

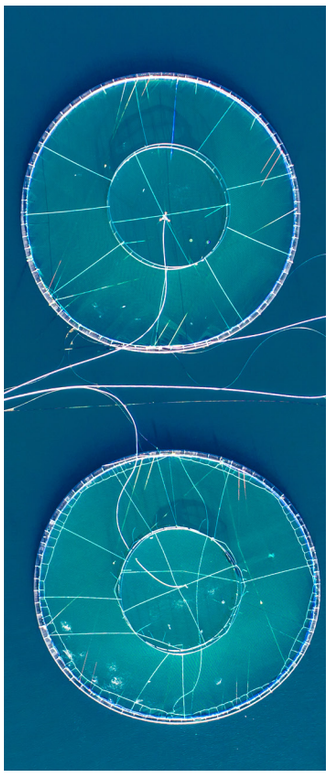


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Lessons Learned Across Precompetitive and Multistakeholder Groups in Markets-Based Conservation

Precompetitive and multistakeholder groups are two types of platforms used to address key conservation issues. Precompetitive platforms are composed of like institutions that compete with each other. In supply chains they could be retailers, brands, traders, feed companies or producers. Other groups could also be organized as precompetitive platforms, e.g., seed companies, producers of fertilizer or agrochemicals, finance and insurance companies, etc. Even NGOs could be organized as a precompetitive platform to share information and address common issues.

Multistakeholder Groups (MSGs) are composed of multiple entities that do not compete directly with one another. They could consist of one or more from the above groups, so long as they are not all from the same group. Multistakeholder groups can focus on issues that affect entire supply chains and can involve NGOs, researchers, and supply-chain input suppliers. Their focus can be on problems such as understanding the implications of issues like the EU Deforestation Regulation or Scope 3 emissions for supply chains, looking at ways to develop and implement regenerative agriculture, ways to bring nature into production, ways address issues at the landscape level, or ways to remove illegality from supply chains.

World Wildlife Fund (WWF) has a long history of both launching and participating in such collaborations. Here we have distilled common themes and lessons about what has worked well, what hasn't, and other opportunities related to such groups. In addition to lessons learned, this report includes 19 one-page descriptions of such platforms. By drawing these themes together, existing and new platforms can learn from one another to work more effectively to achieve the results they seek at speed and scale.

What's Worked

There is no one-size-fits-all precompetitive or MSG organizational model for success. The more successful platforms include some of the following key elements, enabling conditions, or defining characteristics.

- **Guiding principles and commitment –** Members commit to shared principles as well as maintaining rigor and ambition. Over time, the incorporation of advice and concerns as they arise demonstrates commitment to collective goals.
- **Have a clear focus –** What does the platform want to achieve? Success is easier when a group is clear about the focus beforehand. This can change over time but trying to do too many things at once makes success less likely. When determining priorities, responding to market signals is likely to lead to greater success.
- **Neutral leadership –** Neutral leadership (through facilitation or from within the group) and transparent, well-managed processes foster more effective work required to achieve goals.
- **Set goals, measure progress, and track results –** Set ambitious targets and then use common, credible tools and methodologies to generate data and then report against them in the same way and at the same time. The most effective groups also bring others into the group.
- **Share data –** Platforms that share information move more quickly and with greater purpose than those that don't. Sharing data about failures as well as successes, how to achieve them, and what it costs creates trust. Even poorer performers have information and knowledge to share.


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- **Unified advocacy and communications –** Effective groups advocate with a unified voice and have close communications and connectedness between individual members on common policy issues.
- **Be visible –** The most effective platforms have members present at international meetings to talk about what they are doing. Effective groups also realize that there is no one-size-fits-all solution and that they need to adapt to different country or sector realities, position within a supply chain, as well as the focus and size of different entities.
- **Embrace diversity –** Diverse stakeholders inform the discussion and potential for impact at a single point in supply chains. Inclusion of varied actors along supply chains can be critical for shared solutions. They ensure that solutions address global concerns and local contexts, increasing the likelihood that the results will be carried forward. Consensus takes longer with platforms, but it creates a shared vision and greater likelihood of success.
- **Share innovation costs –** Platforms can accelerate learning and innovation by sharing the costs of multiple, more expensive, or comprehensive trials than a single company could through its own investments.
- **Bring the right people at the right time –** The success of platforms often depends on one or a few key individuals who are able to build bridges and bring together the appropriate stakeholders.
- **Leverage critical issues or events –** It is also important to identify an issue that is not well understood or that cannot be solved easily one institution at a time. A critical exposé or breaking news event can help competitors see the value of working together and continuing until they resolve an issue. Taking advantage of timely opportunities and challenges to create or further the work of platforms is critical.
- **Make the business case –** Whenever platforms can demonstrate that a strategy will save money, reduce reputational risks, or provide other positive business impacts, it can bring stakeholders together more quickly.

What Hasn't Worked as Well

There are a number of reasons that platforms do not always achieve their goals. Some common threads underlie less-successful initiatives — for example, the commitments were not resourced sufficiently, the leadership of key organizations lost interest, agreements on ways forward could not be reached, or key players could not be moved to action. Finally, many corporate legal counsels advise their companies that competition laws prohibit any information sharing whether in precompetitive or multistakeholder platforms. It can also be challenging for competitors, actors in different places along supply chains, or others to have and maintain sufficient trust to make progress. When done well, however, it can be impactful.

- **Membership –** When the group is multi-stakeholder it is often more difficult to agree on language and issues much less achieve results. While producers are often the object of much of the discussion, they are rarely present. And, a few token producers won't solve the problem. In several cases, there appears to have been unfair advantage and/or influence of some in platforms.
- **Intransigent assumptions –** Prescriptive solutions based on assumptions going into a platform can stymie progress. For example, assuming premiums for certification when markets do not support them limits creativity and does not take into account market realities.
- **Proscriptive solutions –** When the proposed solutions and ways forward for platforms are proscriptive, they generally do not achieve the desired results though they often achieve consensus, whereas groups that focus on


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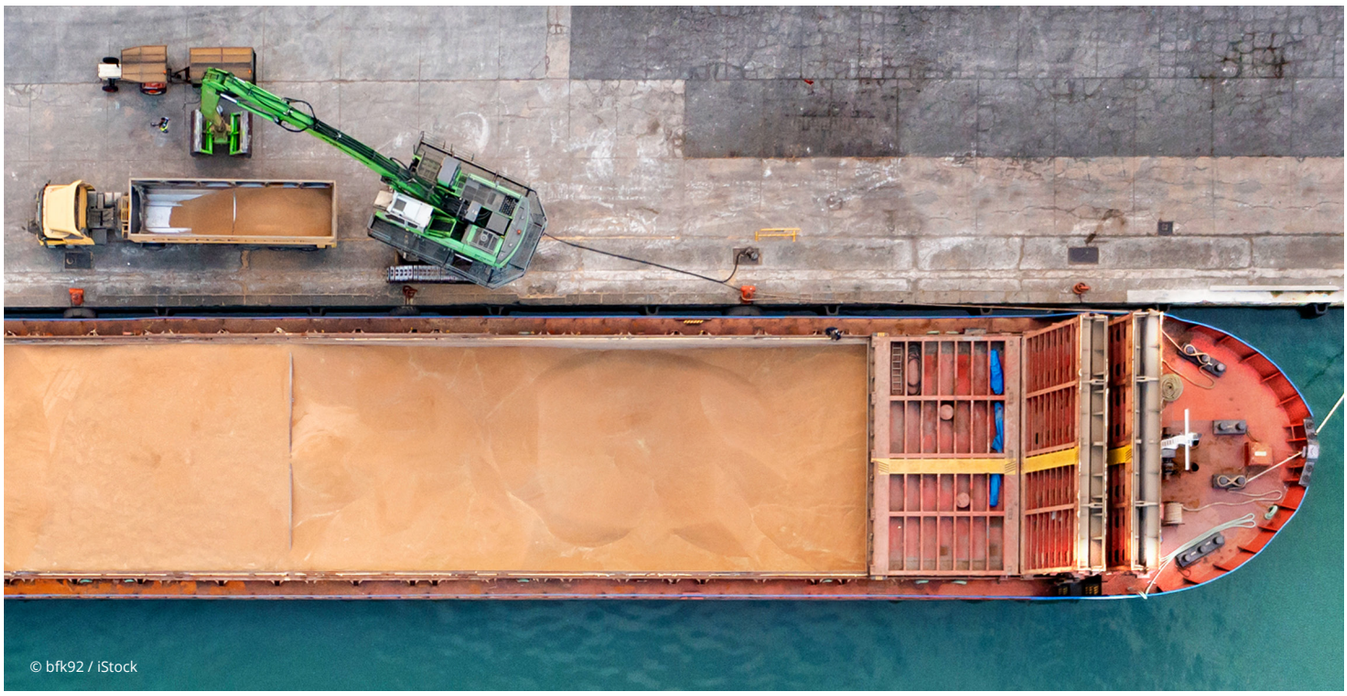
desired results and leave the different stakeholders to find their own ways to achieve them tend to create innovation as well as the results desired.

- **Lack of accountability –** Platforms often lack accountability mechanisms, and if there are such mechanisms, they are generally not enforceable. Governance structures of such groups are often limited and hinder individual accountability. Inactive or disruptive participants are rarely asked to leave.
- **Commitments aren't results –** When platforms establish commitments that are too vague, they are meaningless. Even results-based commitments are unlikely to be met if they are not time-bound, require reporting schedules, and have the resources and implementation plans to achieve them. The biggest issue, though, is that individual companies have to make their own public commitment as well.
- **Creating goals but not sharing data –** When platforms create goals but don't share strategies, align resources, or share data about what works and what doesn't among participants, they are unlikely to achieve common goals.
- **Data reliability and standardization –** There is often reliance on unverified member-provided data and no insistence on the use of common data and reporting formats.
- **Antitrust issues –** Antitrust issues can be used by group members to try to prevent progress. They can also arise from shared goals about design, from sharing information, or operational challenges.
- **Lack of resource commitments –** Without requiring everyone to put "skin in the game," each to their own ability, platforms are designed to fail.
- **Philanthropy won't create lasting results –** Donations and subsidies from outside entities will eventually end. Funds or efforts based on philanthropy rather than those directly involved in markets are more likely to fail or be short-lived, thereby limiting their impact.

Key Challenges and Lessons Learned

In many ways, the most successful platforms are always works in progress. As one issue is addressed, others come up, and successes will tend to lead stakeholders to see that there are other key issues that are important enough to work on together as well. Furthermore, key players in organizations change, along with any number of additional factors. Below are some further considerations to manage expectations and goals in a way to get the most out of platforms.

- **Find the appropriate ownership model –** Platforms can be a challenge. The right or wrong "owner" can make or break the platform, but determining where a platform or solution should sit can be difficult. All stakeholders should feel ownership of the platforms they are involved in, or they will be less engaged. Often, professional facilitators can help address touchy issues, especially governance.
- **There is no one-size-fits-all solution –** Even for similar platforms, the structure will often need to be different. In addition, previous platforms and strategies may well not work today. And, what works today will likely not work tomorrow. Differences between groups and individuals have a considerable effect on structure, strategies, and results.
- **What is "credible" varies –** It will depend on the specific stakeholder or, in some cases, preexisting groups. Clearly understanding what is credible is essential from the beginning. This will also shape what success looks like, and why.
- **Science-based is critical –** Platforms must be science-based both to ensure internal alignment as well as to produce credible results and have influence externally.
- **Time –** Meaningful progress does not happen overnight. Change takes time; transformation takes even longer. But some individuals and stakeholder institutions are parts of platforms in order to stall or prevent progress.
- **Underestimating the task at hand –** Supply chains are complex for a single institution. Addressing them through platforms can be even more so. Allocating sufficient time and ensuring the right people are at the table are key. Course correction is difficult after the process starts.
- **A single player driving a platform can be either positive or negative –** Having additional partners can complicate things as well as offset other influences.



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- **Continuous learning is critical –** While platforms may make progress on a single goal, science and conditions will change. Platforms need to adapt accordingly. Any products will need to adapt to markets, the environment, and other factors to continue to address impacts.
- **Governments can help or hurt –** Governance around the world varies on a number of key issues. This can be about what is required or what is illegal. Platforms have a hard time finding global strategies for global issues. They must be prepared to leverage change and advocate for supportive policies that reinforce their efforts. There can be complications when governments in one part of the world have requirements that are not in place elsewhere.

Precompetitive and Multistakeholder Platforms Moving Forward

Collaboration through a platform is an exercise in hope — hope that diverse organizations can come together and achieve a common purpose that none of them have been able to achieve on their own. The key is not to think that the work is easier because other organizations or individuals are involved. Rather, it is possible to conceive of a viable strategy and to implement it at the speed and scale that is necessary -- something that would be impossible for a single organization to achieve.

During the process, individuals, organizations, and the platforms they are part of will change and evolve. More importantly, the world and global markets will change, and the impacts of climate change will increase. Some platforms that start off to address specific challenges have met them and decided to continue to work together to address new issues. Together they change and become more fit for purpose while making the food system more resilient one platform at a time. Even the areas catalogued above that contribute to lower success rates can be changed with leadership, resources, effort and a realignment of priorities.

WWF continues to launch platforms designed to help groups address pressing issues at a speed and scale that none of them could do by themselves. We actively participate in or help inform other such platforms as well. We have also found that some of the most pressing problems can be solved by those who are aware and willing to work together leading the way. But other institutions will need to step up as well. And we can no longer just work to reduce environmental impacts by reducing the impacts of the best. We also need to move the poorest performers, who produce the biggest impacts but the least product. We can move the bottom by working with them directly or by working with governments.

This guide of lessons learned and tangible examples is thus intended to enable existing and future platforms to drive meaningful change by learning from the experiences of others.

Jason Clay, Ph.D.
SVP Markets & ED Markets Institute
World Wildlife Fund
Jason.Clay@wwfus.org

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Acronyms

AfBPA – African Plant Breeding Academy

AfPBAC – African Plant Breeding Academy CRISPR

AGRA – Alliance for the Green Revolution for Africa

AHLA – American Hotel and Lodging Association

AOCC – African Orphan Crops Consortium

ASC – Aquaculture Stewardship Council

AUDA-NEPAD – African Union Development Agency

CCM – Cerrado Funding Coalition

CGF – Consumer Goods Forum

CMI – Conservation and Markets Initiative

D-free – deforestation-free

ESG – environmental, social, and governance

FSC – Forest Stewardship Council

GHG – greenhouse gas

GSI – Global Salmon Initiative

GSSI – Global Sustainable Seafood Initiative

GTC – Grupo de Trabalho do Cerrado

ICRAF – World Agroforestry Center

IFWC – International Food Waste Coalition

KPI – key performance indicator

LCA – life cycle assessment

MSC – Marine Stewardship Council

MSGs – multistakeholder groups

NACA – Network of Aquaculture Centers of Asia-Pacific

P&G – Proctor & Gamble

PCFWC – Pacific Coast Food Waste Commitment

PET – polyethylene terephthalate

SDG – Sustainable Development Goal

SoS – Statement of Support

The Vision – The Cascading Materials Vision

TSC – The Sustainability Consortium

WPVGA – Wisconsin Potato and Vegetable Growers Assoc.

WWF – World Wildlife Fund


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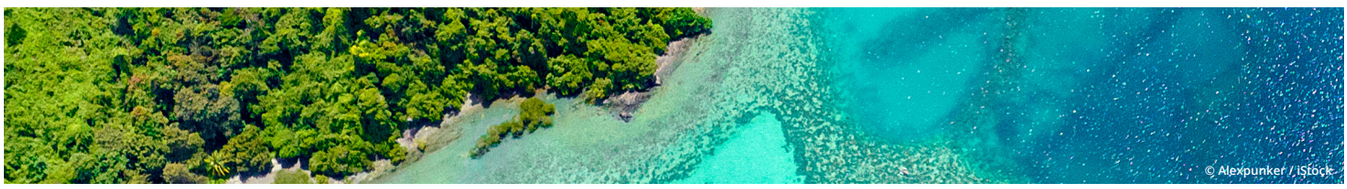

1 Product/commodity certification standards and bodies

Purpose

1. Agree on key impacts, measures, standards for specific commodities

2. Establish certification/verification bodies

3. Meet credible global norms both in the development of standards as well as how they address key impacts and chain of custody issues and are updated over time

Composition

The composition of such entities varies but includes researchers, producers, NGOs, influential individuals, and other key supply chain actors relating to the commodity or commodities being addressed.

Examples

1. WWF's MSG Aquaculture Dialogue species-specific platforms created science-based standards that were adopted by the Aquaculture Stewardship Council (ASC)

2. Both the Marine Stewardship Council (MSC) and the Forest Stewardship Council (FSC) created science-based standards that were run by MSGs

3. ISEAL's MSG platform defines how social and environmental standards should be developed, structured, and improved over time

4. The Global Sustainable Seafood Initiative's (GSSI) platform ensures confidence in the supply and promotion of certified seafood and evaluates and helps improve seafood certification schemes

Description

Certification standards have been established by a range of groups, from a limited number of like-minded organizations to very large MSGs that include entities with different views about impacts and standards. A key issue is whether an organization that convenes MSGs to draft standards should own them.

Strengths

These MSGs create consensus among critical stakeholders about key impacts, how to measure them, and what constitutes credible performance. Certification standards are based on performance (not practices) and science and are not developed and held by the same entity. The best standards address both social and environmental issues and are reviewed regularly to address changes in science, technology, practices, and the theory of change about how the standard influences production.

Weaknesses

The biggest weakness of MSG standards is that they do not reduce the biggest impacts. Few MSG standards transform entire sectors. Most of them reward producers that are already better; they rarely improve the poorer performers. Few programs make the business case for improved performance from improved efficiency, lower costs, and reduced impacts. Finally, most have focused on EU and US markets to drive change, but the influence of those markets has waned. Asia drives global markets.

Results

- ASC salmon certification reached 50% of global production in 8 years
- FSC and MSC have certified <20% of global production after 28 and 22 years respectively
- FSC, MSC and ASC programs all created awareness about the impacts their programs addressed

2 Sector-wide producer organizations

Purpose
Measurably reduce key impacts of specific commodities at scale; improve reputation; access new markets.

Composition
Like-minded producers who want to set themselves apart.

Example
Global Salmon Initiative (GSI)

Description
Salmon aquaculture producers decided that the reputation of the entire industry (e.g., license to operate, expand production and/or gain market access) depended on the reputation of the worst performers. They created the GSI to help each company improve performance, reduce key environmental and social impacts, and become ASC (Aquaculture Stewardship Council) certified. To drive industry improvements at speed and scale, they worked together pre-competitively on issues related to environmental performance. They established dedicated working groups to share better practices and expertise and trial innovations on key topics such as feed, fish health and welfare, and environmental footprint. They publish annual data by company and region on key sustainability metrics to show how the members are performing, to show both progress and target future efforts. The GSI continues to work on industry-wide challenges related to sustainability.

Strengths
Working together and sharing knowledge about impacts allowed each company to learn faster than it would have otherwise. Virtually every company knew how to reduce an impact that others did not, and where there was no answer, collective expertise, global perspectives, and ability to trial different options allowed members to determine effective approaches more quickly than working separately. In short, they could all learn faster by sharing data, not just about results, but also how to achieve them.

Weaknesses
The concentration of production (15 companies, >40% of global production, plus 8 supply chain associates) is unusual, as is the CEO willingness to work together to develop a future-oriented culture based on collective efforts to measurably improve the sector. A neutral and gifted facilitator was hired by the group, and the CEOs retained oversight and input into the work; both were key to the GSI's overall success. Much of the work to identify key impacts and obtain global buy-in had already been achieved by the Salmon Aquaculture Dialogue which developed the ASC salmon standard, and supported a clear framework by which GSI members could benchmark sustainability improvements. Without this, it is unlikely the group could have been formed much less succeeded.

Results (in 6 years)

- 60% of GSI production ASC-certified (40% of global production), 3 times faster than either the FSC (Forest Stewardship Council) or MSC(Marine Stewardship Council) for any species.
- From 2013 to 2023, GSI members reduced marine ingredients in feed by 20% on average, cut chemical use to treat sea lice by 56%, and increased non-medicinal treatments by >70%.
- Anecdotal data suggests that improved transparency via GSI helps demonstrate the sector's improvements and allows for more constructive dialogue with key stakeholders.
- GSI companies highlighted industry opportunity for fish oil substitutes and spurred innovation.
- GSI is now working to reduce GHG (Greenhouse Gas) emissions from all salmon aquaculture by aligning accounting, reporting GHG reductions annually, and sharing information on impacts of mitigation efforts to support further development at speed and scale.

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3 Focus on single issue or improved production of specific commodity/ies

Purpose
Encourage improved performance against a single critical impact.

Composition
Like-minded organizations working together with representatives from along the supply chain.

Examples

- **Consumer's Goods Forum (CGF) committed to take deforestation out of beef, palm oil, pulp, and soy supply chains**
  - In 2010, 18 companies agreed to deforestation-free (D-free) supply chains for 4 commodities by 2020
  - This created awareness of the issue and hundreds of companies made similar commitments
  - Traders, slaughterhouses, and paper companies have not made their supply chains D-free
- **World Cocoa Foundation — All key players agree to make cocoa more sustainable**
  - The largest global cocoa players agreed about cocoa's key impacts and to work to reduce them
  - The impacts were agreed upon, companies committed funds, and each developed its own strategy
  - They did not work together or share information and all key indicators continued to decline
- **Platform to shift petroleum-based polyethylene terephthalate (PET) to Bio-based & Recycled PET**
  - 15 companies agreed to source bio-based PET to eventually transform the plastics market
  - All companies shifted sourcing with some shifting all PET use to bio-based PET
  - Key issue was a Brazilian company's patent and charging exorbitant prices
- **Unilever, Procter & Gamble (P&G), Dial Henkel introduce cold-water detergents into the EU**
  - Three companies released cold-water detergent to reduce water and energy to wash clothes by 70%
  - They launched on the same day and agreed to continue existing prices until new price was clear
  - The EU fined Unilever and P&G €315.2 million for collusion about their pricing scheme after Dial Henkel laid out the pricing scheme[1]
- **Fast food restaurants sharing reusable food service in one Japanese town (1999-2020)**
  - Fast food companies (McDonald's, Burger King, Starbucks, etc.) agreed to use the same reusable materials and a common cleaning service in a Japanese town to reduce waste to landfill
  - The biggest issue was not being able to use the containers for logos and advertising
  - The experiment is not yet over

Lessons Learned
The potential for change when tackling a specific issue or commodity is significant when a large number of stakeholders or several influential companies come together to address it. However, if the depth of commitment is lacking from some stakeholders, it will limit the chance of success. Also, if the companies test the product and system to their satisfaction and then individually pursue their own plans to expand use, this too will reduce the speed and scale of the impact.

[1] https://ec.europa.eu/commission/presscorner/detail/en/IP_11_473

4 Downstream actors using a single issue to leverage change in value chains

Purpose
Drive measurable reduction of food waste in the hospitality sector in the US.

Composition
Initial partners included WWF, Hilton Worldwide, Marriott, and the Rockefeller Foundation. The American Hotel and Lodging Association (AHLA) was convinced to create a pre-competitive pilot with Hilton, Marriott, Hyatt, IHG, etc., >60% of hotel beds globally. It included participation from both the AHLA Sustainability and Food & Beverage Committee teams.

Example
Hotel Kitchen Platform

Description
In 2016, WWF launched a hospitality and tourism platform to address Sustainable Development Goal (SDG) 12.3 (reduce per capita food waste globally by 50%). WWF developed Hotel Kitchen (www.hotelkitchen.org), a free tool kit available to the entire industry that provides guidance and training on food waste prevention, donation, and diversion from landfills. Both Hilton and Marriott have fully adopted the Hotel Kitchen platform. Immediately after publishing the tool, they set global targets for food-waste reduction matching SDG 12.3 ambitions.

After Hotel Kitchen was released in 2017, it was expanded to >20 countries in Europe, China, Brazil, SE Asia, and Africa and catalyzed Switch Asia, which was launched in 2020 to address food waste. The industry developed a standard methodology for brands or individual properties to track their waste, diversion rates, and overall progress. The standard methodology allowed brands to set and report against metric-based goals. In 2019, a program was launched to standardize methods for food waste in hotels that allowed both brands and independents to set goals and report on food waste annually. The standards are harmonized in the Pacific Coast Food Waste Commitment (PCFWC) and Europe's International Food Waste Coalition (IFWC).

Strengths
- Industry-specific collaborations help to create data standards and methodologies that are critical to baselining efforts. Lessons learned implementing the commitments can be shared to learn faster.

Weaknesses
- Not all businesses in the sector chose to be involved in the pre-competitive group
- Some data and practices are still seen as "competitive," and companies hide behind competition law. This interpretation was common in the past, but issues are becoming more precompetitive.

Results/Lessons
- Achieving scale depended on adoption and influence of key brands
- Establishing industry-wide methodology, pilots, and data sharing in 12 months was critical
- Hospitality is an example for the National Restaurant Association and the Food Marketing Institute
- Hospitality work is being leveraged, e.g., the PCFWC to set food waste goals to reduce GHG emissions

5 Public schools

Purpose
Reduce food waste in US public schools and create a culture of food waste reduction.

Composition
Washington, DC schools, WWF, and the Kroger Foundation began the work, which then expanded to 9 US cities and 46 schools. To date, the program has conducted > 220 school audits.

Example
Food Waste Warriors Cirriculum

Description
The US National School Lunch Program serves 31 million children in >100,000 schools daily, and the School Breakfast Program serves >14 million meals to eligible children. Improving school meal programs may be the most important way to reduce waste while educating young Americans about the impact the food system has on the environment and biodiversity. It provides a simple methodology for calculating GHG and water impacts by inventorying food waste and linking it to land use and biodiversity impacts.

WWF launched a pilot with Washington, DC schools to identify and reduce food waste and turn the cafeteria into a classroom. The initial research suggested that school food waste is difficult to address and requires partnerships within each school and across school districts. Engaging students on an area of mutual interest and passion — protecting wildlife — proved an effective strategy. In 2017, WWF developed a toolkit for schools to raise awareness about how food (production and waste) impacts biodiversity and habitat loss globally. Adapting the 2016 publication, the Guide to Conducting Student Food Waste Audits, WWF created a curriculum that uses food waste audits and citizen science to collect data on food waste nationally and educate youth and teachers on linking the food system to conservation. The Food Waste Warrior is one of the most popular toolkits on the WWF Wild Classroom platform. After a 12-month pilot, WWF published data from 222 audits, *Food Waste Warriors*. This report garnered bipartisan legislation in the US House and Senate to incentivize food waste reduction in schools and dubbed the program "transforming cafeterias into classrooms." This work helped launch the Zero Food Waste act in 2023, which included educational programs for managing school food waste.

Strengths
- This strategy improves education, reduces waste, saves money, and has generational impacts
- This platform will help get youth involved in state and local advocacy campaigns

Weaknesses
- Building lesson plans into curriculum annually and with teacher turnover is difficult
- Expanding the program to >100,000 schools is difficult, expensive, and requires bipartisan agreement, and will be heavily debated in the Child Nutrition Reauthorization

Results
- Reporting from 46 schools, across 9 cities, in 222 audits. All data is available for other schools
- Youth-led advocacy campaigns are effective. Once armed with information and insight, students have the ability to influence food waste issues in their communities.[2]
- Legislation created a federal program for curriculum and food waste data collection. School food waste audits now have access to grants for standard audits.

[2] https://ec.europa.eu/commission/presscorner/detail/en/IP_11_473

6 Precompetitive collaboration to assess products against sustainability criteria

Purpose
Help the consumer goods industry to assess and deliver more sustainable consumer products.

Composition
Manufacturers, retailers, suppliers, service providers, NGOs, governmental agencies, and academics.

Example
The Sustainability Consortium (TSC)

Description
TSC convenes diverse stakeholders to work collaboratively to build science-based decision tools and solutions addressing sustainability issues that are materially important throughout different products' supply chains and lifecycles.

The main tool is a sustainability reporting and assessment system that helps retail buyers communicate efficiently and effectively with suppliers. The system asks quantitative, category-specific questions and tracks supplier performance using key performance indicators (KPIs). Those can be tracked over time and used to make within-category comparisons between suppliers, which address product sustainability more effectively and efficiently by understanding which issues are key to their downstream retailers.

Strengths
- TSC was launched by Walmart and brought a wide range of stakeholders in its supply chain to the table in the early days to participate and build tools
- It used a science-based approach and anchored the work with universities and NGOs working with companies to ensure both practicality and credibility

Weaknesses
- Many retailers claimed that the tools were too Walmart-specific for them to implement
- A fee is required to use the tools, rendering them less available and transparent as standards or tools that are developed by NGOs and made widely available
- Life Cycle Assessments (LCAs) are the main tool for assessing and reporting. Not all LCAs are equal or credible. They can be less reliable when inputs are heavily edited. LCAs show some key impacts but ignore others.
- Many retailers are looking for an easy fix for sustainability challenges and use certifications to advance their sustainability goals. None address the full range of impacts, similar to LCAs.

Results
- TSC created a shared understanding of key issues by product category across a wide range of stakeholders and other retailers, e.g., Kroger, Ahold Delhaize USA, Walgreens, and more
- Walmart has implemented TSC tools and measured results of year-on-year improvements across thousands of suppliers who have built visibility into their supply chains, trained suppliers, redesigned products, and partnered with NGOs
- Many retailers leverage the 'hot spot' data (science-based assessment of materials) even when not using the full set of tools for their supply chains
- Other retailers are using TSC tools to demand improved performance (using impact measures, not just practices) on the ground to protect natural and social capital

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7 National systems to promote legality, traceability, and continuous improvement

Purpose
Establish a national food export system that has full sourcing traceability to illuminate illegality, help product labelling, and create a national database for producers to register, report on, and learn from others about reducing key impacts and implementing continuous improvement strategies.

Composition
All producers, co-ops, processors and brands that export food products from Ireland must participate, e.g. beef, dairy, grains, fresh fruits and vegetables, seafood (wild and aqua).

Example
Ireland's Bord Bia and Origin Green

Description
Bord Bia, established in 1994, brought together the former Irish Meat and Livestock Board and the Irish Trade Board. It later integrated the horticultural and seafood industries and now supports the national and international promotion of Irish food, drink, and horticultural businesses through its network of global offices.[3]

On-farm assessments are a key element of the Origin Green program, with Bord Bia's existing Quality Assurance infrastructure enabling the rollout of sustainability assessments on farms. The Sustainable Assurance Schemes expanded the original scope of farm-level assessments (including traceability, animal health and welfare, food safety, and general environmental issues) to include tracking of additional sustainability measures.[4]

Strengths
- Governments are ultimately responsible for the required reporting for food exports
- A national program can require participation as well as determine what producers measure, how they measure it, and when they must report it
- The database that has been created contains information that allows producers to compare themselves with the average of the country as well as some of the key impacts
- Producers who do not export food can also be included in the program

Weaknesses
- The system is focused on traceability and market access of Irish food exports more than key impacts, e.g. nutrient loading and freshwater runoff, habitat and biodiversity loss, etc.
- The system is based on averages rather than ranges and is not divided by producer regions, much less the better or worse producers
- The biggest impacts will be from the poorest producers who do not export products

Results
- The system has reduced incidents of illegal exports and has increased the confidence of downstream buyers in Irish products
- The system has been used to position Irish food products more positively in new markets

[3] https://www.bordbia.ie/about/about-bord-bia/
[4] https://www.origingreen.ie/who-is-involved/producers/

8 Statement of Support (SoS) commitments to DCF soy produced in Brazil's Cerrado

Purpose
Use market demand to drive traceable DCF soy production and exports from the Cerrado, Brazil.

Composition
More than 150 companies and dozens of local and global NGOs.

Example
SoS Conservation and Markets Initiative (CMI)

Description
The Brazilian Cerrado is one of the world's most important biomes, home to 5% of the planet's biodiversity and sequestering 13.8 billion tons of carbon. It has lost 50% of its original habitat to agricultural expansion, primarily driven by expanding production of beef and soy, a key animal feed ingredient.[5] The region produces 60% of Brazil's soy, but there is an abundance of unused and degraded agricultural land suitable to produce soy. Deforestation and habitat conversion are not necessary. Market solutions can provide farmers with incentives to rehabilitate degraded land to produce soy.

In September 2017, > 60 Brazilian NGOs released the Cerrado Manifesto, a call for "immediate action… by companies that purchase soy and meat from within the biome, as well as by investors active in these sectors."

By October 2017, 23 global brands signed the Statement of Support ("SoS") for the Cerrado Manifesto to prevent deforestation, mitigate risks from climate change, and promote resilience in this important agricultural region. By the end of 2020, > 160 companies had signed the SoS commitment.

The SoS signatories supported the Grupo de Trabalho do Cerrado (GTC), a Brazilian multi-stakeholder forum including the soy industry and civil society, to identify how to support local initiatives and market-based financial incentives to help farmers go beyond legal requirements for DCF soy. SoS launched the Cerrado Funding Coalition (CCM) to provide funding to support farmers to produce soy only on existing agricultural land. The goal was a US$250 million fund to address the issue for five years.

Strengths
- 68 companies (feed and animal protein producers, retailers, brands, and banks) committed to purchase or support DCF soy from the Cerrado, using the market to halt deforestation

Weaknesses
- Contributions were voluntary, and only three companies contributed ($13 M) to the Fund
- The proposed support was for five years and would not solve the problem, only postpone it
- The traders were opposed to the CCM and did not want to halt deforestation and conversion

Results
- Funding committed to the CCM was insufficient, so the Fund failed. The group is still interested in finding a way to use the market to change the trend but members are unwilling to pay a per ton fee per purchase.

[2] https://cerradostatement.fairr.org/about/

9 Uncommon collaboration without obvious aligned interests

Purpose
Map the genomes of 101 neglected African food crops, put all genetic information in the public domain, and train African plant breeders in modern genetic marker assisted selection.

Composition
25 governments, scientific and ag bodies, universities, companies, regional organizations, and NGOs, and >20 domestic and international ag organizations and the UN FAO are connected to improve food security and incomes while reducing environmental impacts of food produced in Africa.

Example
African Orphan Crops Consortium (AOCC), the African Plant Breeding Academy (AfPBA), and the African Plant Breeding Academy CRISPR (AfPBAC)

Description
The AOCC is an African-led, international consortium founded in 2011 to sequence, assemble, and annotate 101 African orphan food crops to allow scientists to improve crop productivity, climate resilience, disease and pest resistance, and nutritional quality while training African scientists to best use genetic information. All genetic 'maps' are published online with open access. The intellectual property is held by the African Union.

The AOCC, AfPBA, and AfPBAC are run by UC Davis. It is the most comprehensive and integrated crop improvement venture on the continent. AfPBA is funded by the Alliance for the Green Revolution for Africa (AGRA), LGC, BGI, and Mars, among many donors, and is hosted by the World Agroforestry Centre (ICRAF) in Nairobi, Kenya.

Strengths
- Only entities committed to the terms and conditions of the work can join
- They bring complimentary skills and resources
- Howard-Yana Shapiro of Mars organized the work and singlehandedly moved it forward
- African Union Development Agency (AUDA-NEPAD) and African countries allowed the genetic mapping, supported the work, and have benefited from it

Weaknesses
- Only one person knew all the players and could bring them together to fund the work
- Chronic malnutrition is rampant in Africa, and there is little international support to halt it

Results
- The genetics of 76 crops have been mapped and are being put in the public domain
- 151 plant breeders trained from 28 African countries; 90% are PhD, 40% women, mainly early- and mid- career scientists have graduated though Class V
- Graduates have raised $165 M for crop improvement, a 30X ROI on all training funds
- All in all, these crop improvement scientists are working on 118 crop species, 32 of which are AOCs. There are 240 breeding programs across the continent associated with the AOCs. The AOCC/AfPBA scientists are improving 65 other crops through 282 NARS breeding programs.
- Graduates improve cultivars from > 105 crop species — 55 are on the AOCC list
- Graduates have published >670 peer-reviewed scientific papers on African food crops

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10 Develop strategy to encourage and support secondary materials markets

Purpose
Develop a common framework and guiding principles for industry and other stakeholders to help companies source secondary materials that protect profits, the environment, and natural resources.

Composition
12 global brands, policymakers, materials experts, management solution providers, and NGOs.

Example
The Cascading Materials Vision (the Vision)

Description
The Vision arose to drive stakeholder alignment on waste reduction and reuse of materials in disparate ways. It coalesced various entities with different priorities and led to the creation of a framework to prioritize actions together, as well as brought more parties to the table in a solutions-oriented way.

Aligned around a more responsible future, the Vision aims to use a common framework of guiding principles to:

- Inform decision making to expand the availability and use of high-quality secondary materials.
- Influence all relevant sectors to achieve more sustainable, inclusive solutions by addressing the systematic issues that prevent the creation, trade, and use of secondary materials.

Strengths
- By signing the Vision, signatories commit to follow its guiding principles in all future endeavors
- The collaboration is a wide range of stakeholders with various priorities. Collective alignment and action are critical to scale change because the systemic barriers are outside the control of any company. A diverse platform can help remove obstacles and influence industry as a whole.
- The framework can help WWF influence relevant sectors toward more sustainable and inclusive solutions to address systemic issues that prevent creation, trade, and use of secondary materials
- The strategy educates policymakers about systemic challenges facing secondary materials creation and use and serves as the basis for dialogue to achieve policies to address these challenges
- The Vision is a foundation for promoting legislation that supports materials management programs that are socially, environmentally, and economically sustainable

Weaknesses
- The Vision does not have a mechanism for ensuring accountability by signatories. It is only a set of guiding principles with no credible system to verify compliance and results
- The Vision has not explored the use of creating pooled demand among its members to increase the availability of secondary materials that are scarce or harder to find

Results
- The 10 principles inform all material science work and guide all strategy-setting conversations with companies

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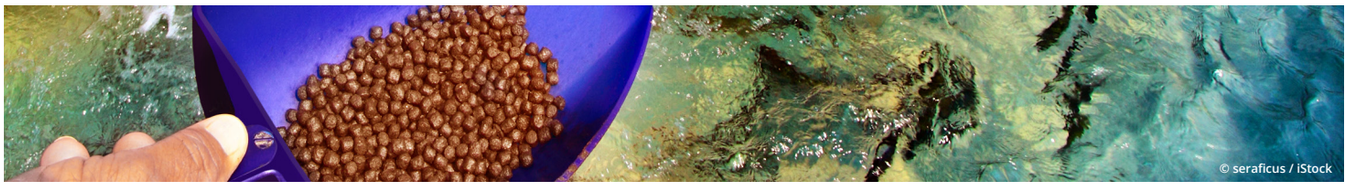

11 Creation of an environmental, social, and governance (ESG) screen for feed ingredient transparency

Purpose
Create an ESG screen to encourage greater transparency of feed ingredients for salmon aquaculture and other aquaculture species that use feed as well as livestock feed, as the feed industry is typically opaque about ingredient sourcing and therefore supply chain actors struggle to assess their risks and now their embedded GHG emissions.

Composition
Led by Grieg Seafood with collaboration from GSI, WWF, and feed companies.

Example
Grieg Seafood, the Global Salmon Initiative, and three feed companies have worked with WWF to develop an ESG screen for aquaculture feed ingredients.

Description
After gaining insight across suppliers, WWF and Grieg developed a tool to standardize requests made by protein producers of feed companies. The tool enables risk assessment from different origins, the same ingredient sources, production systems and geographies, and individual risk profiles of feed company suppliers. The tool has provided insight into feed ingredient risks and identified key data gaps within individual supply chains. The tool continues to be developed with the goal of transferring it to a cloud-based program to facilitate ease of use and expand to livestock feeds.

Strengths
- Looking at feed ingredients with greater transparency has the potential to improve risk across all industries that use animal feed
- By focusing on ESG rather than sustainability, the tool is identifying risks versus measuring all sustainability issues, making it a more manageable start to tackling feed challenges
- The tool is business-to-business (supplier to farmer), which maintains data confidentiality
- The tool is adaptable for other aquaculture and livestock feeds or even for pet food
- Tools like this will be essential as climate change shifts production each year as well as where feed ingredients will be produced in the future. This provides a jump start on that journey.

Weaknesses
- The feed industry is opaque. Historically it didn't share nutritional data much less ingredients. Asking where ingredients are produced is the next hurdle. Salmon aquaculture may be the easiest place to start.
- When insufficient data is shared, feed companies receive poor ESG scores. Accurate data would be a better risk barometer for companies to address challenges and assign risks.
- An ESG screen is only part of the sustainability story for feed; companies will need to go deeper to effect change in their supply chains.

Results
- Feed companies have shown some openness in sharing information, but more is needed.
- The tool is still in development, but promising discussions are being held through this process.

12 Developing a credible baseline for global shrimp aquaculture industry, 1999-2002

Purpose
Create a body of credible global baseline data about shrimp aquaculture, its growth and social and environmental impacts, regional variations, efforts to reduce impacts, regulations, etc.

Composition
Network of Aquaculture Centers of Asia-Pacific (NACA), UN FAO, World Bank, and WWF.

Example
The Shrimp Aquaculture Consortium

Description

In the 1990s, there was growing concern from NGOs about the environmental and social impacts of aquaculture globally and shrimp aquaculture in particular. Shrimp aquaculture was the fastest growing food production sector at the time. The increase in information globally was further complicated by the recycling of old and/or inaccurate information. The overall lack of up-to-date, credible information fueled increasingly acrimonious exchanges while simultaneously threatening market access or the ability to expand the industry on the one hand or to influence it by outsiders on the other.

WWF (with support from the Avina and MacArthur Foundations) and the World Bank provided $1 million to support research on the sector. From 1999-2002, the four consortium partners identified key research projects, researchers to lead them, and developed general terms of reference for each. WWF and NACA oversaw the actual research and the review and dissemination of the results. In the end, the Consortium funded 44 research projects ranging from very specific, pond-level management practices to global assessments of regulations of shrimp aquaculture in all producing countries.

The Shrimp Consortium supported independent research to assess key issues of concern to the shrimp industry and issues that were receiving critical attention. Objective assessments could help make public the state of global shrimp aquaculture and identify areas of misinformation and gaps in knowledge that could be used to target areas or issues for improvement.

Strengths
- Involved 160 researchers, hundreds of meetings and 10,000 individuals
- Raised awareness and/or reduced NGO concerns about key social and environmental impacts
- Built consensus about investments on the key impacts and issues

Weaknesses
- Provided few positive impacts for better producers but created awareness among poorer ones

Results
- The industry agreed to halt expansion of shrimp aquaculture ponds in coastal mangroves
- The World Bank released Shrimp Aquaculture and the Environmental position paper
- The FAO used the review of regulatory structures to advise governments about regulations
- NACA used the research to tailor its aquaculture offerings to its government members
- The WWF Global Aquaculture Dialogues and standards (later the ASC) were based on this work

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13 Reduce a key impact in the production of food

Purpose
Reduce the overall toxicity of pesticides used to produce food.

Composition
The Wisconsin Potato and Vegetable Growers Association (WPVGA), University of Wisconsin, Wisconsin Extension, The International Crane Association, WWF.

Example
Protected Harvest

Description
In the mid-1990s, the WPVGA approached WWF asking to pay a licensing fee to use the panda logo on bags of their potatoes. They said that they were being accused of fouling groundwater. Neighboring farms and families were concerned that potato production was reducing the value of all properties. WWF was concerned that the pesticides might be affecting sandhill cranes that stopped on the fields during their annual migrations.

WWF told the WPVGA that the logo wasn't for sale but that we would work with them to reduce their pesticide use. We then recruited the other partners and collectively developed a strategy to reduce pesticide use in producing potatoes in Wisconsin. Working together, the partners developed a strategy to measure and reduce pesticide toxicity. They developed an index which allowed pesticides to be compared in terms of their overall impacts. It took three years to develop the toxicity index, have it peer reviewed and assess the actual pesticide usage among WPVGA members. It took another three years for growers to understand and implement the strategy. The entire process took six years from the beginning until the system was implemented on WPVGA farms.

Strengths
- A multistakeholder group with varying expertise came together to develop a science-based solution to a problem that worked for producers, their neighbors, sandhill cranes, and the environment
- Toxicity budgets were developed that allowed producers to adjust use based on conditions so that they would not lose a crop while also avoiding pesticide resistance

Weaknesses
- Producers wanted Protected Harvest to help them get a premium for their product. That never worked. Consumers either wanted no pesticides or lower prices. Ironically, organic potato producers could not be certified as the pesticides and the volumes they used were too toxic.

Results
- The WPVGA growers reduced the toxicity of their pesticide use by 50% even though only a small percentage were ever certified. All made more money by using fewer pesticides.
- Because of their demonstrated ability to measurably reduce pesticide use, the WPVGA was asked to develop a similar system to promote soil health
- Within 10 years, WWF launched 15 commodity platforms to develop performance-based standards for different commodities