

FUNDING PROPOSAL TO THE GREEN CLIMATE FUND
CLIMATE CHANGE: THE NEW EVOLUTIONARY CHALLENGE
FOR THE GALAPAGOS

METHODOLOGY FOR MAINSTREAMING THE BEHAVIORAL
SCIENCE APPROACH

**Applying behavioral science to climate change mitigation and
adaptation in the Galápagos Islands**

July 2021



Why apply behavioral sciences to climate change mitigation and adaptation?

Successful climate change mitigation and adaptation depends upon a myriad of behaviors from multiple actors - from consumers changing their diets, the way they travel, or reducing energy consumption at home, to fishermen adopting sustainable fishing practices, to public sector agencies developing and enforcing effective regulations to curtail overexploitation of natural resources.

Behavioral science – the study of how humans make decisions and behave in practice – **offers tools to understand and influence these decision points.** One of the main insights of behavioral science is that much of our behavior is driven by nonconscious mental shortcuts, triggered by environmental cues (Kahneman, 2011). For instance, we are heavily influenced by the behavior of those around us - highlighting how people's actions differ from others' behavior can be highly effective to prompt people to adopt pro-conservation behaviors (Tiefenbeck et al. 2016; Jessoe & Rapson, 2014; Gans et al., 2013). Similarly, the timing of interventions matters - we are more likely to change our ways when we are facing important milestones or temporary landmarks (our birthdays or the beginning of a new year, etc.) (Dai et al. 2014).

Each of the behaviors mentioned above can be influenced by these cues and shortcuts, for better or for worse. This means that **small changes to the ways that communications, processes and services are delivered can have a disproportionate impact on behavior.** The good news is that many of these influences are predictable, with the help of behavioral science, and can be harnessed to help people make the decisions that benefit themselves and society as a whole.

Behavioral science can bring an innovative approach and tangible impact where traditional policy levers - regulations, incentives and information - fall short. Regulations are often difficult to enforce. Material incentives can be highly impactful but need to be carefully designed and can also backfire, producing unintended consequences. And awareness raising or education campaigns may not always translate into action - knowing what one should do, is different from doing it (Rare and

BIT, 2019). Incorporating insights from behavioral science into the design of each of these policy levers can complement and enhance these tools, ultimately rendering them more effective in reaching their behavior change goals.

The natural system of the Galápagos archipelago is highly sensitive to human impacts (Fordham & Brook 2010). If we add to this the effects that climate change is having in Galápagos, the system becomes even more fragile, and the need to mitigate human impact more pressing. Our aim is that **by incorporating a more nuanced understanding of human decision-making and behavior, we will contribute to the success of the climate mitigation and adaptation efforts** of the Program.

How do we work? The TESTS Framework

BIT uses its bespoke methodology to work with partners through the process of applying behavioural science to achieve social impact goals. This approach—called TESTS, for Target, Explore, Solution, Trial, and Scale—is flexible enough to ensure that, while structured similarly, each project will address a unique challenge and produce tailored solutions.

Across BIT's portfolio of over 500 evaluations, TESTS has been proved to be a reliable way of applying behavioural science in practice. It includes five main components:

1. **Target:** We start by defining the problem, being clear about the measurable outcome that we are aiming to achieve. We think carefully about what the specific behaviours we would like to encourage or discourage, and how the impact of these changed behaviours can be measured. We do this through a

mapping exercise that helps us understand how different behaviours are interconnected and what behavioural bottlenecks may be blocking progress.

- 2. Explore:** We examine the context of an intervention in two ways. First, we seek to understand the perspective of the end user. Second, we try to understand the system as it currently works. To do this, we draw on the



Target: define behavioural goal(s) based on policy / impact goal



Explore: conduct research to understand barriers to behavioural goal



Solution: design an intervention to address barriers, informed by behavioural science



Trial: evaluate effectiveness of intervention, generally through a randomized controlled trial



Scale: take learning from trial and apply it to organization

lessons of design thinking and ethnography, spending time observing end-user behaviour; mapping out contact points between the organization and the end user; and interviewing stakeholders. In addition, we analyse any historic data available that connects to the problem identified in the first stage. At this stage, we also explore differences in the lived experiences of the sub-groups that make up our target population – differences based on location, socio-economic status, gender or age. Understanding how the current behaviors, and the factors that drive them, vary across groups, will help us develop tailored interventions during the solution stage.

- 3. Solution.** BIT uses a variety of tools and processes to design effective behavioural interventions. The most relevant for this project are:

- a. Drawing on the existing academic evidence base.
- b. Using [MINDSPACE](#) and [EAST](#), BIT's flagship frameworks to develop new ideas, applications and adaptations of behavioural concepts to existing policies and processes.

- 4. Test, Learn, Adapt.** In this stage, we design a trial to determine the causal impact of the intervention with a high degree of scientific rigor. Lastly, we analyse the data and adapt the intervention for additional improvements.

- 5. Scale:** We incorporate Scaling into our project cycle to ensure that our work has the largest possible impact. Including scaling means that we design solutions so they can be applied beyond the initial test sites. We work with partners to use principles from behavioural science to make it more likely that an intervention is adopted as widely as possible.

How will we apply behavioral science to our work with the Green Climate Fund?

BIT will work with WWF, FAO, CAF and its local partners to **apply a behavioral science approach to help realize the outcomes outlined under project components 1 “Energy matrix change in the Galapagos archipelago”, 2 “Building climate resilience of the Galapagos' livelihoods” and 3 “Sustainability mechanisms for climate resilience and low emissions livelihoods”**. Our work will not involve objectives different from the ones described in the Logical Framework - it will aim to make the activities to achieve them more effective. By incorporating changes and tweaks informed by behavioral science research to the design of the interventions implemented as part of this project, we will increase their impact on climate change mitigation and adaptation in the Galápagos.

Applying insights from behavioral science will enhance the effectiveness of the project activities. We foresee we will leverage an array of behavior change techniques to shape the projects' implementation strategies. Depending on project needs, these may include applying behavioral insights to the way in which we communicate (framing messages so that they are as easy to understand and attractive as possible, having a clear call to action, using trusted messengers, emphasizing potential losses, etc.); to the way in which processes are implemented (levering social networks, making it as easy as possible, making people feel they have a head start, giving clear examples “rules of thumb”, etc.); as well as in the way in which the products / services are presented (choice architecture, incentives, framing of products, reminding people at the moment of action, making pro-environmental behavior visible, etc.). Some of the techniques that could be applied as part of the implementation of the project activities are described below in Table 1.1 for illustrative purposes.

Throughout the project, **we will support our partners by ensuring that their interventions take into consideration how humans make decisions and what factors influence our behavior.** Applying the TESTS framework described above, in the first semester of the project, we will conduct an in-depth behavioral analysis - a behavioral map. Our analysis will break down the different problems and outcomes of the project in the different sectors (energy, agriculture, fishing, and tourism), into specific behavior change objectives - identifying *who* should do *what* by *when* to mitigate and adapt to the impacts of climate change in the Galapagos islands. These analyses will be focused on complementing and deepening the information gathered in the feasibility documents for each output, through qualitative research, including interviews, focus groups, observations, to diagnose the barriers and motivations of stakeholders of the different components /sectors of the program, from a behavioral science perspective. Through this thorough diagnosis, we will further study how behavior change objectives, barriers and motivations differ for different groups in the population – for example, what are the differences according to gender. Other tools we might use to co-create a behavioral map with project partners include **literature and desk reviews, and historical data analysis**, among others

Gathering these insights is even more relevant considering the impact of the COVID-19 pandemic. The situation in Galapagos is changing rapidly, the pandemic has brought to light economic, social and environmental vulnerabilities. Conducting a thorough behavioral diagnosis, during the first few months of the project, will enable us to develop tailored and innovative tactics and tools to promote greater capacity for adaptation, reduction of vulnerabilities, and resilience to overcome adversity in a post COVID-19 context.

We will develop specific behavioral maps for each of the components/sectors of the program. To this end, we will build on the qualitative and quantitative insights gathered during the first few months of the project, as well as, on secondary data (a desk review of existing documentation and a literature review). The behavioral maps will guide how we target our interventions - the behaviors and attitudes that our implementation strategies should aim to change. We will prioritize and select target behaviors based on the extent to which they contribute to the overall problem and how likely it is that

we have a meaningful impact through behavior change interventions. We will then explore what barriers might impede this behavior, as well as existing enablers we could draw on to encourage change. Finally, drawing on behavioral science literature, we will develop potential solutions to reach our project outcomes, addressing the barriers or building on the enablers identified. The specific tools and techniques within the TESTS framework that we will use, will depend on program needs and the specificities of the activities implemented by project partners.

How will we sustain behavioral changes in the long term?

In order to develop resilience to climate change, positive social transformations are required at different levels of the social-ecological framework (individual, interpersonal, community or societal level). These transformations will occur as long as different actors from different sectors of society adopt pro-environmental and pro-climate behaviors, and these are maintained over time. We expect that successfully changing the behavior of different actors will, in the aggregate, allow us to fulfill the goal of establishing and maintaining a Galapagos system that is self - sufficient, climate resilient, and sustainable in the long term.

Interventions to change behavior in the short terms should be complemented with strategies in favor of sustaining these behaviors in the medium and long-term (Goldberg et al., 2020). In our context, whether behavioral changes are sustained will depend, to a large extent, on the success of efforts to influence public policies and civil society. We will seek to institutionalize, at different levels, the processes of education (both formal and non-formal), communication and mobilization of the community towards climate action in the Galapagos, and leave local capacities installed with the objective of upholding them in the long term. In particular, through the activities of Output 3.1.2 "Education, Communication and Community Mobilization towards Climate Action" we will install local capacities for applying behavioral science to the design and implementation of communication, education, and social participation processes, strategies, and actions. The capacity building program for facilitators will have a special emphasis on developing the knowledge and skills to accompany and support the implementation of the different communications and training processes of the other project components, through a behavioral change lense.

Illustrative example: behavioral goals and behavior change techniques applied to GCF activities

With the goal of illustrating how we will put this approach into practice during the project, considering the process of application of the TESTS methodology described above and some of the expected results within each stage, the table below collects representative activities under the different components/sectors and beneficiaries /stakeholders of the project to define, by way of example, some behavioral goals associated with these activities. From this, and drawing on behavioral science literature and evidence, we set out some potential techniques to remove barriers and leverage enablers to reach the behavioral goals. It should be noted that to address complex problems such as those in this project, we would likely identify several actors that influence the problem and specific behavior change goals for each of them. However, for the purposes of this illustrative exercise, we have preliminarily chosen a single stakeholder per activity and sector.

Table 1.1 - Illustrative exercise to identify behavioral goals and techniques to promote behavioral changes of key stakeholders in relation to the activities proposed in the Green Climate Fund project.

Activity	Description	Barriers to overcome	Illustrative behavioral goal	Illustrative behavioral techniques to achieve behavioral goals (removing barriers and leveraging enablers)
Activity 1.2.1.1 Efficient energy consumption of the Galapagos' livelihoods	Optimize the electrical energy consumption in the acclimatization and refrigeration areas.	Barrera acceso de tecnologías: por costos, acceso y conocimientos.	Tourism business owners: Adopt practices to conserve energy such as: buying and using energy efficient products, or reducing to the extent possible the electricity consumed (for example through limiting the use of AC or lights in their facilities).	We would work with project partners to make energy-efficient products more attractive . For example, this may involve providing consumers with the information needed to understand and compare lifetime electricity running costs of different devices. In the past, we have used this technique successfully to promote consumption of energy-efficient washer dryers .
Activity 2.1.2.3. Implement silvopastoral practices at the farm level	Implement a silvopastoral system in Galapagos for cattle ranching to improve production efficiency and to integrate the management of the invasive species <i>Psidium guajava</i> (guava) and endemic/native species as associated arboreal species.	Vulnerable farmers lack knowledge and access to low-carbon, climate resilient agriculture approaches and technological packages. Farming lands abandonment, becoming contagious and dispersion sources of invasive species towards natural areas.	Farmers: Adopt silvopastoral systems for cattle ranching	We would leverage the power of social norms to spread new farming practices, by showing farmers how others in their community are already implementing the desired behavior. A study with French farmers found this approach effective in promoting proenvironmental farming practices .
Activity 2.1.5.4 Promotion of a blue circular economy through new sustainable and	Create the “Galapagos Virtual Innovation Lab” to support small-scale fishers, entrepreneurs, and other actors of the local community	Weak institutional and technical capacity to address climate change in the Galapagos food system.	Fishers: Take-up technical assistance provided through the project to create or consolidate new enterprises	We would work with project partners to design the process to access technical assistance so that it is as simple and easy to follow as possible. Based on the behavioral science literature and our own work (BIT, 2014), we know that friction costs or the

socially responsible seafood enterprises	interested in enterprise development	<p>Limited links between farmers and fishers with the Galapagos tourism value chain</p> <p>By-products from fishing activity are not incorporated into the value chain.</p> <p>Lack of climate smart infrastructure to guarantee the quality of products needed to reach the markets.</p> <p>Willingness to pay for sustainable Galapagos food products is not reflected in the value chains</p>		<p>additional steps or aspects that make a behavior more effortful, are critical in determining whether we undertake a behavior or not. We also know that we tend to value losses more than equivalent gains (a tendency known as loss aversion) (Kahneman & Tversky, 1980). In communications to potential applicants, we may further leverage loss aversion, highlighting the money entrepreneurs would be losing if they were not to take advantage of free of charge technical assistance.</p>
Activity 2.1.5.5 Put in place a long-term financing mechanism to improve sustainability and competitiveness of Galapagos small-scale fishing sector	Soft credit line for entrepreneurs, to foster the financial inclusion of fishers and entrepreneurs from civil society interested in adopting sustainable fishing practices	<p>Weak institutional and technical capacity to address climate change in the Galapagos food system.</p> <p>Limited links between farmers and fishers with the Galapagos tourism value chain</p> <p>By-products from fishing activity are not incorporated into the value chain.</p> <p>Lack of climate smart infrastructure to guarantee the quality of products needed to reach the markets.</p> <p>Willingness to pay for sustainable Galapagos food products is not reflected in the value chains</p>	Fishers: Take-up soft credit line and make timely payments	<p>As above, we would aim to make the application process to the soft credit line as easy and attractive as possible. Further, to encourage timely repayment, we would encourage entrepreneurs to make an active choice in regards to the amount they would pay each month, instead of defaulting them into the minimum contribution, an approach which has been found effective in helping consumers manage their debt.</p> <p>By incorporating these insights into the design and implementation of the soft credit line, we would contribute to maximize the number of entrepreneurs that take up this scheme and use it successfully.</p>
Activity 2.2.1.3 Reduce the impact of diving, anchoring and	Reduce the environmental impacts associated with marine tourism (diving, anchoring and	Business as usual tourism operations lack best practices to reduce their	Diving business: Adhere to the practices included in the Diving Tourism Best Practices	We may use qualitative research, including interviews and focus groups , to diagnose the barriers and motivations that diving

<p>pollution related to tourism operations in selected marine HEVAs, to enhance eco systems resilience and adaptive capacity to the effects of climate change</p>	<p>pollution associated with tourism activities</p>	<p>impacts on CC highly sensitive marine ecosystems.</p>	<p>Toolkit</p>	<p>business owners face to adopt the best practices included in the toolkit. This could include guidelines being overly complex or diving business owners conforming to the practices they perceive are common among their peers. We would then work with project partners to design outreach strategies that take into account those insights. For example, we may develop “rules of thumb” to make the guidelines easier to follow, or, leveraging social norms - the fact that we are influenced by the behaviors of those around us - we may convey to diving companies how other stakeholders in the sector are already implementing those best practices.</p>
--	---	--	----------------	---

References

- Dai, H., Milkman, K. L., & Riis, J. (2014). The fresh start effect: Temporal landmarks motivate aspirational behavior. *Management Science*, 60(10), 2563-2582.
- Fordham, D. A., & Brook, B. W. (2010). Why tropical island endemics are acutely susceptible to global change. *Biodiversity and conservation*, 19(2), 329-342.
- Gans, W., A. Alberini, and A. Longo (2013). "Smart Meter Devices and the Effect of Feedback on Residential Electricity Consumption: Evidence from a Natural Experiment in Northern Ireland." *Energy Economics* 36: 729-43
- Jessoe, K., and D. Rapson (2014). "Knowledge Is (Less) Power: Experimental Evidence from Residential Energy Use." *American Economic Review* 104(4): 1-42.
- Kahneman, D. (2011). *Thinking, fast and slow*. Macmillan.
- Kahneman, D., & Tversky, A. (1980). Prospect theory. *Econometrica*, 12.
- Rare and The Behavioural Insights Team. (2019). *Behavior Change For Nature: A Behavioral Science Toolkit for Practitioners*. Arlington, VA: Rare
- The Behavioural Insights Team. (2014) *EAST: Four simple ways to apply behavioural insights*
- The Behavioural Insights Team. (2020) *Providing a substitute for single-use plastics in the Pacific*
- Tiefenbeck, V., Goette, L., Degen, K., Tasic, V., Fleisch, E., Lalive, R., & Staake, T. (2016). Overcoming salience bias: how real-time feedback fosters resource conservation. *Management science*, 64(3), 1458-1476
- United Nations Development Programme. (2020) *Encouraging Household Electricity Conservation in Chisinau, Moldova*