Behaviour Change for Achieving the Kunming-Montreal Global Biodiversity Framework

EVIDENCE SYNTHESIS

Key Message

A whole-society approach to behaviour change, including targeting individuals, communities, businesses, policymakers, organisations, and governments, while ensuring the active participation of Indigenous Peoples and local communities, will be crucial to achieving the 2030 targets of the Kunming-Montreal Global Biodiversity Framework. By addressing specific behaviours and recognising how these groups influence each other, behaviour change interventions can be both relevant and effective, driving coordinated support for biodiversity conservation.

Use this evidence synthesis to explore key examples of successful behaviour change interventions that have achieved biodiversity conservation outcomes. Access an online repository of case studies and further resources by scanning the QR code below or following this link: https://shiny.york.ac.uk/CASCADE-BEHAVIOUR-CHANGE

What is the purpose of this synthesis? This evidence synthesis responds to knowledge gaps identified by the CBD's SBSTTA and the SBI in applying behaviour change approaches to achieve the Kunming-Montreal Global Biodiversity Framework targets (KMGBF).

Who is it for? Policy decision-makers and practitioners aiming to deliver transformative behavioural change to support biodiversity. This synthesis provides evidence-based insights on behaviour change to address the KMGBF targets.

1. Policy Implications

- **Co-design:** To increase long-term compliance with biodiversity legislation, behaviour change interventions should focus on improving the perceived legitimacy of underlying laws. Co-design practices that actively involve Indigenous Peoples and local communities are crucial for this process. Empowering these communities ensures that interventions are culturally relevant and more likely to be embraced, leading to sustainable compliance and transformative change.
- **Multipronged Strategy:** Sustainable behaviour change requires a dual approach: coupling short-term, impact-focused interventions with longer-term, value-based education and social norm influence. This combination ensures immediate behavioural shifts while embedding deeper, lasting values that support biodiversity. Educational campaigns should be designed to evolve, reinforcing initial gains with sustained awareness and knowledge.
- **Impact evaluation:** Behaviour change strategies show promise as complementary tools to conservation efforts, particularly in promoting sustainable, safe, and legal trade in wild species. However, to fully understand the effectiveness of these interventions, it is essential to incorporate causal impact evaluations. Such evaluations will help clarify the relationship between behavioural changes and their impacts on biodiversity outcomes.
- **Capacity-sharing:** Implementing capacity-sharing initiatives, educational campaigns, financial incentives, and community engagement can effectively promote sustainable practices, for example in agricultural and fishery sectors. When strategies are coordinated and targeted, they can influence a broad spectrum of society, including consumers, communities, organisations, and governments, driving widespread behavioural change that supports biodiversity conservation.
- **Value-based Approaches:** Consumer purchase choices are influenced by how options are presented to them, and by reminders of their pro-environmental values. Interventions should be designed to strategically present sustainable options in ways that align with consumers' environmental values, thereby nudging them voluntarily towards behaviours that support biodiversity. This could include clear product labelling, strategic default options, and educational messaging.
- **Scope and Limitations:** While behaviour change strategies such as social marketing, nudges, and education are powerful, they are not standalone solutions. They must be paired with strong regulatory frameworks and enforcement to achieve lasting impact, which in many cases requires structural policy reform. Therefore, behaviour change serves as one key element of a comprehensive conservation strategy.

2. Introduction to Behaviour Change

Human behaviours significantly impact biodiversity, both positively and negatively. Promoting behaviour change is essential to achieving the KMGBF targets. Behavioural science leverages evidence-based insights into how people behave to shape policies and strategies for behaviour change. Disciplines such as psychology, behavioural economics, education, social marketing, and law and governance all contribute to our understanding of behaviour change.

A behaviour change intervention is a strategy designed to influence behaviours. Interventions can be directed at individuals, communities and groups, or businesses, organisations, decision-makers and governments, each requiring different strategies (Figure 1). The effectiveness of behaviour change interventions relies on identifying the specific behaviours to target, understanding the audience (those practising and influencing the behaviour), and recognising the barriers and enablers to change (such as values, knowledge, beliefs, social norms, attitudes, assumptions, tools, costs, etc.).

Behaviour change in conservation can be challenging due to concerns about manipulation and perceived loss of autonomy, especially among Indigenous Peoples and local communities. Acknowledging these challenges, the FAIR Data Principles and the CARE Principles for Indigenous Data Governance should be adhered to throughout intervention design and implementation. Intervention designers and implementers should employ reflexive practices and approaches such as community co-design, and participatory engagement strategies. Alongside these, thorough ethics reviews and the application of appropriate safeguarding practices should be prioritised to ensure inclusive and respectful engagement throughout the design of interventions.

While no single method is a silver bullet for biodiversity conservation, effective behaviour change strategies can strengthen conservation strategies to support long-term biodiversity goals. Until recently, understanding human behaviours and how to influence them has been a missing and crucial step in conservation approaches. To drive transformative change in conservation, it is crucial to secure strong political commitment and create specific policies that prioritise and fund the implementation of behaviour change strategies.

3. Evidence of Behaviour Change Addressing the KMGBF Targets

Strategies

Six macro-level strategies are widely used in behaviour change interventions for biodiversity conservation (Figure 1.). These strategies can address the main drivers of behaviour change, such as those identified in a toolkit for practitioners, which demonstrates how to motivate, socialise, and ease the change. Behaviour change strategies require different delivery mechanisms, e.g., media, communications, and laws. These can be used in isolation or combined, depending on target audience drivers and deterrents and the specific context or enabling environment for change. Planning and implementing an effective behaviour change intervention can take many forms. However, robust pre-testing, monitoring and evaluation are essential requirements across all strategies to improve behaviour change for biodiversity. Depending on the context, some strategies will be more appropriate for individuals and others for organisations, businesses, and governments.

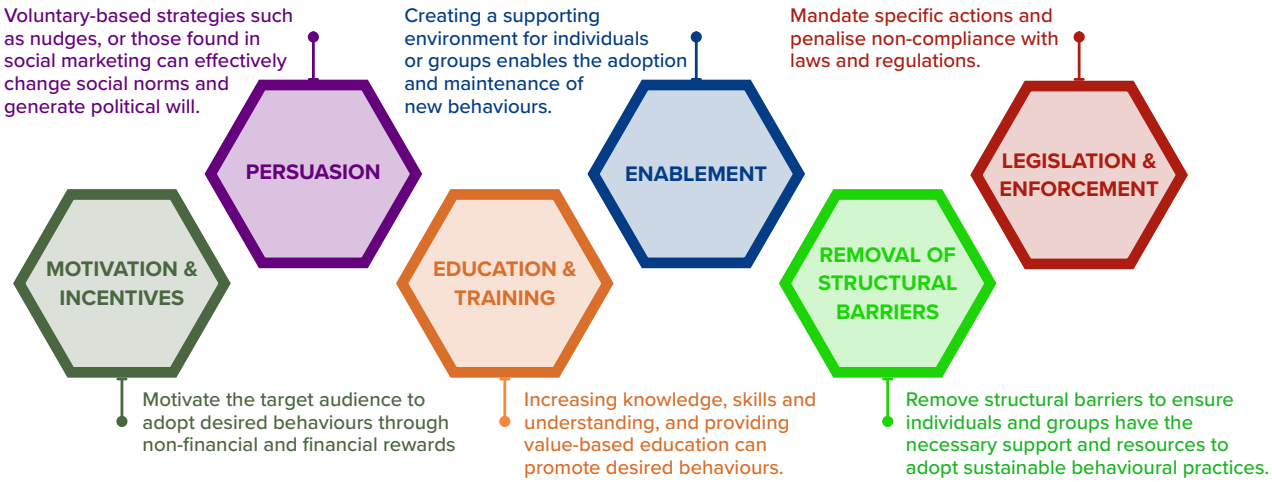

Figure 1. Six key strategies for behaviour change in biodiversity conservation. Descriptions and examples of each strategy can be found on the online resource repository https://shiny.york.ac.uk/CASCADE-BEHAVIOUR-CHANGE.

Case studies

A diverse selection of effective behaviour change interventions for biodiversity are illustrated below, with examples drawn from across these six strategies to demonstrate their contributions to achieving KMGBF targets 4, 5, 10, and 16. These targets were chosen as exemplar studies of behaviour change for biodiversity from a review of approximately 75 case studies across the 23 KMGBF targets. However, there is limited evidence of effective interventions targeting communities, companies, and governance structures. Therefore, most of the interventions showcased here target individuals. There are significant opportunities to widen the application of behaviour change outside of individual behaviour.

TARGET 4: **Halt species extinction, protect genetic diversity, and manage human-wildlife conflicts**

Ensure urgent management actions to halt human induced extinction of known threatened species and for the recovery and conservation of species, in particular threatened species, to significantly reduce extinction risk, as well as to maintain and restore the genetic diversity within and between populations of native, wild and domesticated species to maintain their adaptive potential, including through in situ and ex situ conservation and sustainable management practices, and effectively manage human-wildlife interactions to minimize human-wildlife conflict for coexistence.

To achieve TARGET 4, behaviour change strategies can help to successfully prevent or manage human-wildlife conflict and species extinction, which are typically underpinned by legislation and regulation, coupled with law enforcement by ensuring compliance and shifting supporting social norms related to this target.

4.1 Maasai-Lion coexistence	4.2 Pet parrot demand	4.3 Environmental education
Country – United Republic of Tanzania.	**Country –** Kingdom of the Netherlands (Bonaire, St Eustatius and Saba).	**Country** – Indonesia.
Target behaviour – Retaliatory killings for livestock loss and human-lion conflict.	**Target behaviour** – Lora parrots being kept as pets.	**Target behaviour** – Illegal hunting and deforestation.
Target audience – Maasai communities in Tanzania.	**Target audience** – Population of Bonaire Island.	**Target audience** – School children (aged 5-17).
Strategy – Financial payments to enable coexistence, conditional on continued local lion population.	**Strategy** – Social marketing and education programmes.	**Strategy** – Long-term conservation education programme (including bimonthly lessons and conservation education activities at schools, coupled with games, hands-on activities, quizzes, and a field trip).
Impact – Individuals were more likely to view lions positively and less likely to support killings.	**Impact** – Increased wild parrot population by shifting social norms and lowering demand for parrots as pets.	**Impact** – Increased knowledge among children, no biodiversity impact in the short term.
Key message – Reliable funding, community collaboration and trust are required to manage payments successfully and sustainably.	**Key message** – A combination of interventions is required for long-term behavioural impacts that lead to wildlife population increases.	**Key message** – Education can contribute to long-term efforts for generational change but not rapid impacts on species.

TARGET 5: **Ensure sustainable, safe and legal harvesting and trade of wild species**

Ensure that the use, harvesting and trade of wild species is sustainable, safe and legal, preventing overexploitation, minimizing impacts on non-target species and ecosystems, and reducing the risk of pathogen spillover, applying the ecosystem approach, while respecting and protecting customary sustainable use by Indigenous Peoples and local communities.

To achieve TARGET 5, behaviour change can affect behaviours along all nodes of the demand-supply chain to help ensure sustainable, safe and legal harvesting and trade of wild species. This aligns closely with TARGET 9: Manage Wild Species Sustainably To Benefit People by helping to ensure harvested species viability in the long term, contributing to people's well-being, especially those living in vulnerable situations.

5.1 Sustainable fishing practices	5.2 Saiga horn usage	5.3 Wild meat consumption
Countries – Brazil, Indonesia, and the Philippines.	**Country** – Singapore.	**Country** – Brazil.
Target behaviour – Sustainable fishing practices (e.g., no-take zone compliance; catch reporting).	**Target behaviour** – Use of saiga horn (medicinal).	**Target behaviour** – Wild meat consumption.
Target audience – Small-scale artisanal fishery community members.	**Target audience** – Chinese Singaporean women aged 35-59 who consume saiga antelope horn.	**Target audience** – Residents of the Tapauá municipality.
Strategy – Social marketing campaigns and TURF-Reserves (Territorial User Rights for Fishing combined with no-take marine reserves).	**Strategy** – Online strategy using adverts to amplify news articles.	**Strategy** – Social marketing campaign and an economic incentive (discount coupons for chicken).
Impact – Improvement of most sustainable fishing practices and sustainable livelihood indicators across all countries. Biomass gains in some of the intervention sites.	**Impact** – The target audience was significantly more likely than the non-target audience to accurately recall the intervention message and to report a decrease in saiga horn usage, to a limited extent (4% versus 1% reported a behaviour change).	**Impact** – Social marketing without the price incentive reduced wild meat consumption by approx 62%. Coupons (incentives) increased chicken consumption but did not reduce wild meat consumption.
Key message – Social marketing behaviour change campaigns can act as tools to help managers overcome the short-term challenges faced when implementing new management regimes.	**Key message** – Messages about the environmental impacts of behaviours may not easily influence consumers, particularly high-usage consumers. A range of message types should be tested with target audiences.	**Key message** – Social marketing can promote behaviour change related to wild meat consumption, but understanding consumer preferences is essential for reducing demand for wildlife products.

TARGET 10: **Enhance biodiversity and sustainability in agriculture, aquaculture, fisheries, and forestry**

Ensure that areas under agriculture, aquaculture, fisheries and forestry are managed sustainably, in particular through the sustainable use of biodiversity, including through a substantial increase of the application of biodiversity friendly practices, such as sustainable intensification, agroecological and other innovative approaches, contributing to the resilience and long-term efficiency and productivity of these production systems, and to food security, conserving and restoring biodiversity and maintaining nature's contributions to people, including ecosystem functions and services.

To achieve TARGET 10, behaviour change strategies can address the unique behaviours across the supply networks from individual fishers to community farming associations, to government forestry departments. This can help to build environmental sustainability and economic viability in resource management.

10.1 Agricultural practices	10.2 Fishing fleet reduction	10.3 Agricultural restoration
Country – Bangladesh.	**Country** – China.	**Country** – Brazil.
Target behaviour – Sustainable agricultural practices, e.g., integrated pest management and reduced input use.	**Target behaviour** – Fleet capacity reduction and resource conservation.	**Target behaviour** – Technology adoption in pasture restoration and productivity practices.
Target audience – Smallholder farmers in the Cumilla District.	**Target audience** – Fishers with trawl vessels in Zhejiang Province.	**Target audience** – Rural producers in several states.
Strategy – Training focused on capacity building through participatory activities and interactive learning.	**Strategy** – Reducing harmful fishery subsidies and increasing vessel retirement subsidies.	**Strategy** – Training and long-term technical assistance.
Impact – Increased crop income and reduced agroecological impact from pesticide use.	**Impact** – Reduced fleet capacity via the retirement of older and smaller fishing vessels.	**Impact** – Incorporating carbon savings amplifies return on investment while improving soil quality in terms of productivity — net emissions reduction of 1.11 million tonnes of CO_2 per year.
Key message – The success of the training intervention was predicated on tangible financial benefits to participants.	**Key message** – Tailoring interventions to the changing policy reform context was crucial for effective implementation.	**Key message** – Customised information to the specific target audience ensured the intervention was effective in scaling up for sustainable intensification.

TARGET 16: **Enable sustainable consumption choices to reduce waste and overconsumption**

Ensure that people are encouraged and enabled to make sustainable consumption choices, including by establishing supportive policy, legislative or regulatory frameworks, improving education and access to relevant and accurate information and alternatives, and by 2030, reduce the global footprint of consumption in an equitable manner, including through halving global food waste, significantly reducing overconsumption and substantially reducing waste generation, in order for all people to live well in harmony with Mother Earth.

Behaviour change can support the delivery of TARGET 16 by reducing waste and avoiding overconsumption, which are direct consequences of everyday lifestyle decisions, as well as strategies implemented by businesses and governments providing goods and services. Behavioural insights can deliver waste reduction and more sustainable consumption while generating cost savings for government and businesses in the form of reduced waste management costs.

16.1 Plastic consumption	16.2 Vegetarian meals	16.3 Cutlery waste
Country – Portugal.	**Country** – United Kingdom of Great Britain and Northern Ireland.	**Country** – China.
Target behaviour – Plastic straw consumption.	**Target behaviour** – The purchasing of vegetarian meals.	**Target behaviour** – Plastic and wood consumption.
Target audience – Visitors to a Marine Park.	**Target audience** – Consumers from three university cafeterias.	**Target audience** – Customers of online food delivery services.
Strategy – Provide different messages based on different social norms.	**Strategy** – Choice architecture (nudging) intervention that doubled the proportion of vegetarian meals available from 25 to 50% (e.g., from 1 in 4 to 2 in 4 options).	**Strategy** – Changing the default option from 'cutlery provided' to 'no cutlery provided'.
Impact – Approx. 27,500 straws kept out of landfills annually, if implemented in the entire park (cost savings to the park to be achieved within three years).	**Impact –** Vegetarian meal purchases Increased by between 41% and 79%.	**Impact** – Increased the share of no-cutlery orders by 648% (would prevent 3.26 metric tons of plastic waste and save 5.44 million trees annually if implemented nationwide).
Key Message – Positive messaging can significantly reduce the use of non-essential items, which helps to decrease waste and save costs.	**Key Message –** Barriers to more sustainable choices can be removed by providing alternatives and changing default options, which means consumer choices can be influenced or existing preferences expressed.	**Key Message –** Changing default options and providing financial incentive reward schemes are useful methods to encourage consumers to reduce consumption.

4. Further Resources on Behaviour Change for Biodiversity Conservation

This synthesis introduces behaviour change evidence in biodiversity conservation and gives examples of best practices using case studies. We conducted a rapid review of available open-access evidence to guide the contents of this report. This synthesis was supported by integrating insights from expert consultation with academics and practitioners working in behaviour change across multiple disciplines and environmental fields.

All resources synthesised in this review can be found in an online repository. Access this repository by scanning the QR code below provided or using the link: https://shiny.york.ac.uk/CASCADE-BEHAVIOUR-CHANGE.

Search the online repository to find:

- 75 case studies of behaviour change for biodiversity conservation
- Key behaviour change resource directories, guidance documents for practitioners

Recommended citation: *Brown, M., Tostes Ribeiro, I., Lestari, WP., Beale, C., Papworth, S., Veríssimo, D., and Wells, V. (2024) Behaviour Change for Achieving the Kunming-Montreal Global Biodiversity Framework. Evidence Synthesis. Conservation and Sustainability Consortium of Academic Institutions (CASCADE), UK.

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