would expand resilient capacity and financing opportunities to property owners seeking to incorporate physical resilience into their structures and move in the direction of code-compliance.
- **HOU 6:** We are suggesting to expand this recommendation. The Puerto Rico Building Code should be updated to produce simplified guidelines and preapproved plans that allow the informal housing sector to obtain code compliant and cost-effective homes, as well as retrofit guidelines for certain types of structures. The permitting regulations should also be updated to streamline and ease future works for retrofitting and safe housing development going forward. Create a pro bono recruitment program for engineers and architects, in which their volunteer work is used for accreditation of continuing education, to provide services to communities in need and to educate and legalize processes (Relmagina Housing Report, Action 12).
- **HOU 15:** One way to meet this action, can be increasing the affordable housing stock for low and moderate income (LMI) households through a series of strategies. These strategies include: infill development in hazard-free urban centers or adjacent suburban areas, new construction using low-income housing tax credits (LIHTC), creating rental housing cooperatives, project-based Section 8 rental-assistance projects, and up-zoning for mixed-income housing (Relmagina Housing Report, Action 4).
- **HOU 19:** Another way to reduce foreclosures and be prepared for another event is establish an Island-wide housing emergency management protocol that includes a voucher program for temporary housing, temporary rent control, foreclosure moratorium, and monitoring and prevention of predatory lending.

- The following are actions in the Reimagina Puerto Rico Housing Report that we suggest should be considered for the Recovery Plan:
  - **Action 9: Establish municipal land-banks to create: (a) lease buyback programs to prevent mortgage foreclosures and (b) buyout schemes to acquire code-compliant foreclosed or vacant properties in hazard-free areas for affordable housing.** Municipalities can have the tools that would help households avoid foreclosure to simultaneously avoid residential displacement during post-disaster recovery and increase the housing stock available for affordable housing. Federal recovery funding can be used to build local municipal capacity to manage land banks.
  - **Action 10: Improve the capacity of local Community Housing Development Organizations (CHDOs) Community Development Corporations (CDCs) and Community Development Financial Institutions (CDFIs) to leverage financing for affordable and mixed-income housing developments, including low-income housing tax credits (LIHTC).** Throughout the US, CDCs and CDFIs are primary drivers of new affordable housing, renovations of existing buildings for affordable housing and other uses. Many CDCs also conduct the long-term operations of affordable housing units. As Puerto Rico's housing sector recovers, mission-driven CDCs/CDFIs will be critical partners in financing housing, executing new construction, and renovating existing buildings.
  - **Action 18: Implement a communications campaign to build a culture of household emergency preparedness and awareness.** This action could consist of two distinct components that could be executed together: (1) A communications campaign designed to build consistent preparedness and awareness on a variety of issues to better prepare for emergencies, and (2) a program that would encourage special purpose household savings accounts that help lower- and moderate-income households better prepare for and bounce back from shocks.

#### Comments on the Education (EDU) and Health (HSS) Section of the Recovery Plan:

- The following are actions in the Reimagina Puerto Rico Health, Education & Social Services Report that we suggest should be considered for inclusion in the Recovery Plan:
  - **Action 2: Expand scope and availability of behavioral/mental health services.** Media reports and statements from public health officials indicate that many Puerto Ricans, including young students, are struggling with mental health issues post-hurricane.
  - **Action 3: Address social and environmental determinants of health that contribute to disease burden.** This action places a strong focus on prevention, education and planning to enhance policies that will have a direct impact on public health.
  - **Action 9: Identify and support vulnerable members of the population to meet healthcare and social service needs that will address, not only the management of catastrophic events and emergencies but also the ongoing care needs of this population.** This action includes the following activities: Define, identify, and map vulnerable populations, including homeless persons and drug users; Implement a needs assessment around chronic diseases; Identify geographic hotspots of chronic disease burden and disparities; Identify barriers to addressing these issues; Identify community-based interventions; including promising and evidence-informed practices and approaches, such as multi-systemic therapy and family-centered approaches; Identify, map and maintain a database

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of NGOs and faith-based; Community-based organizations should be consulted to learn more about needs and successful solutions.

#### Comments on the Economic Development Section of the Recovery Plan:

- The following are actions in the Reimagina Puerto Rico Economic Development Report that we suggest should be considered for the Recovery Plan:
  - **Action 2: Promote the adoption of best practices in enterprise risk management and business continuity planning in mid-sized companies.** This action focuses on the unique needs and capacities of mid-sized companies to manage risks and fulfill their growth and competition strategies. It is intended for existing mid-sized businesses to ensure that they have: Thoroughly assessed their post hurricane status in the local, regional, and global market contexts; a better technical understanding of their risk profiles and vulnerabilities to shocks; and evaluated their needs and potential, as well as requirements for future growth and expansion.
  - **Action 7: Support and communicate clear pathways for Puerto Rico's youth and young adults to establish businesses, social enterprises, and professional services careers in Puerto Rico's Next Generation Economy.** In promoting clear education and support pathways for Puerto Rico's youth and young adults who seek to establish businesses, social enterprises, or self-employed professional services careers, this initiative contributes to the future growth of the Island's economy. It also responds to the risk of continued out-migration to U.S. mainland, in particular, young adults with university degrees.
  - **Action 9: Strengthen broad-based community-level economic development initiatives, building and strengthening Puerto Rico's community economic development organizations and their networks, including through sustained, collective investments from the Puerto Rican diaspora associations, foundations, and crowd-sourcing activities.** A full recovery of Puerto Rico's economy, as well as preparedness for future shocks, requires broad-based Community Economic Development (CED) efforts across the Island's diverse regions and communities.
  - **Action 11: Review existing laws and regulations, simplify the permitting and licensing processes that are required to open a business, without compromising human or environmental capital, and attracting new investment.** A fragmented permitting and licensing system most certainly create delays in the start-up and launch of new businesses, and, consequently, impacts business plans and company output. It proves to be burdensome for businesses and entrepreneurs, particularly those who are operating on thin margins or evaluating new business ventures.
  - **Action 12: Optimize the use and improve fiscal stewardship of subsidies awarded to create quality jobs and stimulate economic activity.** The stimulus to economic activity and job creation often come hand in hand with the award of subsidies to promote investment from the private sector.

#### Comments on the Natural Resources Section of the Recovery Plan:

- **PBD 8:** This action should expand more on the topic of communication between agencies and provision of and access to critical services.

- **ECN 9:** When talking about horticulture, it talks about ‘melons’. The context should be addressed more directly to the context of Puerto Rico.
- The following are actions in the Reimagina Puerto Rico Natural Infrastructure Report that should be considered for the Recovery Plan:
  - **Action 8: Develop green infrastructure design guidelines for urban areas and identify and implement pilot projects.** This action pursues the development of green infrastructure design guidelines and recommendations to facilitate a more sustainable and resource-efficient post-disaster development process. Green infrastructure benefits nature and people, and it aims to enhance nature’s ability to deliver multiple services and valuable ecosystem goods. In turn, it will: (1) foster a better quality of life and human well-being, (2) improve biodiversity by reconnecting isolated nature areas and increasing the mobility of wildlife across the wider landscape, (3) protect the Island against climate change and other environmental disasters, (4) encourage a more integrated approach to development that ensures an efficient use of the Island’s limited space, and (5) act as a catalyst for economic growth by attracting investments and generating employment.
  - **Action 9: Develop an integrated treatment program for wastewater and stormwater run-off to reduce sewage pollution affecting freshwater, coastal, and marine resources.** An integrated treatment program will develop a holistic approach to stormwater and wastewater management to improve the quality of effluent and support wetlands and coral reef restoration efforts. This action will reduce the amount of untreated wastewater entering the Island’s water bodies, thereby improving water quality.
  - **Action 15: Develop an emergency preparedness and response plan for Puerto Rico’s natural resources.** Damages to natural resources have enormous environmental and economic impacts. Hurricane María provided important lessons regarding natural and ecological preparedness and recovery. It also stressed the importance of developing emergency preparedness and response plan that includes: (1) assessment of needs and capabilities, (2) required training for a response, recovery, and reconstruction, (3) improvements needed on coordination and communication, and (4) strategies to manage volunteers and resources.
  - **Action 16: Create community gardens programs in rural and urban areas.** The creation of urban and rural community gardens provides multiple environmental, economic, and social benefits. Community gardens increase agricultural production and make food more accessible to the population. This program could be part of a joint municipal strategy of economic development and environmental protection.

#### Comments on the Energy Section of the Recovery Plan:

- **ENR 3:** Being a multiple scale action, it needs to attend short and long-term actions. Short term should focus on “areas that are more at risk of loss of power during natural emergencies and would benefit the most from the availability of local generation resources”

- **ENR 6 & ENR 7:** “Improve Grid Assets’ Resilience to Flooding” & “Improve Grid Assets’ Resilience to High Windspeed” – These actions can be unified in a general one attending “Improving Grid Assets Resilience to Natural Disaster Conditions” and be more specific about how to attend these conditions and their consequences on the electric grid.
- **ENR 25:** Alludes to Action 8 from Energy Sector of the Reimagina Puerto Rico Report: “Build capacity across the Island’s municipalities to plan, finance, and develop solar renewable energy systems for municipal buildings and facilities.” – our recommendation focuses on solar energy implemented through the DOE/ICLEI/ICMA Solar Outreach Partnership.
- **ENR 25:** Alludes to Action 9 from Energy Sector of the Reimagina Puerto Rico Report: “Create consumer participatory and collaborative mechanisms and public education initiatives to strengthen informed public decision making and engagement on efficient energy usage and the development of a resilient energy system/sector.” – we believe participatory and collaborative mechanisms should be included in the decision making process through a public education and outreach program developed in each municipality by NGOs.

#### Comments on the Infrastructure Section of the Recovery Plan:

- The following are actions in the Reimagina Puerto Rico Physical Infrastructure Report that we suggest should be considered for the Recovery Plan:
  - **Action 1: Develop an Integrated Critical Infrastructure Management Strategy to guide resilient long-term reconstruction.** A new vision for the reconstruction of Puerto Rico’s infrastructure is critical for the Island’s recovery. This recommendation envisions two main action areas: (1) an integrated infrastructure plan and (2) an infrastructure knowledge-based platform. Guided by the Puerto Rico Planning Board (PRPB) and with active participation from Puerto Rico infrastructure agencies and members from academia and professional organizations; this process will serve as the roadmap for promoting greater integration and redundancy between Critical Infrastructure Systems. As an integrated development planning initiative, this action brings a wide set of resilience dividends, namely: effective provision of critical services, reduction of exposure and fragility, reliability of mobility and communication, sustainable economy, and effective safeguards to human health and life.
  - **Action 5: Improve the Puerto Rico Four-year Investment Program (PICA) with a risk-based asset management framework and integrated enforcement to embed resilience in the Island’s infrastructure.** The Puerto Rico Four-year Investment Program (PICA) should be improved to better coordinate and plan for growth and change in Puerto Rico. The PICA should foster coordination with the Financial Oversight and Management Board, existing planning and budgeting processes to identify and earmark critical infrastructure development and required maintenance of existing facilities. First, the PICA’s framework needs to be reevaluated to include a risk-based asset management approach that includes risk identification, asset management framework and a multi-criteria cost-benefit analysis.
  - Second, the reconstruction process should integrate critical infrastructure and cooperation between providers, such as the PRPB, PRASA, PREPA, DTPW, and telecommunication companies. This action will integrate post-disaster recovery efforts with existing institutional processes for the construction, operations, and maintenance of critical infrastructure to support directed growth and development.

- **Action 9:** Improve the waste management industry to improve metrics gathering, industry data mining and analysis, and fund allocation. There is a need to improve metrics gathering, industry data mining and analysis, and fund allocation to professionalize and integrate the waste management industry. This action aims at strengthening the ISWM goals.
- **Action 11:** Commission a study of potential solutions for building an Island-wide Next Generation Network to support the long-term telecommunication needs. The recovery efforts on the telecommunication infrastructure should be based on a high-level study to define solutions to build the island-wide next-generation network. This study should include Connect Puerto Rico work portfolio and design a framework to support stakeholder's current conditions and decision-making process. The existing wireline network infrastructure will upgrade from copper-based to fiber-based network and the current wireless infrastructure from 4G to 5G.
- **Action 19:** Increase broadband adoption programs to support universal adoption of next-generation communications services. The Puerto Rico Broadband Strategic Plan details the challenges and potential solutions to broadband adoption on Puerto Rico. Advancing these solutions for access and adoption programs in Puerto Rico will have multiple benefits from increased subscriber rates and revenues to helping drive investment, improving service delivery to some of those most in need of assistance and closing the digital divide. Telecommunications vendors have concerns about making expensive network upgrades and expansions while the Puerto Rico population is fluctuating, and the number and location of subscribers are unknown.
- **Action 20:** Develop a transportation technology strategy to plan for emerging technology services and integration into the overall transportation network. As Puerto Rico moves beyond disaster response, the development of a Transportation Technology Strategy should be developed to ensure long-term resilient, robust and high-quality transportation services. The Strategy will provide a forward-looking approach to incorporate new transportation services into its overall network and technology across public and private transportation services. A platform for transportation innovation will be established while ensuring that the island can meet its safety, environmental, mobility and equity goals and objectives. The strategy will leverage the long-term planning established through Puerto Rico's Metropolitan Planning Organization (MPO), and the Islandwide Long-Range Transportation Plan (LRTP) and the State Transportation Improvement Program (TIP).
- **Action 21:** Introduce alternative energy sources to power transportation-related infrastructure. As transportation is a heavily power-dependent sector, and disasters typically impact traditional energy sources, this action suggests assessing opportunities to generate alternative energy and introduce independent energy sources and add redundancy to the system, to ensure higher reliability and resiliency. This assessment should include an evaluation of diverse distributed energy sources, including the use of solar power, batteries, and kinetic energy as a means of generating electricity.
- **Action 23:** Update Puerto Rico building codes to enhance enforcement maintenance on critical infrastructure and promote nature-based solutions. Policy recommendations are focused on improving the Puerto Rico building code implementation by integrating actions that will reevaluate

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needs on critical infrastructure, define requirements for adequate maintenance, promote integrating systems and improve the reviewing process by incorporating risk assessment and criticality. Also, the codes should promote natural based-solutions. The review process should be performed with industry leaders to provide valuable input, not only with construction but also in other areas of regulation, including the preservation of natural resources and coastal development.

- **Action 25: Develop inventory of emergency response equipment and train personnel in maintenance and deployment.** This action focuses on ensuring communities are receiving appropriate resources and services by deploying emergency equipment, such as temporary bridges, mobile clinics, and shelters by staff trained in deploying emergency relief services. Natural disasters regularly damage key physical infrastructure that often serves as the only point of access to locations. This creates major disruptions in access and the ability to provide disaster relief and enable rapid recovery.
- **Action 27: Develop a training and capacity-building program to promote local businesses in the recovery process and effective public participation.** A training and capacity-building program could be developed using allocated Puerto Rico recovery funds to increase local jobs. This initiative can be used to boost local capacities to support recovery and reconstruction actions on technical, professional and other specialized services. Programs should focus on infrastructure sector priorities that will support the sustainable development of Puerto Rico in the long-term. Sectors include telecommunication, transportation, stormwater management, community small water systems and other sectors jobs. Training and capacity building programs can be implemented through municipalities with Community Development Building Grants – Disaster Recovery (CDBG-DR) funds that allow the development of microgrants.
- **Action 28: Develop an outreach and education program for rural communities on domestic water treatment and storage to improve drinking water quality at the point of consumption in times of emergency.** Reliable water supply is one of the highest priority interventions in emergency situations, and it is critical to enhancing the resilience of communities and households, particularly in the rural setting. An education program on domestic/household water treatment and storage (HWTS) should be developed to secure safe water supply in times of emergency. The initiative will improve household and community emergency preparedness in case of insufficient or complete disruption of the public or community water supply system. It will help improve water quality at the point of consumption when drinking-water sources are unreliable or unsafe. The proposed measures will not replace the obligation of PRASA, local government or community service providers to provide access to safe drinking water. Recommended actions are intended to support individuals, households and communities temporarily when there are unreliable or insufficient piped supplies to bridge gaps between deliveries or in emergency situations.
- **Action 30: Improve solid waste management in urban and rural communities by adopting a circular economy approach.** Place-based solid waste management (SWM) programs should be implemented to reduce informal solid waste dumping and river contamination by adopting a circular economy approach. Guiding principles for creating a sustainable SWM system should be focused on long-term planning and maximizing all elements of the “triple bottom line” (i.e., economic prosperity, environmental stewardship, and social equity).