

Making Development Sustainable with Behavioral Science

Policy Report





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This report is a joint publication by the Behavioral Science Group (BSG) and Busara.

The Behavioral Science Group (BSG) is a specialized team within the UAE Government that applies behavioral science to deliver positive social impact in the UAE and beyond.

Busara works with researchers and organizations to advance and apply behavioral science in pursuit of poverty alleviation. As a research and advisory organization and across more than 500 projects in collaboration with 250+ partners, Busara seeks to push the frontiers of knowledge in behavioral science and development, and put the Global South and people’s lived experiences at the center of research, policy, and practice.

The aim of this collaboration is to foster stronger international cooperation, particularly as we enter a new era of development marked by the emergence of new donors and models for impact. This shift has also brought about increased partnerships between actors in the Global South. While this exciting period presents immense opportunities, it also requires careful stewardship to ensure the co-delivery of sustainable and equitable development.

Creating innovation in development policy to engage communities and generate sustained impact is at the heart of this partnership. Both BSG and Busara espouse the same philosophy: that meaningful, lasting change can only be achieved by placing people and their behaviors at the center of development efforts. By grounding initiatives in evidence-based approaches that reflect local realities, behavioral insights enable policymakers and practitioners to design more effective, context-sensitive interventions.



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Executive Summary

Traditional development programs often operate like factory machines with a continuous supply of external “fuel” (funding and resources), to deliver a product – whether improving education, providing clean water, or boosting public health. This approach, while effective in some contexts, can lack sustainability. Behavioral science offers a renewable source of energy – people’s own decisions and behaviors – making development efforts more cost-effective, enduring, and locally grounded. Behavioral science is an interdisciplinary field that combines economics, psychology and other disciplines to understand human behavior and decision-making, and to develop targeted interventions that shape them. The field can help development practitioners by:

- 1

Improving cost-effectiveness
Subtle nudges and light-touch interventions can produce outsized impacts at relatively low cost.
- 2

Driving sustained impact
Behavioral science can target long-term and durable changes to people’s environments, habits, and social norms: delivering an impact that outlives the initial project.
- 3

Fostering local engagement
Behavioral interventions are developed in partnership with local communities, leading to designs that are more deeply grounded in their people’s real lives, are culturally appropriate, and are likely to be adopted and maintained.

How to make development sustainable with behavioral science

The key recommendations from the report are offered in the Table [1] below. They focus on expanding the use of behavioral science in development, to help initiatives become more effective, enduring, and responsive to local contexts.

Table 1: Summary of key recommendations

Recommendation	Why it matters	Suggested actions
Strengthen Global South leadership	Academic research has historically focused on Western contexts and research agendas, risking blind spots.	Promote local research hubs and capacity-building (e.g., embedding local experts). Elevate context-driven solutions in international forums and journals.
Advance open science and cross-learning platforms	Faster learning occurs when data, methods, and results are openly accessible and evidence is synthesised.	Adopt open-data policies and living evidence reviews (LERs). Develop digital platforms for cross-project learning and replication.
Integrate systemic approaches	Complex challenges (e.g., food security, climate change) involve multiple interlinked factors. This complexity can undermine the effectiveness of development programs.	Combine individual behavioral insights with systems mapping. Use tools like social network analysis and agent-based modeling to identify high-impact interventions.
Foster cross-disciplinary collaboration	Multiple lenses – psychology, anthropology, political science – can broaden our understanding of complex behaviors.	Build interdisciplinary teams for project design. Encourage knowledge exchange among academic, NGO, government, and private-sector actors.
Develop behavioral insights about development practitioners	Practitioners’ own assumptions and biases can limit the quality and scalability of their development programs.	Apply behavioral research tools to how programs are selected, planned, and financed. Offer training to practitioners to build internal capacity.
Emphasize ongoing engagement and co-design	Sustainable behavior change requires consistent input and adaptation.	Maintain community collaboration at every stage (design, testing, iteration). Use flexible approaches that respond to shifting local contexts and feedback.

These recommendations, and the report overall, provide insight into how the development community can better harness the sustainable energy of human behavior. We all seek to generate reliable, enduring outcomes in people’s lives; behavioral science provides a powerful set of tools to bring us closer to that goal.

List of Acronyms

BIRD	Behavioral Insights Research and Design Laboratory
BSG	Behavioral Science Group
CIAT	International Center for Tropical Agriculture
CUBIC	Center for Utilizing Behavioral Insights for Children
FORRT	Framework for Open and Reproducible Research Training
GDP	Gross Domestic Product
GEEP	Government Enterprise and Empowerment Program
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
ICRC	International Committee of the Red Cross
IRC	International Rescue Committee
KII	Key Informant Interview
LER	Living Evidence Reviews
NHGSF	National Home Grown School Feeding Program
ODA	Official Development Assistance
ODI	Overseas Development Institute
SDG	Sustainable Development Goal
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNOCT	United Nations Office of Counter-Terrorism
UNICEF	United Nations International Children’s Emergency Fund

From fuel to solar: How behavioral science empowers development

Development programs are like specialized machines on a factory floor. They are designed for a specific purpose, and generate a required output. As long as a machine is provided with fuel (international funding), it keeps working: whether that's delivering water to a village or improving education for underprivileged groups.

This model of development can be effective because it is targeted, linear and concrete. However, this model of development does not always work: simply supplying something does not mean that people will take it up or use it. Why? Because many development programs are inherently about behavior change: they require that people handle their water supplies differently, for example, or make a different decision about their education. Apart from not always working, this model of development is unsustainable. The machine only works if continuously supplied with expensive fuel.

Behavioral science can significantly upgrade this machinery. Similar to a solar panel, behavioral science harnesses a renewable source of energy – people's decisions and behaviors – and directs that energy towards the task at hand. Behavioral science does not fundamentally change the nature of development. Funding and resources are still needed, at least for an upfront investment, to deliver water, educate children, or roll out preventive healthcare interventions. But using solar panels is more sustainable than continuously burning fuel. Utilizing people's decisions and behaviors to make development more effective and sustainable is like the sun: it empowers and sustains development, helps lessen how much fuel needs to come from governments and development partners, and orients programs towards self-sustaining systems that directly engage and impact the communities that a program wants to serve.

Self-sustaining systems are all the more important because most donor countries do not meet the UN General Assembly's target of 0.7% for official development assistance (ODA) – despite ODA levels reaching a peak last year.⁴ Additionally, uncertainty around the future volume and reliability of aid is growing. Profound shifts are causing unprecedented shifts with historic 'big players', like the US, stopping their development assistance. The UK and France are also reducing the percentage of GDP allocated to development aid. At the same time, new players may emerge on the scene. This fuel disruption signals a clear need for an intentional reset of the development industry's purpose and strategy. Behavioral science is a good place to start: it provides us with techniques to change built environments and create new social norms. In this report, we first showcase how behavioral science is playing a key role in boosting development programs, improving their sustainability. Drawing on our many years of experience in the field of applied behavioral science, we then share our vision for how behavioral science can be used practically, contextually and robustly for development.

The aim is for behavioral science to be applied sustainably – powered by the solar energy of people. This paper outlines how behavioral science can make development more effective and sustainable by boosting cost-effectiveness, increasing local ownership, and ensuring sustained impact.

What is behavioral science?

Behavioral science is the study of human behavior and decision-making. It combines a range of disciplines to better understand how we make decisions, and how to influence them. It takes a multidisciplinary approach rooted in economics, psychology, data-science, sociology, and many other fields - to understand why we behave in certain ways and how to enable greener, healthier and happier lives.

These disciplines have long been intertwined, but only recently has behavioral science been formalized as a tool for creating and measuring impact through rigorous and shared methodologies. What draws people to this field is the realization that human behavior often defies

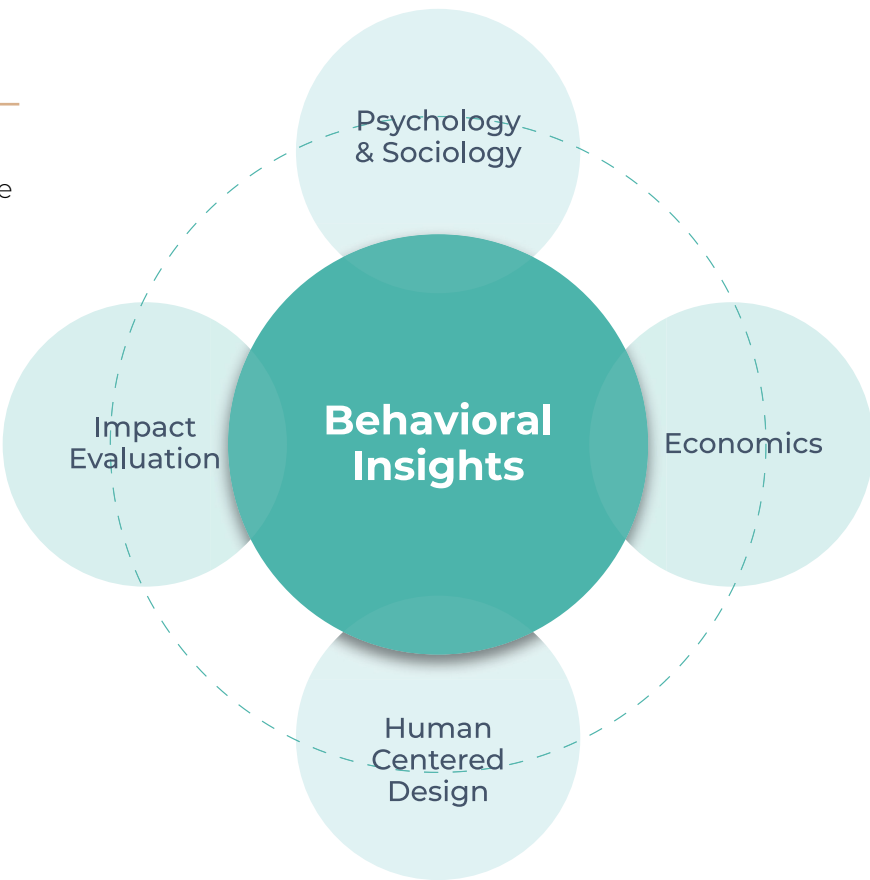
expectations due to complex cognitive processes – and because of how our environment shapes our actions.

Consequently, when designing interventions and assessing their effectiveness, robust evidence is essential. This commitment to evidence-based decision-making and measurable outcomes has transformed behavioral science into a dynamic force across philanthropy, public policy, and the private sector. As Hallsworth has described, "The pairing of 'what works?' with behavioral science has had enduring and important consequences". (Hallsworth, 2024) The intersection of these diverse fields is illustrated in Figure (1).

Figure 1: What is behavioral science?

What is behavioral science?

Behavioral science explores how and why people behave the way they do in order to solve real-world problems. It draws on several disciplines and focuses on measuring impact.



⁴ Organization for Economic Co-operation and Development. (2023). ODA as percent of GNI (grant equivalent) in 2023, by Development Assistance Committee (DAC) members [Graph]. In Official Development Assistance (ODA). OECD. <https://www.oecd.org/en/topics/official-development-assistance-oda.html>

Behavioral science starts with the assumption that human behavior is malleable. It is governed by multiple factors: the information we have, and the incentives we face. At any given time, these factors and the context will shape what we do.

For example, imagine a person on a clean, high-quality bus eating a bag of chips. When done eating, the person will probably put the leftover packaging into their backpack, or into the bus' trash can. Leaving it on the chair would make a clean space dirty; it would feel strange. However, just before getting on the bus and waiting in a crowded and dirty station, the very same person

might have dropped a piece of trash on the ground, simply because there were already dozens of other pieces of trash. This is the same person: the differing contexts made them behave differently.

In this example, context means location-specific social norms: how I behave in a dirty station versus a clean train. The impact of noise and other distractions, what I am paying attention to. What subconsciously feels right.

To obtain a lasting impact on behavior — this understanding of context, and how to alter it effectively is essential.

Behavior change and sustainable development

While the term sustainable development can be used somewhat loosely, we can look to the UN's 2030 Agenda for Sustainable Development, adopted in 2015, for a comprehensive framework in its 17 Sustainable Development⁵ Goals (SDGs).

The SDGs recognize the need for integrated action across social, economic, and environmental domains to drive long term and sustainable development. They target global challenges

such as poverty, inequality, climate change, environmental degradation, peace, and justice. Behavioral science is already contributing to each pillar of sustainability outlined.

With this framework guiding how we think about sustainable development, behavioral science's role can be understood through the following three dimensions:



Case Study

Cheap and sustainable solutions to retain the effectiveness of antibiotics using behavioral change

Antimicrobial resistance (AMR) is a major issue that threatens human and livestock health, especially in low and lower-middle income countries, with an estimated cost of \$150 billion by 2050. AMR occurs when bacteria and other disease-causing organisms evolve to no longer respond to antibiotics and other treatments. Overuse and misuse of antibiotics in healthcare and farming are major factors that increase AMR.

There are two core solutions: developing new antibiotics, and stopping the misuse of existing ones.⁶

Behavior change to combat AMR offers a more cost-effective approach to building resilient health systems in the long run. Developing new, stronger antibiotics without, in parallel, having corresponding changes in the common behaviors that surround antimicrobial usage for medical providers, patients, farmers, veterinarians and the general public, is effectively fuel for a biological arms race against pathogens that will continue to mutate and become resistant to stronger antimicrobials.

Stopping misuse – a behavioral challenge – can be far more cost-effective.

Busara AMR study with Wellcome Trust

From 2021-2023, Busara, in partnership with Wellcome Trust, undertook a large multi-country study on antibiotic and antimicrobial misuse to inform behavior changing interventions. The study ran across 11 countries: Malawi, Sri Lanka, Tanzania, Thailand, Uganda, Vietnam, Zambia, Zimbabwe, Kenya, Ghana, and Ethiopia. The study helped illuminate the psychology and behavioral patterns that contribute to AMR, and the opportunities for sustainable change:

- Cultural nuances deeply influenced the usefulness of information on antibiotics and AMR. Local terms, such as *mushonga* in Zimbabwe, or *ballee* in Ethiopia, are often used as umbrella terms that refer to many medicines. It is extremely difficult to discuss requirements for taking antibiotics versus other medicines without specific and locally-understandable vocabulary.
- A change in terminology can improve future awareness campaigns and improve doctor-patient communication.
- There is a gap between knowledge and action around antibiotics. Even when people were aware that they should not use leftover medicines, fears of future drug stock outs, particularly common in rural markets, caused recovering patients to save leftover antibiotics for future use. Addressing these fears would be an inexpensive way to reduce misuse and AMR.
- Patients pressure providers to offer antibiotics. Patients self-diagnose and come to providers requesting antibiotics for viral infections; if unsuccessful, the patients may switch providers. Limiting this behavior can reduce overuse of antibiotics.

⁵ United Nations General Assembly. (2015). Transforming our world: The 2030 agenda for sustainable development (A/RES/70/1). United Nations. <https://sdgs.un.org/2030agenda>

⁶ McDonnell, A., Countryman, A., Laurence, T., Gulliver, S., Drake, T., Edwards, S., Kenny, C., Lamberti, O., Morton, A., Shafira, A., Smith, R., & Guzman, J. (2024). Forecasting the fallout from AMR: Economic impacts of antimicrobial resistance in humans (A report from the EcoAMR series). World Organisation for Animal Health and World Bank. <https://doi.org/10.20506/ecoAMR.3539>

Behavioral science’s current role in development

Behavioral science already has a profound role in making development sustainable. Development organizations that use behavioral science are seeing major advantages.

Increased cost-effectiveness

Behavioral science studies how people’s physical and social environments affect what they do, and how they do it. Well-targeted, small, and often relatively inexpensive changes in policy, programs

and situational factors can be surprisingly effective, leading to disproportionately large gains and overall cost-effectiveness.

Small changes with big impacts

Behavioral science is well-known for cost-effective nudges: small tweaks that have an outsized effect. For example, researchers in Kenya found that a low-cost change to a fertilizer program could significantly increase its uptake and use.⁷ They offered farmers small, time-limited discounts on fertilizer directly after harvest. These targeted discounts, available when farmers had cash on hand and did not have time pressure to harvest, helped farmers avoid procrastination and substantially increased usage without inducing overuse. Alternative, traditional approaches would have been far more expensive: such as significantly subsidizing the use of fertilizers throughout the year.

Similarly, practitioners have put direct cash transfers to productive use through inexpensive and non-binding labels. In a series of studies

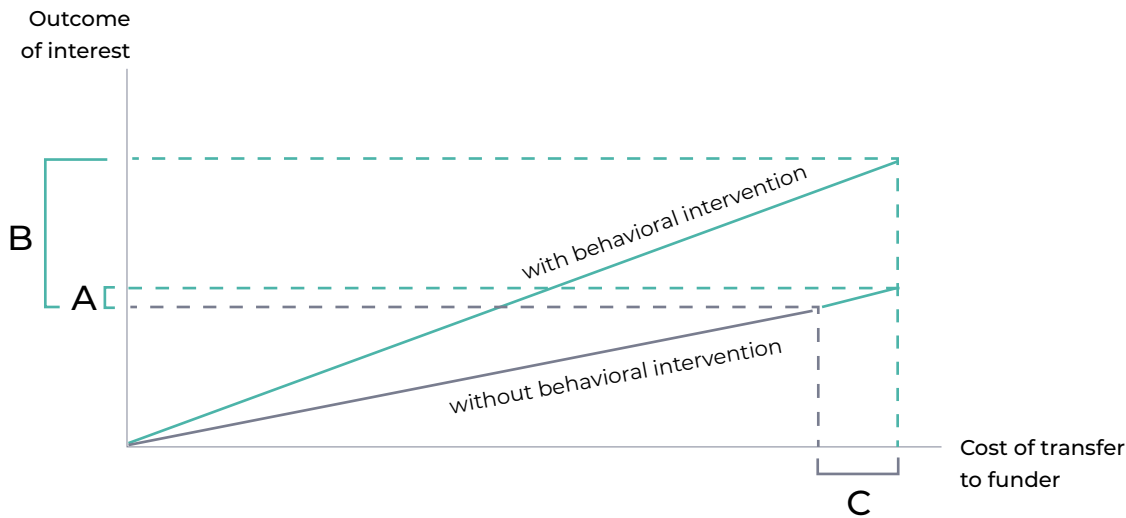
around labelling cash transfers across multiple countries, researchers found that labelling can have a similar effect to making cash transfers conditional – yet is less costly to implement.⁸

They also found that labelling can align preferences within the household on how to spend the money.⁹ This intervention drew on the insight that people categorize money into mental accounts, even if money itself is fungible: the labels offered guidance to participants on how and when to spend the money. At the same time, people retained autonomy to spend the funds as needed. An alternative and more traditional approach, which is more expensive and does not retain people’s autonomy, is to create a bureaucratic system that delivers and monitors the use of aid that requires people to use the cash for specific purposes.

We can think about the cost-effectiveness using a framework developed by ideas42 as shown in Figure (2). The framework arises from their work on cash transfer programs, like the examples above, but can help us think more broadly about how behavioral interventions lay on top of existing programs.¹⁰

In particular, they highlight how increasing a cash transfer program’s funding can result in **A**: small marginal impacts on outcomes without behavioral insights, or **B**: significantly improve outcomes for the same cost **C**.

Figure 2: Cost-effectiveness multiplier: A graphic representation



Note: A = expected change in the outcome of interest if the monetary cost of behavioral interventions is given in additional cash, assuming local linearity; B = change in the outcome of interest due to behavioral intervention; C = monetary cost of behavioral intervention.

One example of such cost-effectiveness multiplier in practice is the South Sudan safety net project in which the World Bank conducted a randomized control trial on a cash-transfer program. The program itself was effective on a range of metrics — from increasing household savings to improving health.¹¹ When the World Bank applied an additional nudge with training for financial literacy, sanitation, and more, the nudge provided an increased impact (B in Figure [2]) that would have cost 1.8 times more through additional cash alone (C in Figure [2]).¹² In this case, it was a specific goal-setting nudge, breaking down financial goals and encouraging pre-commitment.

This increased cost-effectiveness stemmed directly from a deep understanding of the nuances of decision making, and the interplay between people’s knowledge, the context and their choices.

Simple and effective behavioral interventions like these are not always feasible. But when they are, behavioral science provides a powerful and practical set of options to add to the policy and development toolkit.

7 Duflo, E., Kremer, M., & Robinson, J. (2011). Nudging farmers to use fertilizer: Theory and experimental evidence from Kenya. American Economic Review, 101(6), 2350–2390. <https://doi.org/10.1257/aer.101.6.2350>
8 Benhassine, N., Devoto, F., Duflo, E., Dupas, P., & Pouliquen, V. (2015). Turning a shove into a nudge? A “labeled cash transfer” for education. American Economic Journal: Economic Policy, 7(3), 86–125. <https://doi.org/10.1257/pol.20130042>
9 Kooreman, P. (2002). The labeling effect of a child benefit system. American Economic Review, 9(3), 571–583. <https://doi.org/10.1257/00028280260344459>

10 Datta, S., Joshi, M., MacLeod, C., & Zini, M. D. (2022). Leveraging behavioral science to increase the impact of economic inclusion programming. PEI in practice, 3. World Bank. <http://hdl.handle.net/10986/37353>
11 World Bank. (2024). Uplifting vulnerable South Sudanese households through safety net assistance. World Bank. <https://www.worldbank.org/en/results/2024/01/09/uplifting-vulnerable-afe-south-sudanese-households-through-safety-net-assistance>
12 Datta, S., Joshi, M., MacLeod, C., & Zini, M. D. (2022). Leveraging behavioral science to increase the impact of economic inclusion programming. PEI in practice, 3. World Bank. <http://hdl.handle.net/10986/37353>

Expanding program reach

Small, cost-effective nudges can be easy to understand and explain, and can require less infrastructure for successful implementation. For example, in a recent study in the UAE by Cappellini et al. (2024), researchers developed a menu of different options to reduce food waste. They specifically targeted situations where simple behavioral interventions – such as food waste trackers on canteen walls, installing transparent bins to collect food waste, and providing customers with small plates by default – could be effective without expensive changes in infrastructure or supply chains: at hotel restaurants buffets and at the canteens where hotel staff themselves ate. After testing these interventions in pilot projects, they were then successfully scaled nationally.¹³ In other words, findings derived from a small study led to implementing a national change.

How behavioral science can make changes last

Behavioral science is increasingly examining how to drive durable changes that do not require additional spending or interventions. Yet, a fundamental challenge of many development programs which aim to change behavior is that their effects tend to not last.

Different considerations to increase sustainability of develop programs exists when viewed through the lens of behavior change, such as:

1 Habits

Through structured repetition of a new behavior, people can form new habits that are subconsciously and automatically triggered. These habits stick unless they are actively disrupted. For example: building habits to separate trash for recycling, or to turn off lights and appliances that are not in use.

This program could scale because the intervention was aligned with the incentives of the stakeholders: it built upon the foundation of a well-known policy and development lever (incentives), rather than seeking to replace it. It is far easier to scale up a low-cost program that benefits stakeholders than one that is costly to them and the development community.¹⁴ Simplicity was also key: stakeholders could get on board with small, simple changes rather than complex and difficult ones. In effect, the researchers took a known problem in the field (that stakeholders are often resistant to giving permission to significant changes¹⁵), and used it to their advantage. Finally, the researchers used system mapping to better understand the dynamics and tailor their interventions accordingly.

2 Lock-in

Sometimes, development programs can ‘lock-in’ an important change after the participant’s initial decision and not require additional action from them. This is commonly used in automated savings programs, where the initial decision to save triggers software that handles future savings deposits.

3 Identity

Over time, a behavior can become a key part of someone’s identity. That identity reinforces itself. Taking an action builds a personal history that supports it, and this identity in turn encourages the desired behavior. This insight has been applied to support political engagement and pro-environmental behavior: people who think of themselves as engaged citizens or environmentalists are more likely to stay the course.

How social dynamics fuel sustained impact

Behavioral science has long studied the short-term effects of social norms on behavior; now we are increasingly seeing how it can affect long-term sustained change as well. When some factories install solar panels and demonstrate cost-effective and sustained impact, does that influence other factories’ decisions to follow suit? Our knowledge on social dynamics would tell us that the answer is yes.

An exciting area of research focuses on how to better understand the structure of social relationships to magnify the effect of an intervention. Social signals and peer groups have long been used to shift diverse behaviors from recycling trends to power consumption to savings rates.

In one such study, a group of researchers conducted experiments in Chile with low-income micro-entrepreneurs. 68% of the participants did not have a savings account before the study. They found that participants that were part of a “self-help” peer group deposited 3.5 times more than others; their average savings balance was almost double of those who held a basic savings account. The self-help group was significantly more effective than providing a subsidized interest rate (5.3% versus 0.3%) on savings, which had little causal effect.¹⁶

Kim et al. (2015) used social network analysis to identify well-connected individuals based on people’s self-reported friends. They provided these individuals with information and product-vouchers

for two health interventions: multivitamins and chlorine for water purification. The researchers then tested how well the information (and vouchers) spread across the community through the connected individuals versus a randomly selected group. They found that the connected individuals successfully magnified the effect of the intervention: more effectively spreading it through the population in a randomized control trial.¹⁷

Banerjee et al. (2019) used a similar technique to spread information about immunization in villages in India, and successfully improved vaccination rates because of it. The spread of information and subsequent adoption of the desired behaviors across a population can support durable change through descriptive social norms: once the behavior becomes common, and people see others engaged in it, it becomes more natural for people to continue with a behavior that the norm suggests. The initial push (vouchers for multivitamins or information about immunization) can create self-sustaining change that outlasts the initial effort.¹⁸

Rare, a leading behavior change organization in conservation, has developed particularly innovative work on this process, which they term “behavioral snowballing”. They appeal to early adopters, and then use social pressure and social norms to achieve majority adoption and lock-in of an environmentally friendly behavior.

13 Samson, A. (Ed.). (2024). The behavioral economics guide 2024. Behavioral Economics. <https://www.behavioraleconomics.com/be-guide/the-behavioral-economics-guide-2024>

14 On the challenges of scaling interventions, see also Kremer and Miguel’s 2007 paper “The Illusion of Sustainability”, which critiques the idea that communities are expected to take over the responsibility for maintaining and funding initiatives after an initial period of external support when their underlying incentives are not aligned to do so.

15 Aka Permission bias; see Thaler, R. H. (2023). Nudging is being framed. Behavioral and Brain Sciences, 46, e177. <https://doi.org/10.1017/S0140525X23000973>

16 Kast, F., & Pomeranz, D. (2014). Do savings constraints lead to indebtedness? Experimental evidence from access to formal savings accounts in Chile. Working paper.

17 Kim, D. A., et al. (2015). Social network targeting to maximize population behavior change: A cluster randomized controlled trial. The Lancet, 386(9989), 145–153. [https://doi.org/10.1016/S0140-6736\(15\)60734-1](https://doi.org/10.1016/S0140-6736(15)60734-1)

18 Banerjee, A., Chandrasekhar, A. G., Duflo, E., & Jackson, M. O. (2019). Using gossips to spread information: Theory and evidence from two randomized controlled trials. The Review of Economic Studies, 86(6), 2453–2490. <https://doi.org/10.1093/restud/rdz008>

Case Study

Nigeria’s Government Enterprise and Empowerment Program (GEEP)

The Government Enterprise and Empowerment Program (GEEP), a financial inclusion initiative by the Federal Government of Nigeria, provides low-income citizens not served by traditional banks with access to small loans. Like many microcredit programs, GEEP faced the problem that people did not pay back their loans, likely because there were no consequences for not repaying, or because competing financial needs made loan repayment difficult.

To improve the sustainability of the program and create avenues for future credit, Busara created low-cost short phone messages (SMS) interventions to improve repayment rates.

Busara designed messages in which people were invited to compare their own behavior to that of others - so-called social comparison and status-categorizing SMS. In the live trials with more than 60,000 beneficiaries, the intervention generated an average 59% increase in loan repayment. The cost of the SMS was minimal, but provided significant financial gains to the government by restoring repayment among participants who were otherwise in default.

Improving repayments will make low-cost and equitable loans more sustainable: it will allow them to be offered to low-income borrowers in the future.

There are three key reasons why a focus on context through co-designing is important:

People exist in a context that shapes their behavior. Their actions then shape knock-on effects on the context, and the set of choices that the individuals within it face – often in non-obvious ways.

Existing social, cultural and moral norms dictate how behavior change interventions are received. Without involving the community,

interventions may not sufficiently consider the existing values and norms of a target community; therefore they may fail to address the deeper, root causes of behaviors or may be culturally inappropriate.

Context is dynamic. it is a shifting concept that requires continuous engagement and adaptation. Interventions must therefore be flexible and responsive to changing contexts. This requires continual engagement, learning and adaptation.

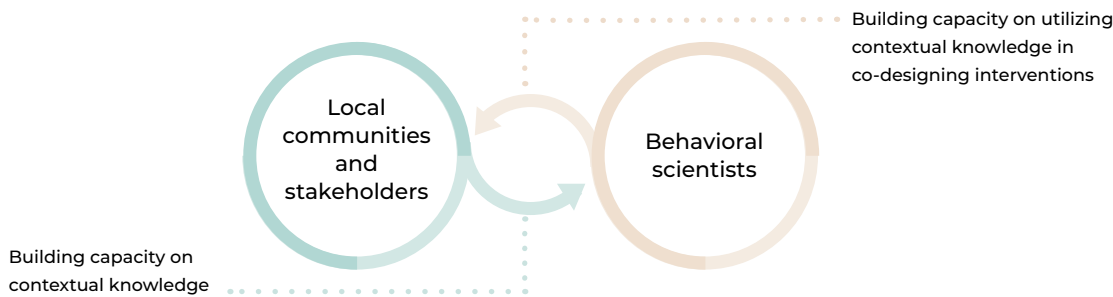
Why community engagement is crucial

These mechanisms of sustainability – cost-effectiveness and sustained impact – are both grounded in a deep understanding of the local context of people’s lives and their decisions. To understand context means to appreciate the social, political, historical, cultural, relational, and individual dimensions that shape a particular target behavior. When behavioral scientists engage with local communities and stakeholders to understand their context and lived experiences, they are first building their own knowledge about the context and their capacity to engage with it. This is crucial because sustainability comes from being appropriate for the context; such context-

specificity can only occur when any behavioral intervention emerges from a collaboration between behavioral scientists and the relevant stakeholders; a process we call co-designing.

Co-designing is also a cross-pollinating process: in the developing relationship between behavioral scientists and local stakeholders, both learn more about each other, allowing local stakeholders to build their capacity to use the knowledge gleaned. This means that co-generation of knowledge and capacity building for all parties involved takes place – as visualized in the figure below.

Figure 3: How behavioral scientists co-design with community



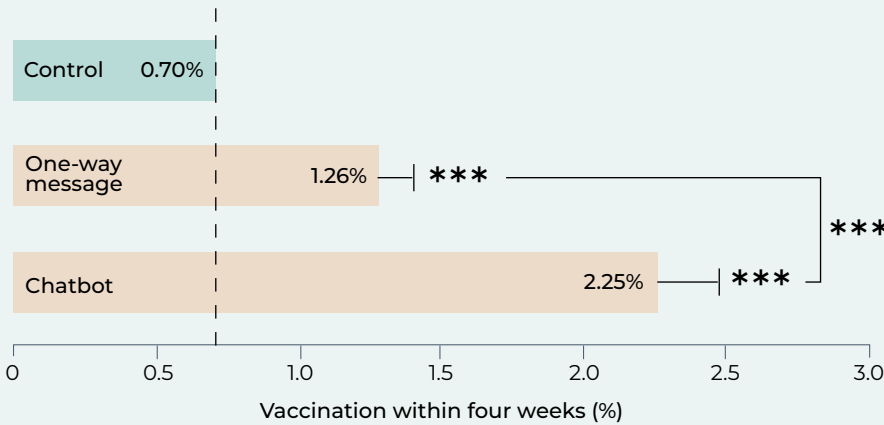
Case Study

A behaviorally-informed chatbot increases vaccination rates in Argentina

Maintaining COVID-19 vaccine demand was critical to ending the global pandemic. In Chaco, a disadvantaged province in Argentina, only 33% of the eligible population had received a booster dose, compared to 91% in Buenos Aires. A behaviorally informed WhatsApp chatbot was developed to increase vaccine uptake to address this.

The Chatbot supported users through multiple steps in their vaccination journey by offering personalized eligibility information, a tool to find the nearest vaccination centers and directions, planning prompts, and reminders. The chatbot more than tripled

vaccine uptake against a group that did not receive any information, and doubled vaccinations compared to those who received a single text message reminder. User engagement was high, with 25% of users interacting with the initial message, though engagement decreased with additional functionalities. The chatbot’s success highlights the importance of making health behaviors easier through personalized, interactive support. Governments and health organizations should consider integrating similar technologies into their public health strategies to improve health outcomes efficiently and cost-effectively.



An agenda for making development sustainable with behavioral science

The state of play

Nearly all major development organizations now employ behavioral science in some aspect of their work. Over one thousand people representing more than 60 different UN entities are part of the UN Innovation Network’s Behavioral Science Group, from major funds and programs like the UNDP, UNICEF and UNEP to smaller United Nations bodies such as the Office of Counter-Terrorism’s (UNOCT) Behavioral Insights Hub in Doha.

In 2020, the World Bank’s Behavioral Science Around the World (Volume Two) report included detailed profiles of 17 International Organizations using behavioral insights, from the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the European Commission to the International Committee of the Red Cross (ICRC) and the Overseas Development Institute (ODI).

This growing popularity can also be attributed to the commitment to rigorous evaluation that forms part of applied behavioral science. Development organizations using behavioral science couple behaviorally-informed solutions with experimental methods. This means that through this work, researchers and policy-makers alike are rapidly growing the evidence base of what works to change behavior.

Successful behavioral science teams across INGOs – such as the International Rescue Committee’s (IRC) Airbel Lab or Save the Children’s Center for Utilizing Behavioral Insights for Children (CUBIC) – and governments alike have embraced the need for empirical knowledge as a key principle of their work. This is reflected in efforts to test solutions, share findings regardless of (ineffective) results, and scale proven strategies.

A prime example of the synergy between evidence-based policy-making and behavioral science is MineduLAB, an innovation hub for education policy housed within the government of Peru. The Ministry of Education recognized the potential of behavioral science to identify effective, low-cost interventions that could improve learning outcomes for children across the country.

By bringing together researchers and policymakers, the lab pilots and tests evidence-based and practice-informed innovations. Among its successes, MineduLAB has reduced student dropout rates and improved learning outcomes by making the impact of higher education salient; improved national test scores through growth mindset education; and improved teacher and principal attendance through social norms messaging.¹⁹

Despite significant advances and perspectives, behavioral science is not yet standard in international development. The UN 2.0 Policy Brief²⁰ warns that: “currently, only one fifth of United Nations entities have pursued a strategic approach to building behavioral science expertise. Fewer than 10 per cent rate their abilities as advanced.”

Across the development community, some organizations have only started to explore ways to use behavioral science, such as the UN’s Development Coordination Office (UN Behavioral Science Report, 2021²¹). Others, such as Save the Children, the International Rescue Committee, and UNICEF’s Behavioral Insights Research and Design Laboratory (BIRD) have internal staff, a range of projects, and often build on a long history of prior social and behavioral change work.

This unevenness, in part, is due to behavioral science being perceived as an independent discipline. It is relatively new in the development field, and it takes time to be adopted by organizations. Some organizations, however, have sought ways to energize their existing efforts and expertise with the injection of behavioral science and have thus been able to move much faster, innovating on research methods and on behaviorally-informed practice.

What’s next?

Behavioral science’s core strength lies in placing human behavior and decision-making at the heart of problem-solving. Because behavior is complex, the field is constantly evolving: drawing on advances in its founding disciplines and through new combinations of methods. But as the field

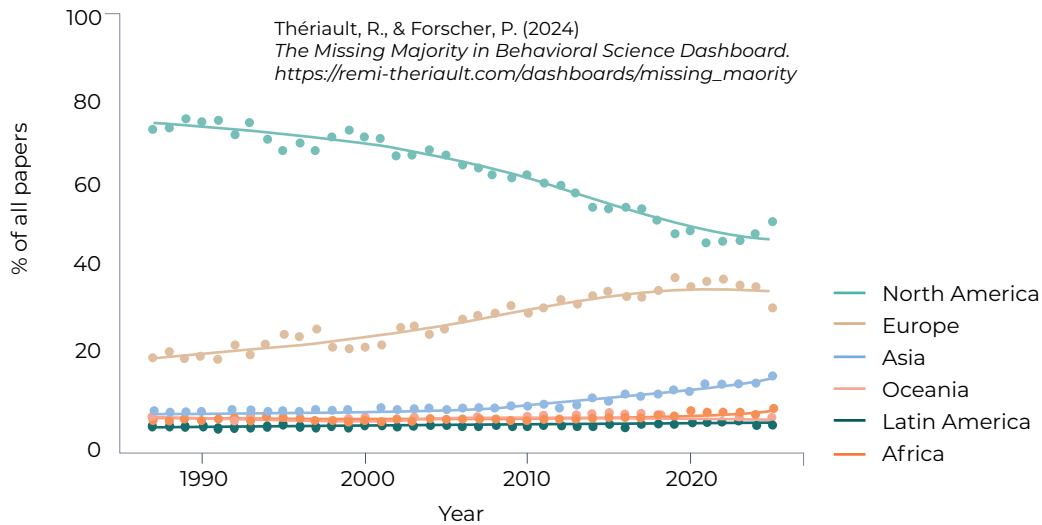
grows, it must also learn from past challenges in related disciplines. Two priorities stand out: strengthening global collaboration to tackle major development issues, and innovating research methods to better reflect real-world complexity.

Behavioral science needs a deeper Global South perspective

Academic behavioral science was founded from a limited evidence base by a limited subset of scientists. These scientists were largely based in the United States and Europe, and – naturally – were most interested in understanding topics that

felt directly relevant to them. When considering other regions, they took the theories, concepts, and methods developed from their initial evidence base and applied them to other regions.

Figure 4: Geographic distribution of first authors in behavioral science publications



19 Afif, Z., Islan, W. W., Calvo-Gonzalez, O., & Dalton, A. G. (2019). Behavioral science around the world: Profiles of 10 countries (eMBed brief). World Bank Group. Accessed March 11, 2025, from <https://documents1.worldbank.org/curated/en/710771543609067500/pdf/132610-REVISED-00-COUNTRY-PROFILES-dig.pdf>

20 United Nations. (2023). The UN 2.0 policy brief (Our Common Agenda, Policy Brief No. 11). <https://www.un.org/en/common-agenda/policy-briefs>

21 UN Innovation Network. (2021). United Nations behavioral science report. <https://digitallibrary.un.org/record/3929741?ln=en&v=pdf>

The percentage of academic behavioral science papers (here defined as papers in selected psychology and economics journals) with first authors based in different continents. Academic behavioral science has been largely conducted by scientists working in the United States and Europe. While this situation has changed somewhat in recent years, many regions, such as Africa and Latin America, remain hugely underrepresented.²²

This pattern is understandable and has legitimately led to important insights. Yet it also carries inherent risks, as it can create “unknown unknowns”²³, or gaps in understanding that are not recognized because they are simply outside the experience of the involved researchers.

This blind spot has often led to generic interventions that are assumed to be working in similar ways in any context, overlooking local realities.

Fortunately, the world of applied behavioral science has picked up where the academic world has left off. Spurred by the appetite for sustained, scalable solutions, applied behavioral science teams have sprung up across the world.²⁴

If behavioral science provides development with solar panels, a behavioral science that is co-led from the Global South represents a team of structural engineers that ensures those solar panels can be

set up and maintained effectively in a wide variety of locations rather than just one and in a way that suits each particular location. Such a team, once deployed to the task of setting up workflows in other locations, could even develop protocols to correct overlooked assumptions in the setup of the initial wave of solar panels, leading to innovations and efficiency gains there as well.

Case Study

Using Global South knowledge to address food security as a global challenge

Improving teacher involvement and cook performance for a national school feeding program in Nigeria

The National Home Grown School Feeding Program (NHGSF) provides free meals to children in Primary 1–3 across Nigeria. The program aimed to improve nutrition, boost school enrollment, and promote financial inclusion by employing women as cooks.

Busara conducted qualitative research to understand the barriers and challenges faced by both beneficiaries and implementers of the program to enhance community ownership and engagement. Based on these insights, we developed and implemented a series of targeted interventions to address the issues identified.

We used an experimental design where aprons were awarded to the cooks as a uniform

and were encoded with the guidelines for the program to provide a salient reminder to teachers and students on the standards they could hold the cooks to. The theory was that providing a clear and accessible reminder of the program principles would encourage higher cook compliance and better community monitoring. The effects of the apron treatment and control group were then studied.

The findings from this engagement revealed that the informational aprons had a positive impact on teachers’ understanding of the program, but did not drive any change in cook’s behavior.

Fostering open science and building platforms for cross-learning

Scientific progress requires open sharing of methods and the fruits of those methods so that scientists can build on and benefit from each other’s work. This is particularly relevant to the desired progress of the field in the Global South. Yet open sharing in applied behavioral science, especially of methods and data, is still nascent.

Fortunately, the academic wing of behavioral science has made substantial strides toward building the infrastructure, both technological and social, necessary to promote open science. For example, Framework for Open and Reproducible Research Training (FORRT) maintains a curated database of over 1000 resources relevant to open science. Applied behavioral scientists can utilize those platforms – and others, such as the Science of Behavior Change repository for behavioral science measures – to better integrate open science into sustainable development.

With open sharing of knowledge comes the parallel need for centralized platforms that synthesize this knowledge and evidence generated from across the world. With the recognition that contexts are unique, there are still overlapping and common interests for researchers, practitioners and policymakers to know: How was this problem tackled before in different contexts?

Halpern and Maru (2024) recommend for countries to collaborate on evidence synthesis, specifically through Living Evidence Reviews (LERs). These are systematic reviews updated continuously. The proposal includes conducting ‘meta’ LERs to address key policy questions and bridge evidence gaps in social policy. This is recommended to happen in particular as an area of strong collaboration between governments and public service networks across the world to address key policy issues²⁵.

22 Thériault, R., & Forscher, P. (2024). The missing majority in behavioral science dashboard. https://remi-theriault.com/dashboards/missing_majority
23 Adetula, A., Forscher, P. S., Basnight-Brown, D., et al. (2022). Psychology should generalize from — not just to — Africa. *Nature Reviews Psychology*, 1, 370–371. <https://doi.org/10.1038/s44159-022-00070-y>

24 <https://www.behavioralteams.com/>
25 Halpern, D., & Maru, D. (2024). A blueprint for better international collaboration on evidence.

Case Study

Competition Authority of Kenya (CAK)

The Competition Authority of Kenya (CAK) is tasked with creating an enabling policy environment to drive a competitive marketplace. As part of this mandate, they have a direct role in identifying non-competitive practices and building regulations that prevent business practices that restrict or complicate choices for consumers. With the move to broader digital services, there was a concern that users might not fully understand the terms and pricing for products they consume.

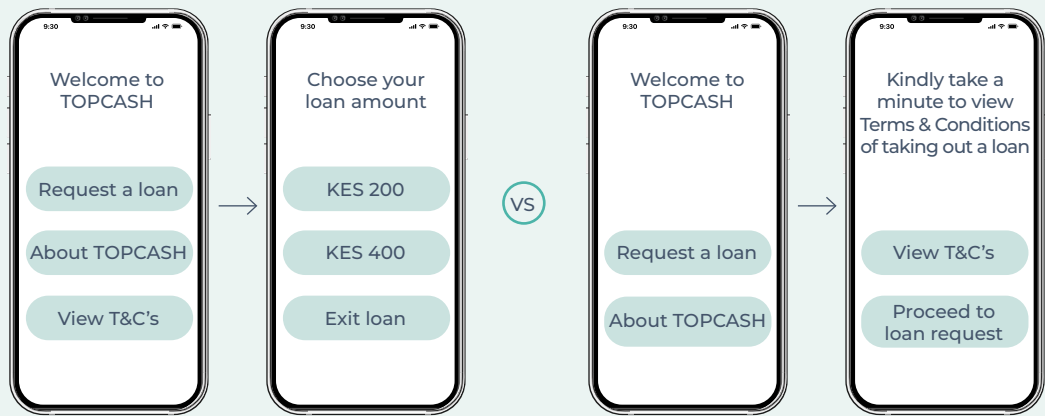
Although behavioral experiments had been used for years within regulators such as the Financial Conduct Authority in the UK and the Consumer Financial Protection Bureau in the US, evidence-informed policy using lab-

experiments was a novel idea in Kenya, let alone having that policy driven by evidence generated locally.

To evaluate the impact of pricing disclosure, Busara conducted a lab study with the CAK that looked at the timing of disclosure on product usage. We found that forcing users to make an active choice in viewing the terms and conditions of their loan tripled viewership (from 8% to 24%), and more importantly reduced loan delinquency to 8%.

This implied that meeting users with timely information at the point of the loan resulted in better information and repayment and ultimately better outcomes for consumers.

Illustrative comparison of creating active choice in loan pricing disclosure



The CAK took the results of this study along with broader market research to draft new disclosure rules for all digital financial services providers in 2016. This was finalized in law under the Competition Act of 2019 (Part VI, Articles 30-32).

This new regulation required pricing disclosure at the point of transaction for all digital financial services, removing any additional steps for consumers to evaluate the

cost and ensure they were able to understand the full terms of any product they used. This regulation impacted hundreds of products used by 40+ million Kenyans overnight, and the share of consumers understanding the cost of digital services improved from 25% to 80%. As with other successful behavior interventions, a small change (in disclosures) had an outsized impact on the public.

Behavioral science applied to development practitioners themselves

Behavioral science is about people. Development practitioners are people, and, just like end-users, their practices can be understood better through behavioral science.

This is important because understanding how people make decisions on all levels, from those designing programs to those receiving them, is crucial for sustainable development. We know, for example, that the biases and assumptions of development practitioners affect which problems are addressed, how research questions are framed,

the way research methods are implemented, and how results are interpreted²⁶ (World Bank, 20154).

This human perspective on how people work together in sustainable development has unrealized potential, as it could also be used to understand and improve, for example, the power structure of international collaborations, the way development projects are funded, the relationships between development professionals and their intended beneficiaries, and other long-standing issues in development.

Solving problems across systems

To make development sustainable, we need to understand and solve complex problems involving many interacting parts. But traditional behavioral science was mostly built by studying individuals in isolation, leaving out the broader systems they're part of.

A rich toolkit of methods is emerging to understand the complex systems that characterize human lives. These methods, such as agent-based modeling, systems thinking, and social network analysis can be integrated into behavioral science's current toolkit.²⁷ This revamped behavioral toolkit

could help behavioral science explicitly see and acknowledge the systems in which people are embedded, target their behavioral interventions to the points within those systems where the interventions will do the most good, and create evaluation frameworks to assess the system-wide impacts of those targeted interventions.

The integration of both individual and systems-focused perspectives can lead to an entirely new set of methods – behavioral systems methods – that can be used to improve the cost-effectiveness and durability of sustainable development projects.

26 World Bank. (2015). The biases of development professionals. In World development report 2015: Mind, society, and behavior (pp. 190–208). World Bank. <https://www.worldbank.org/en/publication/wdr2015>
27 Diaz Del Valle, E., Jang, C., & Wendel, S. (2024). Behavioral systems: Combining behavioral science and systems analysis.

Broadening the behavioral science toolkit through community approaches

Behavioral science is often equated with an experimental approach: it uses experiments to test interventions and generate rigorous evidence. While experiments have brought tremendous insights, human behavior requires a broad perspective on what shapes it. The field would benefit from embracing the rich and diverse set of tools for understanding human behavior that fall outside this particular research tradition. Many traditions that focus on understanding human behavior offer tools that can help: from psychology; in developing measures of mental processes and adapt them so that they are suitable for different cultures,²⁸ to anthropology; to understand context from a participant's-eye view,²⁹ to political

science; to understand political economy and systems.³⁰ One aspect of a new interdisciplinarity should include approaches that create non-hierarchical relations between researchers and research participants, and help create community engagement and true participation. This interaction can be enhanced if members of the community themselves utilize research methods – such as participant observation – to understand their own communities better. One frontier of behavioral science for sustainable development exists in drawing from and packaging these many different methods into a fully integrated toolkit: to better align with local needs and reality.

Better global collaborations to address pressing challenges

Global Collaborations to address Food Insecurity in the Global South

Food insecurity in the Global South is a complex challenge that spans economic, social, and environmental dimensions. While multiple stakeholders – governments, private sector actors, development agencies, and civil society—engage in food security discourse, systemic barriers have led to gatekeeping that hinder collaborative efforts.

Ways to promote collaborations were explored in a 2023 research study by CIAT (International Center for Tropical Agriculture) and Busara.^{31 32} The study examined past and ongoing agribusiness alliances in East Africa to develop a practical framework for strengthening future partnerships. Insights from literature reviews, key informant interviews (KIIs), and co-design workshops

revealed that effective partnerships require a balance between cooperation and competition to enhance positioning, innovation, risk mitigation, and sector growth.

Busara's work across multiple subsequent projects, demonstrates that the exclusion of critical voices, reliance on sector-specific jargon, and fragmented approaches often lead to short-term, inefficient, and unsustainable interventions. A more holistic paradigm is needed – one that integrates climate resilience and sustainable consumption as central pillars. Strengthening food systems requires inclusive frameworks that not only enhance agricultural productivity but also promote adaptive, climate-smart practices and responsible consumption patterns.

On a broader level, the road ahead is for better and more focused global collaborations between governments, researchers and practitioners to tackle the world's most pressing challenges using an intentionally and strategically sustainable approach.

Only with better global collaborations that capitalize on the strengths and competitive

advantage of different actors can we really expect a seismic shift in the sustainability of development. Only when entire factory complexes come together and make the strategic decision to turn from fuel to solar can we see a significant reduction in the carbon footprint.

28 Flake, J. K., Luong, R., & Shaw, M. (2022). Addressing a crisis of generalizability with large-scale construct validation. *Behavioral and Brain Sciences*, 45, e14. <https://doi.org/10.1017/S0140525X21000376>

29 Dilley, R. M. (2002). The problem of context in social and cultural anthropology. *Language & Communication*, 22(4), 437–456. [https://doi.org/10.1016/S0271-5309\(02\)00011-7](https://doi.org/10.1016/S0271-5309(02)00011-7)

30 Palfrey, T. R. (2009). Laboratory experiments in political economy. *Annual Review of Political Science*, 12(1), 379–388. <https://doi.org/10.1146/annurev.polisci.11.060606.160116>

31 Kiarie, W., Mohan, P., Mogere, D., Muthike, W., Oberoi, Z., & Schun, L. (n.d.). Can cultural understanding, strong relational values, and effective communication create stronger, longer-lasting, strategic alliances in agribusiness? <https://doi.org/10.62372/FPRE5689>

32 Oberoi, Z., Schun, L., Kropff, W., Vyas, S., Oroko, J., & Peterson, N. (2023). Report: Strategic partnership models between businesses in East Africa.

Conclusion

Behavioral science is already making significant contributions to sustainable development: from antimicrobial resistance to debt repayment and food security. A wide range of organizations, from the UN and EU to the Education Ministry of Peru, are leveraging behavioral science in their programs and in their internal strategy development. The tools of behavioral science help provide three main benefits: cost-effectiveness, sustained impact, and engagement with local stakeholders and communities.

In doing so, behavioral science does not fundamentally change the nature of development; Rather, it increases the power and efficiency of targeted programs. We have used a metaphor of a solar panel throughout this report: to represent how behavioral science helps harness the power of people's decisions and behaviors to drive meaningful change in development, and can decrease the reliance on unsustainable external energy (funding and resources).

The adoption of behavioral science tools is exciting, but highly uneven. We believe that the road ahead includes both broader adoption – especially in efforts led by the Global South – and innovation in methods and practice. We are particularly excited

about the opportunity for global collaborations between governments, researchers and practitioners, the increasing interdisciplinarity of approaches, the incorporation of systems thinking and similar tools to tackle more complex challenges, and the development of open science platforms for cross-sector learning.

Behavioral science places human behavior at the center — by deeply understanding how we think, feel, and act. This is essential for development that works for everyone. In current practice, and the innovations underway, behavioral science can help us move towards a more sustainable, inclusive, and enduring impact across global development.

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Appendix A: Behavioral science case studies by SDG

SDG Name	Subcategory	Name of Project	Country	Agency
No poverty	Refugees market integration	Mitigating The Impact Of Syria Crisis In The Host Communities	Jordan	UNDP
	Social protection	Enhancing Safety Net Programme Efficiency in Bangladesh by the World Bank: A Behavioural Science Approach to Improving Service Delivery in Social Protection programmes	Bangladesh	World Bank
	Entrepreneurship	Paving the Path to Successful Youth Entrepreneurship	Arab States: Djibouti, Iraq, Jordan, Lebanon, Libya, Morocco, Somalia, Sudan, Syria	BIT, UNDP
Zero hunger	Cooking equipment	What Impedes Efficient Adoption of Products? Evidence from Randomized Variation in Sales Offers for Improved Cookstoves in Uganda	Uganda	UC Berkeley
	Crop Resilience	Increasing smallholder uptake of low-cost seed insurance	Kenya	ACRE, Busara
	Food security	Promoting healthy eating through a return to traditional food	Fiji	Busara
	Cash transfers for food	Digital cash transfer for food aid in Kenya	Kenya	WFP, World Bank
Good health and wellbeing	Health information engagement	Improving Online Engagement of COVID-19 Self-assessments	Kenya	Busara
	Improving health services	Behavioural science for improving community health worker performance	Uganda	Busara
		Aligning And Clarifying Health Worker Tasks To Improve Maternal Care In Niger: The Tahoua Region Human Resources Quality Improvement Collaborative	Niger	USAID
	Medical screening	Screening For Diabetes In Ramadan	Qatar	Hamad Medical Corporation Qatar, Action on Diabetes

SDG Name	Subcategory	Name of Project	Country	Agency
Quality Education	After school recreation	Mass participation; Opportunity and access; Development and growth" (MOD)	Indonesia	JPAL
	Education management	Improving school management in Guatemala with 'rules of thumb'	South Africa	BIT, Reach Digital Health
	School enrollment	Community Grants for the Next Generation	Saudi Arabia	NBER, University of Chicago
Gender equality	Gender violence	Effects of digital chatbot on gender attitudes and exposure to intimate partner violence among young women in South Africa	South Africa	BIT, Reach Digital Health
	Gender norms about work	Misperceived Social Norms:	Saudi Arabia	NBER, University of Chicago
	Gender norms about political participation	Women Working Outside the Home in Saudi Arabia	Pakistan	Institute of Development Studies, Yale University, Lahore University
Clean water and sanitation	Clean water	Canvassing the Gatekeepers: A Field Experiment to Increase Women Voters' Turnout in Pakistan	Kenya, Malawi, Uganda	J-Pal
	Sanitation by handwashing	Community chlorine dispensers for better health	Tajikistan	WFP
	Sanitation by handwashing	Using Nimble Trial Methods for Rapid Evidence Assessments of Programmes	Bangladesh	Save the Children, University of Oklahoma, University of Buffalo
Affordable and Clean Energy	Energy efficient practices	Behavior Change without Behavior Change Communication: Nudging Handwashing among Primary School Students in Bangladesh	South Africa	Ideas42, Western Cape Government (WCG)
Decent work and economic growth	Employee benefits	Too Wise to Waste	Worldwide - FAO world offices	FAO
	Job search	Enhancing Employee Benefit Utilisation at FAO:	Hong Kong	ILO, University of Geneva
	Foreign employment	A Behavioural Science Approach	Singapore	Singapore Ministry of Manpower

SDG Name	Subcategory	Name of Project	Country	Agency
Reduce Inequalities	Financial inclusion	Behavioural insights in employers' choice of recruitment services for domestic work	Tanzania	Busara
	Financial transparency	Encouraging on-time payment of levies	Ghana	GIIZ, World Bank,
	Social Assistance	Empowering Citizens with Information: Improving Access to Social Assistance in Indonesia	Indonesia	JPAL
	Child development	After the Transfers Stop	Nicaragua	JPAL
Sustainable cities and communities	Traffic pollution	An Incentive Mechanism for Decongesting the Roads: A Pilot Program in Bangalore	India	Infosys, Stanford University
	Car use	Interrupting habitual car use: The importance of car habit strength and moral motivation for personal car use reduction	Sweden	Transportation Research Unit, Umeå University
Responsible consumption and production	Water consumption	A Behavioural Approach to Water Conservation: Evidence from Costa Rica	Costa Rica	World Bank
	Recycling	(Ineffective) Messages to Encourage Recycling Evidence from a Randomized Evaluation in Peru	Peru	Word Bank, PRISMA
	Waste services	Getting people to use waste services in Morocco	Morocco	National Municipal Solid Waste Management Program of Morocco
	Waste services	Getting people to use waste services in Pakistan	Pakistan	Clean Green Pakistan Movement (CGPM)
	Sustainable waste disposal	Getting people to be more sustainable with their waste disposal in Indonesia	Indonesia	Subraya City Administration
Responsible consumption and production, Climate Action		Meta-analysis of randomised controlled trials testing behavioural interventions to promote household action on climate change	UAE	NYU Abu Dhabi

SDG Name	Subcategory	Name of Project	Country	Agency
Climate Action	Support for climate policy	Promoting Persuasion With Ideologically Tailored Science Messages: A Novel Approach to Research on Emphasis Framing	US	The Ohio State University, Columbus, OH, USA
	Accountability and citizen monitoring	the power of information in community monitoring	Uganda	JPAL
Peace, Justice and Strong Institutions	Voter turnout and vote-buying	Do Informed Voters Make Better Choices? Experimental Evidence from Urban India	India	Society for Citizens Vigilance Initiatives (SCVI), MIT, Harvard, Carnegie Mellon

