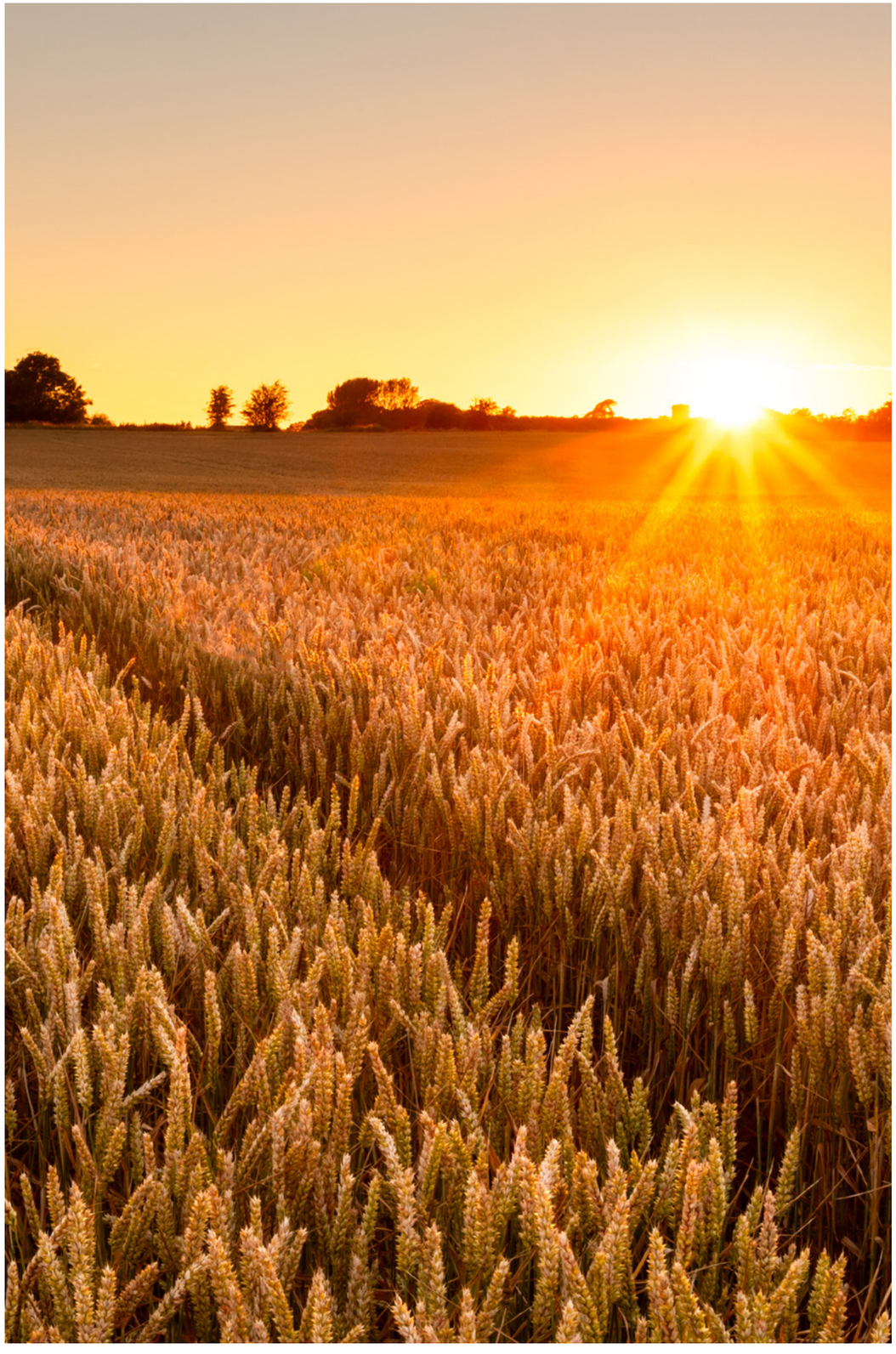
Sustainable Markets Initiative

THE SUSTAINABLE MARKETS INITIATIVE AGRIBUSINESS TASK FORCE

SCALING REGENERATIVE FARMING: AN ACTION PLAN



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"Farmers are rational business people. They farm the way they do as a result of the market dynamics we have created through the food system. As leaders of companies that play a key role in that system, we can alter those dynamics in such a way that more farmers can and will want to farm in a more sustainable way."

SMI AGRIBUSINESS TASK FORCE

FOREWORD

The food supply system, on which we all rely, is threatened by climate change and biodiversity loss. Regenerative farming can help us tackle the environmental impact of and on our supply chains as a critical part of our path to net zero and help to strengthen their future resilience. However, despite many companies and governments acknowledging these benefits and despite efforts to advance this approach on the ground, regenerative farming is not scaling fast enough to address the challenges we face. The rate of growth needs to triple to reach 40% of global cropland by 2030 and deliver against the world's need to limit climate change to 1.5 degrees.[1] Why is it not scaling faster?

At the request of the Sustainable Markets Initiative, we formed a Task Force to answer this question and to identify what we, the private sector, can do about it. This Action Plan is the result of a year of collaborative work among Task Force members, other companies, stakeholders and, most critically, farmers. Building on the progress of other initiatives, we've used three food value chains as case studies from which to identify the reasons for the slow adoption and to develop actions the private sector can take to accelerate it.

Farmers, large or small, farm the way they do as a result of the market dynamics we have created through the food system. Right now, those dynamics favour current farming methods but, as leaders of companies that play a key role in the system, we can make changes that mean farmers can - and will want to - farm in a more sustainable way. We have therefore chosen to focus on what we, the private sector actors in the value chain, need to do ourselves to make regenerative farming a 'no-brainer' for the farmer and support and enable them to transition to and sustain this new system over the long term.

With the inflationary environment and widespread supply chain disruption, it would be easy to reduce our focus on the longer-term challenge of scaling regenerative farming. But we believe it's vital we maintain a sense of urgency. We must take action now to avoid more acute crises in the future.

One of the issues slowing progress is that regenerative farming is not an exact science; we don't have all the answers. But we know enough to be clear that it's the right direction of travel and we see emerging proof points that give us confidence in our ability to speed up its implementation. There are parallels with how commitments to net zero have unfolded: discussions in boardrooms about the cost of action have now moved to an acceptance of the cost of inaction and a willingness to move in the right direction. We in the global food system must similarly ensure we don't give up on progress because we are waiting for perfection.

The Sustainable Markets Initiative launched the Terra Carta in 2021; a mandate that puts sustainability at the heart of the private sector, providing a proposed set of principles to 2030 that puts nature, people and planet at the heart of global value creation. The findings of this Action Plan and the broader work of the Agribusiness Task Force directly support the following articles of the Terra Carta:

Article 1: *Creating Sustainable Industries*

Article 2: *Default Sustainable*

Article 7: *Nature, the True Engine of Our Economy*

Article 9: *Adopt Common Metrics and Standards*

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EXECUTIVE SUMMARY

Regenerative farming needs to scale three times faster to address the threat to a resilient and sustainable food supply presented by climate change and biodiversity loss. This Action Plan sets out to identify what can be done by the private sector to accelerate the adoption of regenerative farming, recognising this is imperative to achieving net zero commitments and preventing future supply disruption.

It is the result of collaborative work carried out by a Task Force representing key companies in the global food supply system with the support of other players from across the value chain.

The Action Plan has been created with a focus on what the private sector can do to create the conditions in which it is a 'no-brainer' for farmers to want to farm regeneratively; we believe this is the key to achieving scale.

WHY REGENERATIVE FARMING IS NOT SCALING

Our work showed that there are three main reasons why regenerative farming is not scaling:

The short-term economic case is not compelling enough for the average farmer

There is a knowledge gap in how to implement regenerative farming

Drivers in the value chain aren't aligned to encourage regenerative farming

WHAT WE DID

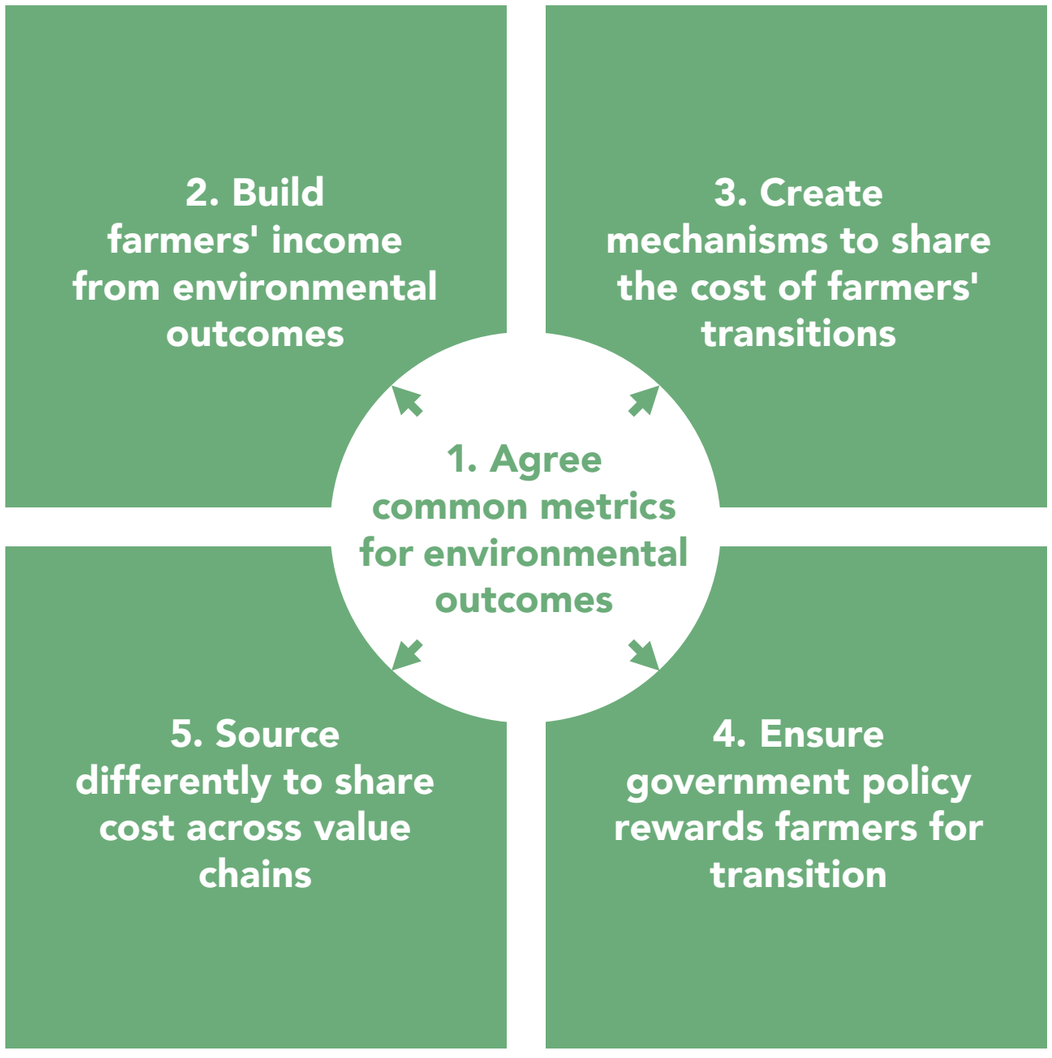
We created three case studies by exploring these value chains.

Our aim was to look at different farming archetypes so that the recommended actions could apply to a wider range of crops and geographies. For each case study, representatives from each step of the value chain worked together to understand the issues from the farmer's perspective and identify what each sector could do to make regenerative farming more attractive to them.

We also interviewed farmers and other stakeholders in order to fully understand how the current value chain and market conditions may be creating a barrier to the adoption of regenerative farming as well as to identify examples of interventions demonstrating potential to achieve mainstream scale.

THE BIG FIVE

The biggest constraint of the three on page 5 is economic; if the economic case is not sufficiently attractive, then farmers will not look to overcome the other issues. For this reason, we have focused on the Big Five issues that relate to how to make regenerative farming pay for the farmer. These are complex system changes that require further planning and collaboration across the food system and with governments.



Actions to take now

We've also created a set of actions which are comparatively straightforward and enable companies throughout the value chain to make their own changes; the Action Plan contains a sector-specific guide to help companies understand what they can do right away.

If these Big Five issues can be addressed, coupled with progress on knowledge and drivers through implementing the 'Actions to take now', there is every reason to believe that scaling regenerative agriculture across the world is achievable.

Key insights for successful implementation

To succeed in implementing the actions and solving the Big Five issues, we must:

- **Shift our mindset** from focusing on what the farmer needs to do to what our organisations can do to make it easier and more attractive to adopt regenerative farming
- Accept ambiguity and **make decisions based on the balance of evidence,** not precise costs and valuations
- **Get better at collaboration** within and across sectors and value chains to maximise the potential benefits and cost sharing opportunities
- **Assign our commercial and procurement experts** to develop new models, not only sustainability teams
- Design interventions with a **high level of local specificity** and cultural awareness

Next steps

The Task Force is set to continue its work into 2023 to put this plan into action.

- Contact info@sustainable-markets.org to find out how to work with us on tackling the Big Five issues
- Implement your sector's Actions to Take Now as outlined in Part 2

PART 1:

THE BIG FIVE: ISSUES WE NEED TO SOLVE TOGETHER

WHAT WE DID AND WHY

OUR GOAL

Our intention is for this Action Plan to make it clear what companies in the food system can do to accelerate the pace of adoption of regenerative farming at scale. We have focused on the following:

- What we, the companies in the food system, can do to support farmers to transition to regenerative agriculture, as opposed to telling the farmer what to do
- Hearing the perspective of all actors in the value chain, particularly farmers, and keeping the farmers interests at the centre of the actions we recommend
- Driving action by making it clear who should do what to accelerate regenerative farming
- Not letting perfection get in the way of speed
- Collaborating with existing initiatives to build on work, rather than duplicate

IF BUSINESSES ARE TO MEET THEIR NET ZERO COMMITMENTS AND PROTECT AGAINST FUTURE SUPPLY-CHAIN DISRUPTION, THEY MUST FACILITATE A TRANSITION TO A MORE SUSTAINABLE FOOD SYSTEM.

WHY IT'S IMPORTANT

Agriculture is the world's largest industry. It employs more than one billion people and generates over $1.3 trillion of food annually. Pasture and cropland occupy around 50% of the Earth's habitable land and provide habitat and food for a multitude of species. Farming is the only viable livelihood option for three-quarters of the world's extremely poor people.[2]

Although opinions vary on the extent to which agriculture contributes to global emissions and biodiversity loss, most people agree it is significant and that it accounts for a large proportion of the total greenhouse gas emissions (GHG) for businesses in the food system. Agriculture is also one of the sectors most threatened by climate change; the impacts are already being seen in most farming regions of the world, damaging the resilience of our supply chains. If businesses are to meet their net zero commitments and protect against future supply-chain disruption, they must facilitate a transition to a more sustainable food system.

Fortunately, agriculture has the potential to be a powerful solution to these same environmental challenges. Farming systems and practices can be changed to store more carbon and water in the soil, improve water quality and biodiversity and improve the resilience of farms, as well as produce the nutritious food needed by the growing global population.

But, despite all this, regenerative farming is not scaling fast enough. The growth rate needs to triple to reach around 40% of global cropland and deliver against the world's need to limit climate change to 1.5 degrees.[3]

The barriers to adoption are well documented[4] but we need to do more to overcome them and make regenerative farming the most attractive option if we are to secure a sustainable supply of food for current and future generations.

WHAT WE DID

We chose these three value chains based on the environmental impact of their production, the Task Force's sourcing footprint and influence, and the transferability of learnings to other crops and geographies.

The aim was to identify different farming archetypes: these are major commodity crops with different agronomic, demographic and market characteristics that, along with corn/maize, produce almost 60% of the world's calories.[5] While they represent great diversity and we believe the learning we've developed from them is applicable to a range of other types of farming, it should be noted they are all annual row crops (albeit in different regions).

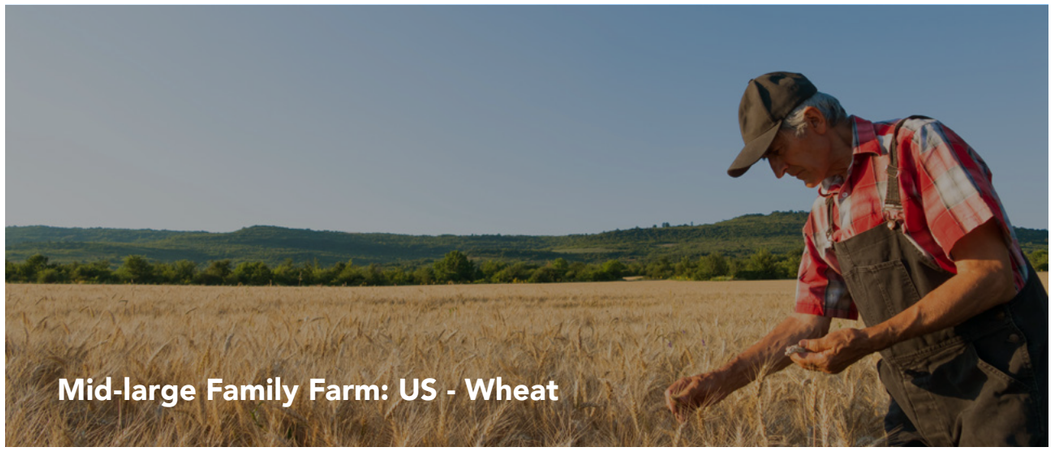
Task Force members, in collaboration with other organisations representing every step of the value chain, mapped out how each operates today, identified the barriers within each to regenerative farming, created potential solutions to overcome the barriers, and determined how the value chain should operate in the future to enable regenerative farming to become mainstream. As part of this, we modelled the financial impact on the farm business P&L of transitioning to a regenerative system. Throughout our work, we spoke to farmers to develop our thinking and ensure we were accurately reflecting their perspective.

Governments play a key role in agriculture in most countries and have a significant influence on what happens on farms. Public policy is therefore a critical piece of the picture but our focus in translating this into action has been on what the private sector can and should do to best influence government rather than on making policy recommendations directly.

See the Appendix for more detail on our approach.

There is much debate about how to pinpoint and define regenerative farming. We believe it should not be defined too narrowly and that energy will be better spent in agreeing common outcome metrics rather than chasing a concrete definition. For the purpose of our work, we have adopted OP2B and SAI's principles, shown here.[6]

- **Protecting and enhancing biodiversity at and around farms**
- **Improving or preserving carbon and water retention in the soil, leveraging the power of plants, livestock and agricultural practices**
- **Supporting the livelihoods of farm communities**
- **Enhancing the resilience of crops and nature, while decreasing pesticide and fertiliser usage (by optimizing nitrogen use efficiency)**



WHY REGENERATIVE FARMING IS NOT SCALING FASTER

We identified three key reasons why regenerative farming is not scaling fast enough: the short-term economics are unattractive to farmers; there is a knowledge gap; and drivers are not aligned across the value chain. These reasons are interlinked and can't be addressed in isolation. However, if we cannot address the first and make the short-term economic case more compelling, action on tackling the knowledge gap and alignment of drivers will have limited impact.

"A LOT OF IT COMES DOWN TO CASH. WE NEED INCENTIVES TO ENTER INTO UNPREDICTABLE GROWING PRACTICES, EITHER BY SUPPORTING ADDITIONAL EQUIPMENT AND OR THE INPUT DIFFERENCE."

US FARMER

1 The short-term economic case is not compelling enough for the average farmer

At present the short-term costs of transitioning to regenerative farming are too high and the certainty of financial benefits too low to motivate the average farmer to overcome the many other barriers to change (e.g. lack of knowledge, cultural norms etc).

For example:

- Why should a farmer bear the financial risk of a change being driven by other actors in the value chain?
- How can anyone pay for environmental benefits if they can't quantify them?
- How can a farmer assess the value of the environmental benefits they are producing?
- Who 'owns' the environmental benefits, the farmer, landowner or manufacturer who's invested in enabling the farmer to create them?
- How can a farmer evaluate what is a good deal or who is a credible partner?

2 There is a significant knowledge gap in how to implement regenerative agriculture successfully

We must build and share knowledge if we are to learn how to implement a regenerative system together. This is critical in supporting farmers to change. For many people in the value chain, not just farmers, it is a major change from current methods, and one that requires new skills and knowledge. There's no one-size-fits-all answer; it is more subjective, requires more judgement, and learning needs to be highly regionalised.

For example:

- How can a farmer know what to do in a regenerative system when expert advisors such as agronomists have limited experience and training?
- There is no instruction manual for regenerative farming and the outcomes aren't easy to measure: how can regenerative farming compare with using products such as crop protection which come with instructions and have a direct and visible effect?
- What would make a farmer confident to move to a new system if benefits won't be seen for years and the research is new?

"I DON'T THINK THERE ARE ANY BARRIERS EXCEPT LACK OF KNOWLEDGE. THE BIGGEST ISSUE THAT WE HAVE IS FINDING PEOPLE WHO UNDERSTAND WHAT WE'RE TRYING TO DO, BUT ALSO HAVE THE KNOWLEDGE TO ADVISE US; THERE'S A REAL VOID."

UK FARMER

"IT IS HARD TO GET TECHNICAL AWARENESS OR CHANGE PRACTICES. THIS IS PREVENTING US FROM MOVING TO NEW SYSTEMS, BECAUSE WE DO NOT HAVE THE TECHNICAL KNOWLEDGE."

INDIAN FARMER

"LANDOWNERS WANT RETURN ON THEIR LAND REGARDLESS OF YOUR TECHNIQUE."

US FARMER

"WE SELL TO ARHTIYAS (AGENTS) BECAUSE MOST OF US BORROW MONEY FROM THEM THROUGH THE SEASON TO BUY CROP INPUTS. ALSO, ONCE THE CROP IS HARVESTED, WE NEED CASH IMMEDIATELY. WE ALSO DO NOT HAVE SPACE TO STORE OUR HARVEST SAFELY. SO, WE ARE FORCED TO SELL."

INDIAN FARMER

3 Drivers in the value chain aren't aligned to encourage regenerative farming

Every player in the value chain has an impact on whether or not the farmer adopts regenerative farming: it is a complex, interconnected system. Changes are needed to ensure that everyone within the system, whether they be C-suite or an on-farm rep, is encouraged and enabled to promote regenerative farming in preference to maintaining the status quo.

For example:

- Why would an agent tell a farmer to use fewer inputs if that means they lose sales?
- Why would a buyer prioritise crops grown regeneratively if they're told to only consider price?
- Why would a farmer adopt a system that has a five-year payback when they only have a one-year lease on the land?
- If a farmer has all their money tied up in their current farming machinery, why would they take on more risk buying new, unfamiliar equipment?
- Why would a farmer change an approach that has worked for them for many years?

WHAT WE CAN DO ABOUT IT

THE BIG FIVE

Addressing the economic case is the most important and also the most complex challenge. We believe there are five big things we need to work on collaboratively across the whole food system to solve this problem – the Big Five.

Progress on the Big Five will take time and cooperation. In the meantime, there are a number of actions companies can take to make it more attractive for farmers to transition to regenerative agriculture. These are outlined in Part 2, where you'll also find a guide to which actions your sector should progress and how.

1. Agree common metrics for environmental outcomes

From: too many disparate efforts to define and measure environmental outcomes.

To: creating a basic set of metrics used by the whole food system.

Why: no company can make decisions about cost and risk-sharing across the value chain without a common currency through which to talk about and quantify environmental outcomes. The metrics and technology to measure environmental impacts at scale are still emerging. This means farmers are asked to report different metrics to multiple customers and stakeholders. It also makes it impossible to compare commitments or progress across farms, crops and geographies.

Although there is broad agreement on the principles and desired outcomes, there is no one universally accepted definition of regenerative farming. Our view is that this will become less problematic if we can agree a set of commonly defined metrics that measure positive outcomes of regenerative farming approaches.

Solving this underpins the other four big issues as without common metrics we will not be able to make regenerative farming an economically viable option for farmers.

What it means for the farmer: they can understand what is being asked of them with regard to environmental goals, share the same data with multiple stakeholders (e.g. customers, government, certification schemes) and validate and benchmark their performance. All this should enable them to unlock new sources of investment, funding and risk sharing.

How: to move at pace, we believe the industry must voluntarily align on a set of metrics rather than wait for regulation at national or supranational level. Companies need to strive for swift alignment rather than waiting for perfection if this issue is to be resolved.

"ONE OF THE BIG ISSUES IS EVERYONE'S AIMING FOR DIFFERENT GOALPOSTS. AND FOR BIG ONES SUCH AS CARBON, WHEN YOU'RE LOOKING AT YOUR CARBON SEQUESTRATION VERSUS YOUR EMISSIONS, THERE'S NO STANDARDISED WAY OF MEASURING THE CARBON IN THE SOIL. SO, YOU CAN USE ONE TEST AND SOMEONE ELSE CAN USE ANOTHER. AND IF YOU PUT THE SAME THINGS IN, YOU'LL GET COMPLETELY DIFFERENT SCORES."

UK FARMER

2. Build farmers' income from environmental outcomes

From: a fast-emerging ecosystem services market with a range of different approaches, not all of which are credible and trusted.

To: a well-functioning market with a credible system of payments for environmental outcomes, trusted by buyers and sellers alike, and helping to fund the long-term business case for regenerative farming.

Why: ecosystem services markets are where 'sellers' (farmers) are compensated for 'services' such as protecting or restoring biodiversity and ecosystems, carbon reduction and removal, reduced soil erosion or watershed restoration. 'Buyers' of these services pay for credits that represent verified quantities of regenerative outcomes according to industry standards.

This is a critical route through which to help fund the transition to more regenerative farming systems by paying farmers who achieve positive environmental outcomes. As with any emerging market, there is a range of approaches. Some are demonstrating significant impact and future potential, based on rigorous and science-based methodologies for verifying outcomes. However, without overall consistency, rigour and best practice, it is challenging to build trust and confidence amongst farmers as well as buyers.

What it means for the farmer: this enables them to monetise the environmental benefits regenerative farming generates during the transition and beyond. This new income stream, in addition to selling food crops, has the potential to make regenerative farming more commercially viable if the incentive is high enough.

How: we need to learn from examples where this is being deployed successfully in order to address the issues preventing ecosystem services markets from scaling. These include quantifying impact in a rigorous way, building credibility and trust amongst both buyers and sellers, increasing transparency around data and carbon ownership, managing potential for investor speculation, optimal and transparent pricing, and inclusion of smaller farmers and early movers.

"IT'S SO EARLY IN ITS DEVELOPMENT THAT THE CONCERN IS YOU SIGN A CONTRACT TO SELL CARBON FOR A FEW DOLLARS WHEN, DOWN THE ROAD, IT COULD BE WORTH MUCH MORE."

US FARMER (NEW YORK TIMES)[7]

3. Create mechanisms to share the cost of farmers' transitions

From: the risk and cost of transition all sitting with the farmer

To: the risk and cost being shared with others (e.g. businesses in the value chain, government, investors and philanthropists).

Why: farm businesses in most parts of the world are low-margin operations, often relying on credit. They are already exposed to risk from the natural environment so appetite for taking on additional financial risk is low, and the costs and risk associated with transitioning to regenerative farming are often a barrier. In most attempts to model the cost of transition to regenerative farming – and in real-life case studies – there is an initial dip in farm profit which recovers (and can improve on the starting point) after somewhere between two and seven years, depending on a range of localised variables (see graph to right).

In our case-study value chains, we found that there would need to be financial incentives and risk-sharing mechanisms in place to make the transition worthwhile for the farmer. Others in the value chain who stand to benefit need to share that risk. However, it is not always clear what the overall cost of transition is for each value chain and who should shoulder how much of the burden.

Examples[8] of cost-sharing programmes do exist today and they have proven to enable transition. We've highlighted examples that are straightforward and can be put into practice today in the Actions to Take Now section (e.g. preferential loan and insurance terms). However, current models often involve just one or two manufacturers contributing all the funding. To achieve scale, we need to create new mechanisms that get value back to the farmer and are also affordable for the companies providing funding. This may be by changing the way the programmes are constructed or by ensuring they enable a wider range of beneficiaries to contribute to the transition funding.

What it means for the farmer: this reduces the risk and cost of trying regenerative farming by providing investment via mechanisms such as debt instruments, insurance mechanisms, supply-chain finance, or grant funding from government or philanthropy.

How: we need to find ways to pay the farmer more during the transition period and to agree how that cost is borne across the different funders. We first need to establish a high-level view of the cost of transition for key crops and geographies. We then need to develop innovative mechanisms to share that cost along, across and outside of value chains. The finance and insurance sectors have a key role to play here.

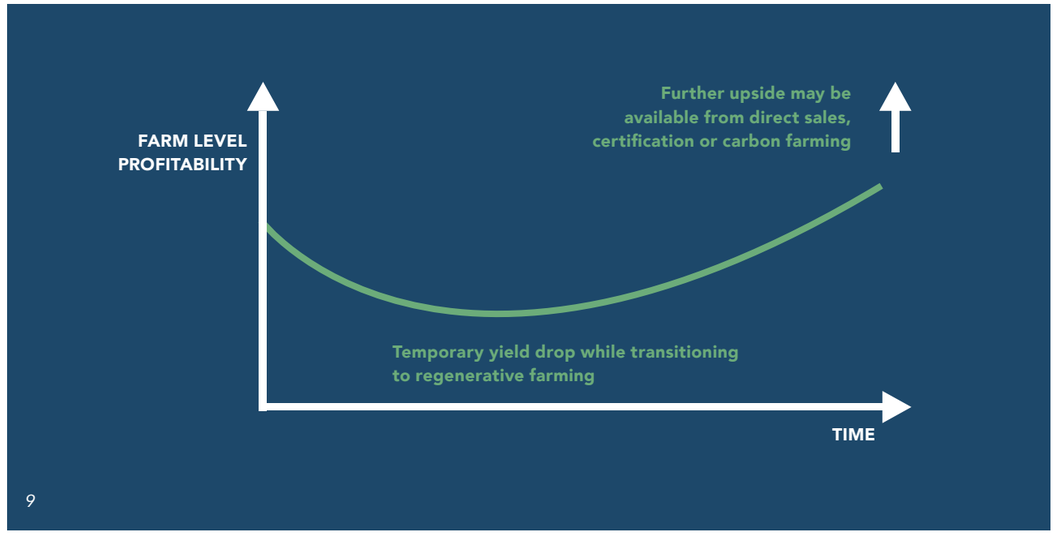
A note of caution: although more work on establishing costs is needed, we must accept that due to the local specificity of regenerative systems, we will have to work with our best estimates, rather than accurate costs. If we wait for accuracy, we will be too slow to act. Efforts will be better spent on developing the cost sharing mechanisms than chasing cost estimates.

"PAY A PRICE THAT ALLOWS PROFIT RELATIVE TO THE COSTS, RISKS AND RESPONSIBILITIES INCURRED BY THE GROWER. CHANGE COSTS MONEY."

UK FARMER

"BECAUSE OF CHANGING CLIMATE & PRESSURE ON RESOURCES LIKE WATER IT IS BECOMING DIFFICULT TO MANAGE COSTS AND KEEP UP YIELD. WE ARE UNABLE TO SWITCH TO BETTER TECHNOLOGIES BECAUSE OF THE COSTS INVOLVED."

INDIAN FARMER



4. Ensure government policy rewards farmers for transition

From: government policies that support current farming systems and which are disconnected from advocacy efforts to change them.

To: the food sector aligning to encourage government to create policies that support regenerative systems.

Why: all governments are influential in agriculture and often invest public funds. Furthermore, regenerative farming creates a range of outcomes that benefit wider society, such as biodiversity gains and better water and air quality, so governments should have an interest in promoting these outcomes.

In the case studies, we identified examples of policy and public money being used to encourage farmers to adopt regenerative techniques, but this was far outweighed by those incentivising current systems. In addition, where public funding or support did exist to encourage regenerative farming, awareness among farmers was low and the process to access it was burdensome, meaning it was not being used to full effect. In all examples there were existing government-funded programmes that could be better directed towards encouraging regenerative farming.

It will be essential to collaborate and align around policy requests across the food system. Further work is needed to agree specifically what policy recommendations that should entail. However, recommendations should call for public money to be used to incentivise farmers to move towards regenerative farming. They should also give guidance on how public research funding can be most effectively directed and on making it simpler and less time consuming for farmers to access government-funded support.

What it means for the farmer: farmers need easily accessible funding and policies that help cover the cost and risk of transition. With a joined-up approach, it is more likely that government will adopt policies that provide funding to reduce the financial risk and support for building knowledge.

How: we need to establish a set of policy recommendations that value chain companies and, critically, farming groups can align on to get the attention of governments to put them into practice.

5. Source differently to share cost across value chains

From: sourcing models that take crops from anywhere provided they meet the buyers' specification.

To: models that involve collaboration between off-takers from different sectors to take crops from a particular area converting to regenerative farming.

Why: landscape sourcing involves cooperation within and across value chains to provide a package of economic, agronomic and social support to enable farmers in a specific area to transition to a regenerative system. This helps share the costs involved in supporting farmers to transition across several value chains, thus lowering the investment for each set of off-takers. By addressing all the barriers farmers face to change (financial, knowledge, drivers) in one place, the aim is to spread costs across all of those who benefit from the crops and the environmental, social and cultural improvements regenerative farming provides. It could have particular value in smallholder supply chains, which are typically fragmented, with large numbers of individual farmers. Another benefit is the ability to attract public or philanthropic investment.

While examples[10] of this approach exist and show great potential through better connecting farmers and the brands that use the crops they grow, they are costly and slow to implement and often driven by one value-chain lead. We believe that there is an opportunity to build on the learning from these examples to create models that can be more quickly and cost effectively scaled.

What it means for the farmer: this provides comprehensive support to transition to regenerative farming including funding, training, and peer-to-peer learning in the local area while reducing risk by ensuring that their crops will have an off-taker.

How: trials should be implemented with widespread value-chain collaboration. These should be led by procurement and sourcing teams with support from sustainability teams, not the other way round, in order to ensure commercially viable and compliant models are developed by those that have the expertise and mandate to scale them effectively.

HOW TO TAKE THIS FORWARD

KEY INSIGHTS FOR SUCCESSFUL IMPLEMENTATION

We have identified some key insights about current ways of working that need to change in order to successfully deliver these actions.

> We must **shift our mindset** from focusing on what the farmer needs to do to what we, the other private sector actors in the value chain, can do to create a market that encourages and enables regenerative farming.

> Regenerative farming is not an exact science. The right practice on farm varies from field to field and day to day, let alone from region to region and crop to crop. Creating a clear, costed, business case is challenging. As a result, we must **accept ambiguity and make decisions based on the balance of evidence,** not precise costs and valuations. If not, progress will remain slow.

> We need to think about whole farm businesses, not specific crops. Most farms grow multiple crops. If a farm converts to a regenerative system, all the value chains associated with those multiple crops benefit, as well as the local environment, not just one off-taker. To capitalise on the untapped potential this offers we must **get better at collaboration within and across sectors and value chains.**

> Achieving scale requires new business models. We must **assign our commercial and procurement experts** to develop these, not just sustainability teams, so that the people with the expertise and mandate to create commercially viable, scalable models for the core business operations are in the driver's seat.

> The lead driver for change at farm level will be different in different value chains. For example, in UK potato farming it is future access to land, in US wheat it is productivity gains and in basmati rice in India it's the potential for an improved return on investment and annual income stability. Attitudes also vary from place to place and building trust is key. We must therefore **design interventions with a high level of local specificity and cultural awareness.**

NEXT STEPS

The Task Force is set to continue its work into 2023 to put this plan into action. We call on you to:

- Contact info@sustainable-markets.org to find out how to work with us on tackling the Big Five issues.
- Implement your sector's Actions to Take Now as outlined in Part 2.

Our hope for this Action Plan is that, whatever sector you represent in the food and farming value chain, it makes clear what you can do to help accelerate regenerative farming. By working in our own businesses on the sector-specific Actions to Take Now and by coming together to tackle the Big Five issues, we can make regenerative farming a 'no-brainer' for farmers. By doing so, we will alter the market dynamics in a way that accelerates uptake, securing our future food supply and protecting the planet for future generations.

PART 2:
ACTIONS TO TAKE NOW

OVERVIEW OF ACTIONS TO TAKE NOW

This section lists the comparatively straightforward actions that can be taken right away and will help create a market in which it's more likely a farmer will adopt regenerative farming. Many value-chain actors are already implementing these to some extent and, unlike the Big Five, these are actions individual companies can take independently and without significant change to existing business models.

Different sectors will have a different role to play on each of these; turn to 'Actions by Sector' on page 33 to see where your business should focus. These actions are mutually reinforcing: no single action alone will drive the change but the right combination of actions in the right context will. See 'How to take this Forward' on page 23 for our key insights for successful implementation.

Make the short-term economic case at farm level more compelling

1

PROVIDE SUPPORT TO ACCESS PUBLIC FUNDING

Why: accessing public subsidies and grants is often a complex and bureaucratic process. Farmers are not claiming all the funding available to them.

How: provide subsidised advice on which programmes to sign up for and how to complete the paperwork.

2

OFFER REDUCED INSURANCE PREMIUMS

Why: regenerative farming creates a farm system more resilient to external pressures. The benefits of this lowering of risk should be shared with the farmer.

How: incentivise regenerative farming through insurance products that reduce the risk and actively encourage adoption.

3

OFFER PREFERENTIAL LOAN TERMS

Why: as above, regenerative agriculture creates a farm system more resilient to external pressures. The benefits of this lowering of risk should be shared with the farmer.

How: integrate farmers' environmental performance as part of banks' risk vs return evaluation and provide preferential terms.

4

HELP TENANTS FARM REGENERATIVELY

Why: short tenancy durations and rental costs are barriers to tenant farmers investing in a change with long-term benefits which accrue to the landowner rather than themselves.

How: empower tenants by integrating requirements and incentives to farm regeneratively across all crops in the rotation into tenancy agreements, such as reduced rent and equitable approaches to ownership of environmental outcomes such as carbon.

5

ENSURE MARKET PRICE TRANSPARENCY FOR CROPS

Why: farmers in markets with low price transparency, such as rice in India, will be unaware of the premiums they could access for growing crops more sustainably or outside of traditional routes.

How: create platforms for sharing market data with farmers that may be accessed via their phone.

Share and build knowledge

6

UPSKILL ON-FARM REPS

Why: on-farm representatives can have a significant influence on farmers. Agronomists in particular are trusted advisors. It's essential that anyone who interacts directly with farmers, e.g. agronomists, land agents, accountants, bankers and vets understand and can advocate for regenerative systems.

How: integrate regenerative farming into the relevant qualifications and professional development standards for the market. Provide training courses for agronomists and other on-farm reps. Work with agricultural colleges to upskill the next generation.

7

SUPPORT ADOPTION OF ENABLING TECHNOLOGY

Why: new technologies can help support regenerative farming methods and, in some cases, can be a critical enabler. This may be for implementation of new methods or for measuring outcomes for effective cost-benefit analysis.

How: subsidise new technology, provide training to farmers and support collation and review of data. Develop models such as rental or community ownership to make high capex items accessible.

8

ESTABLISH AND PROMOTE DEMO FARMS

Why: tangible demonstration of how regenerative farming works in practice can be invaluable in helping farmers learn and build confidence to try new techniques.

How: identify suitable farm(s) to partner with. Sponsor and/or participate in demo farms. Provide regenerative-farming-friendly inputs, agronomic expertise, digital tools and sample products to trial, then share data and results.

9

SUPPORT PEER-TO-PEER FARMER NETWORKS AND FARMER AMBASSADORS

Why: farmers learn best from other farmers. Local, regional and industry wide in-person and online networks can help share knowledge and build confidence.

How: where popular networks exist, support them with funding, provision of regenerative farming expertise and sharing of knowledge from pilots. Where they don't, create forums based on models that have been successful elsewhere.

10

PROVIDE SIMPLE INFORMATION AND SIGNPOSTING FOR FARMERS

Why: for many this is completely new and they will not know where to start. Farmers told us information is needed that simplifies the available content on regenerative farming and connects farmers with technical support.

How: share key information through the demo farms, peer-to-peer networks, farmer leaders and ambassadors.

Re-align drivers across the value chain

11

CREATE SECURE CONTRACTS FOR FARMERS

Why: farmers need to be sure that there is a market for the crop they have grown to higher environmental standards.

How: build security and flexibility into contracts, e.g. offer long-term (three to five year) contract options with built-in reviews.

12

ALIGN PERFORMANCE MANAGEMENT METRICS TO ENVIRONMENTAL GOALS

Why: performance metrics for everyone working in the value chain should be aligned to advance regenerative farming over current farming methods. See pg 15 for examples of the importance of correctly aligning drivers and incentives for individuals.

How: review individual performance measures to ensure they are driving behaviour towards regenerative farming e.g. input optimisation vs maximising input sales.

13

IDENTIFY OPPORTUNITIES TO REPURPOSE EXISTING REQUIREMENTS OF FARMERS

Why: reducing the burden on farmers to meet particular standards if they adopt regenerative techniques could incentivise change.

How: review existing standards and identify opportunities to remove any outdated requirements and replace with those that support regenerative farming.

14

HELP CONSUMERS UNDERSTAND THE BENEFITS

Why: if consumers value the benefits of regeneratively grown food they may be more willing to support regenerative farming brands and government funding of the approach.

How: raise consumer awareness about the benefits of crops grown regeneratively.

15

DESIGN PRODUCTS THAT ENABLE REGENERATIVE FARMING

Why: market demand for the broader range of crops produced from a regenerative system is key to making this system commercially attractive to the farmer.

How: design products that use key ingredients from a regenerative farming rotation.

"There isn't much of an immediate financial gain to be had, and there are higher costs incurred. Over time the benefits of improved soil health will offset these but there's a gap to plug."

US FARMER

YOUR GUIDE TO THE ACTIONS BY SECTOR

In this section we outline the actions each of the private sector players in the food value system can take and the way their role in this system will need to change to support the acceleration of regenerative farming. We've focused on the six sectors we believe have the greatest influence on the farmer's ability and inclination to adopt regenerative farming.

Actions to lead are the ones the particular sector should be the driving force behind while **Actions to support** are the ones that they need to help other sectors to deliver. The **most urgent next step** is the key thing we believe this sector needs to prioritise.

Financial Services

Current role: provide finance and insurance to farm and other value-chain businesses. Large financial institutions have significant market share in developed markets, but in smallholder supply chains individual moneylenders play a key role. Their influence depends on the extent to which the farmer in that market typically relies on credit to finance the farm business and on insurance to manage risk.

Future role: provide finance and insurance to farmers on terms that decrease the financial burden of transitioning to and maintaining a regenerative system.

Actions to lead

2. **Offer reduced insurance premiums**
3. **Offer preferential loan terms**

Actions to support

1. **Provide support to access public funding**
5. **Ensure market price transparency for crops (in relevant markets)**
6. **Upskill on-farm reps**
7. **Support adoption of enabling technology**
12. **Align performance management metrics to environmental goals**

Most urgent next step:
recognise in your risk-return evaluations that regenerative farming reduces risks such as crop failure or significant yield loss and creates resilience for the future. Offer preferential terms and discounts to farmers demonstrating consistent commitment to its application.

Ways to get started:

- Understand the regenerative farming business case and transition model
- Offer favourable financing terms for those demonstrating consistent commitment to its application
- Help provide clarity on the farm P&L through the transition to a regenerative system
- Support farmers with business health checks
- Recognise and normalise the view within the sector that regenerative farming can offer both low risk and good long-term return
- Co-finance research programmes to close knowledge gaps on the regenerative farming transition model
- Invest in new technology and companies that help advance regenerative farming
- Share with the rest of the value chain what additional data/research is needed to accelerate the creation of products that support regenerative farming

Input Manufacturers and Suppliers

Current role: innovate, manufacture and sell farm inputs such as seed, fertiliser, agrochemicals and machinery to grow crops. Manufacturers and retailers are usually separate businesses: the former are mainly large global businesses, even in smallholder supply chains whereas the latter tend to be smaller local businesses with which farmers have a direct relationship.

Future role: innovate and optimise the use of products that support regenerative farming through sound agronomic guidance. Act as the key enabler of knowledge building in the value chain through research and evidence-based case studies.

Actions to lead:

6. Upskill on-farm reps

7. Support adoption of enabling technology

8. Establish and promote demo farms

12. Align performance management metrics to environmental goals

Actions to support:

9. Support peer-to-peer farmer networks and farmer ambassadors

10. Provide simple information and signposting for farmers

Most urgent next step:
build capability and technical knowledge of your teams around regenerative farming and ensure employees are incentivised to create and implement products and services that support regenerative farming rather than maintain the status quo (e.g. whole farm optimisation vs maximising quantity sold). This will require a shift in mindset and a new business model that creates a packaged approach for the whole farm, not just a single crop.

Ways to get started:

- Consider how new or existing products align with encouraging regenerative farming
- Provide inputs/technology/ machinery to demo farms
- Provide inputs optimisation expertise to farmers
- Develop and stock regenerative farming aligned products
- Provide digital solutions for precision farming and to support impact quantification and ongoing monitoring
- Share best-practice insights from market development trials
- Support R&D in areas such as varietal development, biologicals, how digital technology can be deployed to improve cropping systems, and how to optimise crop protection and nutrient/ water management in support of climate resilience. Share these developments with farmers and agronomists
- Make regenerative farming tangible for farmers through peer-to-peer learning and field trials
- Consider smallholder needs in innovation programmes
- Offer renting or leasing services of new technology/ machinery to farmers or farm communities to make it more accessible
- Offer training on new technology to farmers
- Work with farm advisors, particularly agents in smallholder supply chains, to educate them around regenerative techniques and technologies

Examples:

BayG.A.P. supports farmers worldwide to get certified and connected to the food value-chain. Through their food value-chain model, they have been working with 1,800 Basmati producers in India to train them in measures to ensure safe, high-quality rice and helping them to achieve increases in yield and overall returns of around 10%.[11]

Yara Megalab™ provides soil analysis for farmers around the world covering chemical, physical and biological indicators of soil health. This provides information to the farmer that can serve as a starting point for the adjustment of soil or crop management practices.[12]

Processors and Suppliers

Current role: purchase crops from farmers and store, process and supply them to manufacturers. They are the farmer's immediate customer and therefore have significant influence. Some markets feature mainly major global players but in most, and especially in smallholder supply chains, there are also smaller local businesses.

Future role: work closely with farmers to help them develop expertise in regenerative farming, access relevant resources, and meet demand from downstream players. Collaborate with manufacturers and retailers to create sourcing models and market based approaches that enable farmers to transition to regenerative systems.

Actions to lead:

11. Create secure contracts for farmers

13. Identify opportunities to repurpose existing requirements of farmers

Actions to support:

1. Provide support to access public funding

5. Ensure market price transparency for crops

6. Upskill on-farm reps

7. Support adoption of enabling technology

8. Establish and promote demo farms

9. Support peer-to-peer farmer networks and farmer ambassadors

10. Provide simple information and signposting for farmers

12. Align performance management metrics to environmental goals

15. Design products that enable regenerative farming

Most urgent next step: support work to progress the Big Five identified in this action plan.

Ways to get started:

- Assist farmers in tracking outcomes
- Negotiate longer-term contracts with up- and down-stream players
- Participate in and help facilitate intervention programmes
- Work with academics, NGOs and farmers to drive farmer-led research and field trials. Share these learnings with farmers
- Invest in shared digital platforms for data collection and farmer CPD
- Engage in the development of new operating models
- Keep farmers up to date with new and innovative products/ services
- Engage in education & training programmes
- Inform farmers of education offers and support farmer community building
- Consider financial and non-financial ways to reward farmers for adopting regenerative farming
- Purchase and advocate for only high-quality, verified carbon credits and sustainability assets
- Help fund education, training, and intervention programmes
- Inform and support farmers on how to apply for government support schemes
- Incentivise farmers to pursue education, training, and intervention programmes e.g. contract with farmers if they participate and change to regenerative farming
- Help manufacturers and retailers identify new crops to use in their products that complement key ingredients in a regenerative rotation
- Develop and support market-based approaches to connect farmer to downstream customer

Examples:

Regenerative agriculture practices have been adopted on nearly 5 million acres by US growers participating in Carbon by Indigo.[13] These growers are already generating the first ever verified, registry-issued, agriculture carbon credits, creating a new durable and scalable revenue stream.

McCain's Farm of the Future Programme is experimenting and testing new farming methods to gain a better understanding of regenerative agriculture practices and their impact, costs and benefits. So far, McCain has launched farms in New Brunswick, Canada, and in South Africa.[14]

In Asia, Olam Agri is helping smallholder rice farmers adopt more sustainable farming practices. In Thailand, 19,000 farmers have reduced their GHG emissions by 21% and improved water quality by 14% and in Vietnam 10,000 farmers are using up to 40% less water and 15% less nitrogen, phosphate and potassium fertilisers.[15]

Manufacturers and Retailers

Current role: manufacture and sell finished products to customers. As consumer-facing brands, they often receive greater public pressure to address environmental and ethical issues in the supply chain but rarely have direct relationships with farmers through which to do so.

Future role: build an internal case for security of supply for regenerative ingredients, including a consumer value proposition that demands regeneratively grown ingredients from suppliers/processors. Act as the convenor of the value chain to progress the Big Five system changes required.

Actions to lead:

11. Create secure contracts for farmers

13. Identify opportunities to repurpose existing requirements of farmers

14. Help consumers understand the benefits

15. Design products that enable regenerative farming

Actions to support:

1. Provide support to access public funding

6. Upskill on-farm reps

7. Support adoption of enabling technology

8. Establish and promote demo farms

9. Support peer-to-peer farmer networks and farmer ambassadors

10. Provide simple information and signposting for farmers

12. Align performance management metrics to environmental goals

Most urgent next step: lead collaboration across value chains and sectors to establish a standardised set of basic metrics for environmental outcomes on farm (see Big Five).

Ways to get started:

- Advocate for adoption of regenerative farming in the value chain
- Set goals to support brands and suppliers that source regeneratively grown crops
- Develop campaigns to engage and inform consumers
- Provide capital/funding for the interventions outlined in this plan
- Purchase environmental benefits from agriculture-linked ecosystem services markets
- Advocate for adoption of regenerative farming in the value chain
- Develop longer contracts with downstream suppliers
- Communicate benefits/ outcomes on labelling or point of sale
- Work with academics, NGOs and farmers to enable farmer-led research and field trials. Share these learnings with farmers
- Invest in shared digital platforms for data collection and farmer CPD
- Engage in the development of new operating models
- Purchase and advocate for only high-quality, verified carbon credits and sustainability assets
- Work with processors/ suppliers to identify new crops to use as ingredients that create demand for crops that support a regenerative system
- Task product designers with creating products that use these less common ingredients

Examples:

Working with the Sustainable Rice Platform, Mars helps small farmers grow rice sustainably and increase their resilience to climate change.[16]

Together, McCain and McDonald's launched the "Sustainable MacFries Fund" to support research and provide grants to British potato farmers to use new techniques and technology, enabling them to improve their understanding of soil quality and optimise water management.[17]

Findings from Mondelēz' Triscuit wheat program in partnership with Michigan State University (MSU) and Cooperative Elevator Co. show that growers who adopt advanced agronomy practices, encouraged under the program, tend to improve their yields over time.[18]

PepsiCo entered into a 7.5-year strategic agreement with ADM, a global leader in sustainable agriculture and nutrition, to expand regenerative agriculture practices by 2 million acres across their shared North American supply chains.[19]

The Waitrose farm, Leckford Estate, will be a test bed for farming innovation that conserves soil, air, biodiversity and water. Through sharing learnings, Waitrose will help establish best practice farming with nature and address climate change.[20]

Farm Advisors

Current role: provide agronomic and business advice to farmers and landowners. These are trusted advisors that often play an active role in making both strategic and day-to-day tactical decisions on farm. They range from sole traders to large businesses as well as a few global players.

Future role: the key route for upskilling farmers on how to implement and optimise regenerative farming on their farm.

Actions to lead:

6. **Upskill on-farm reps**
7. **Support adoption of enabling technology**
12. **Align performance management metrics to environmental goals**

Actions to support:

1. **Provide support to access public funding**
5. **Ensure market price transparency for crops (in relevant markets)**
8. **Establish and promote demo farms**
9. **Support peer-to-peer farmer networks and farmer ambassadors**
10. **Provide simple information and signposting for farmers**

Most urgent next step: build knowledge and capability of on-farm reps to provide expertise on regenerative farming to farmers.

Ways to get started:

- Keep farmers up to date with new and innovative products/ services
- Engage in education and training programmes to improve regenerative farming expertise
- Inform farmers of education offers and support farmer community building
- Participate in intervention programs
- Don't oversell inputs to farmers
- Identify what regenerative activities can be implemented at entry level to encourage growers to try this approach
- Perform and collaborate in further research
- Provide technical support for practice adoption and certification
- Assist farmers with tracking and validating outcomes

Landowners

Current role: own farmland which they either farm themselves or let to tenant or contract farmers. Lengths and terms of tenancies vary across different jurisdictions but consistent in all situations is the influence landowners have on the farmers working their land; land is the most important asset of a farm business. Landowners are a heterogeneous and fragmented group including individuals and institutions with approaches varying from maximising short-term rental income to building the long-term health of the land and driving environmental outcomes.

Future role: prioritise the long-term health of the land and empower, enable, and reward tenants for their efforts to implement regenerative systems across a diverse rotation.

Actions to lead:

4. Help tenants farm regeneratively

11. Create secure contracts for farmers (tenancies/leases)

Actions to support:

1. Provide support to access public funding

7. Support adoption of enabling technology

9. Support peer-to-peer farmer networks and farmer ambassadors

10. Provide simple information and signposting for farmers

Most urgent next step: build knowledge on regenerative farming in order to understand the benefits to you as a landowner and assess how existing agreements with tenants are helping or hindering adoption of regenerative farming.

Ways to get started:

- Request baselining and periodic measurement and verification of sustainable practices on owned land
- Liaise with land agents to establish and encourage a regenerative system value proposition
- Explore commercial opportunities over long payback time e.g. agroforestry
- Provide information on regenerative farming to tenants
- Offer lower rents for regenerative farming as recognition of land improvement and longer-term value
- Offer longer tenancies to enable tenants to take a long-term view on returns
- Understand how all crops in the rotation can contribute to a regenerative system

"Farming is major source of income for my family. We are smallholder farmers and cannot afford this change and risk. This cropping system change could halt my family's progress."

INDIAN FARMER

PART 3:
INSIGHTS FROM OUR CASE STUDIES

MID-LARGE FAMILY FARM: WHEAT IN THE US

Key value-chain characteristics

Wheat is the third most produced field crop in the US in acreage, production and gross farm receipts.[21] It is grown across 42 states, but the Great Plains region typically accounts for about two thirds of production.[22] Typically, no single crop accounts for more than half the total value of production of the farm and wheat is often grown in rotation with corn or soy. Input costs and wheat prices are volatile, driven by global climatic and political events, meaning profits are also volatile and dependent on subsidies.

Priority farming changes

- Reduced/eliminated tillage
- Crop rotation/inter-cropping
- Irrigation efficiency (in some locations)
- Drainage water management
- Fertiliser optimisation
- Pesticide optimisation (Integrated Pest Management)

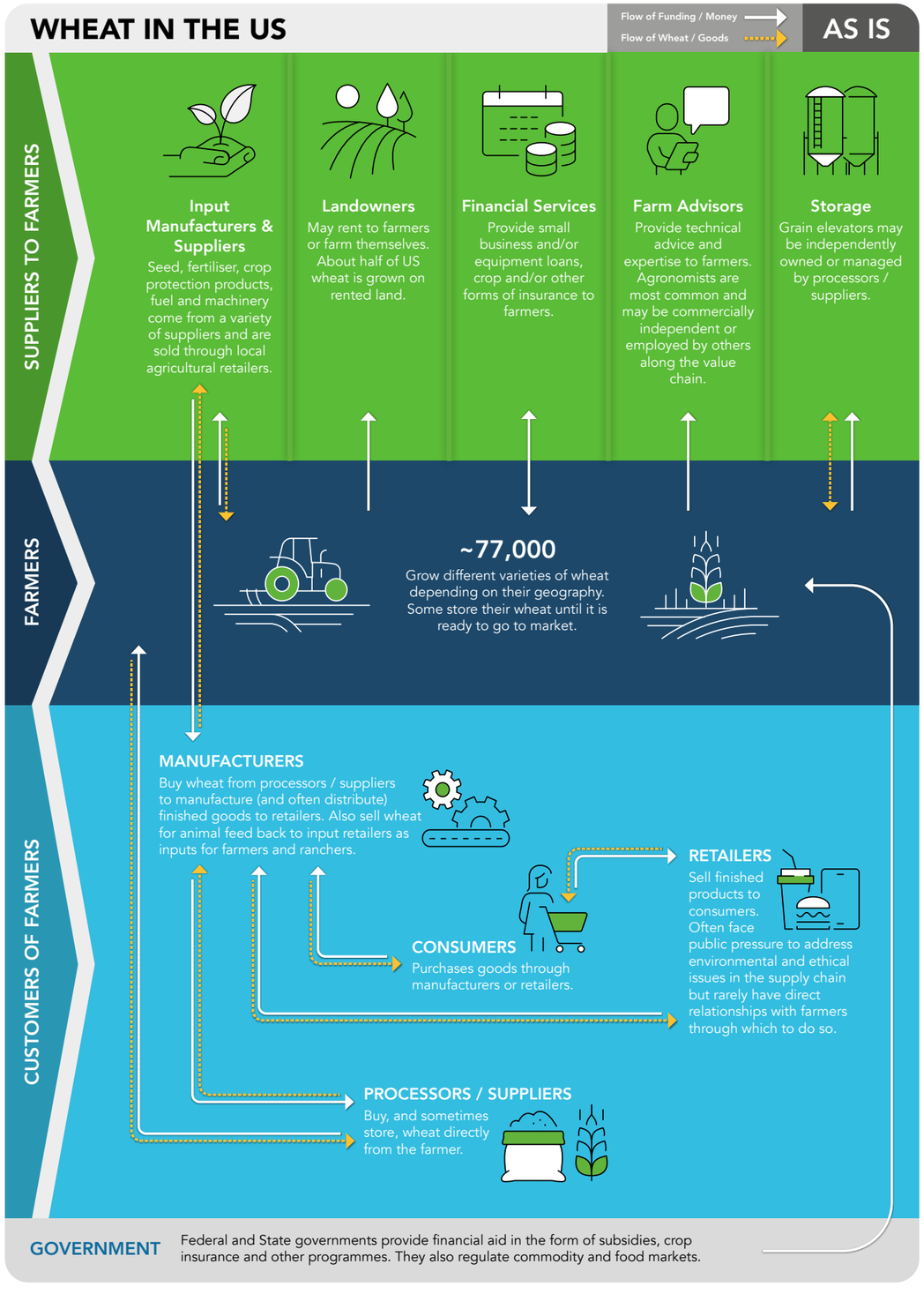
Barriers identified

- Risk and costs of trying new types of inputs, crops and equipment
- Varied practice and reporting requirements overwhelm farmers
- Short-term contracts give farmers little security there will be a market for their crop
- Farmers experience sustainability fatigue and scepticism that downstream companies have their best interests in mind
- Current subsidy and insurance programmes are burdensome and don't support adoption of regenerative farming
- Short-term leases make it hard for farmers to commit to long-term improvements on the land
- There's no one-size-fits-all approach and no region and crop-specific resources or forums for learning best practice techniques

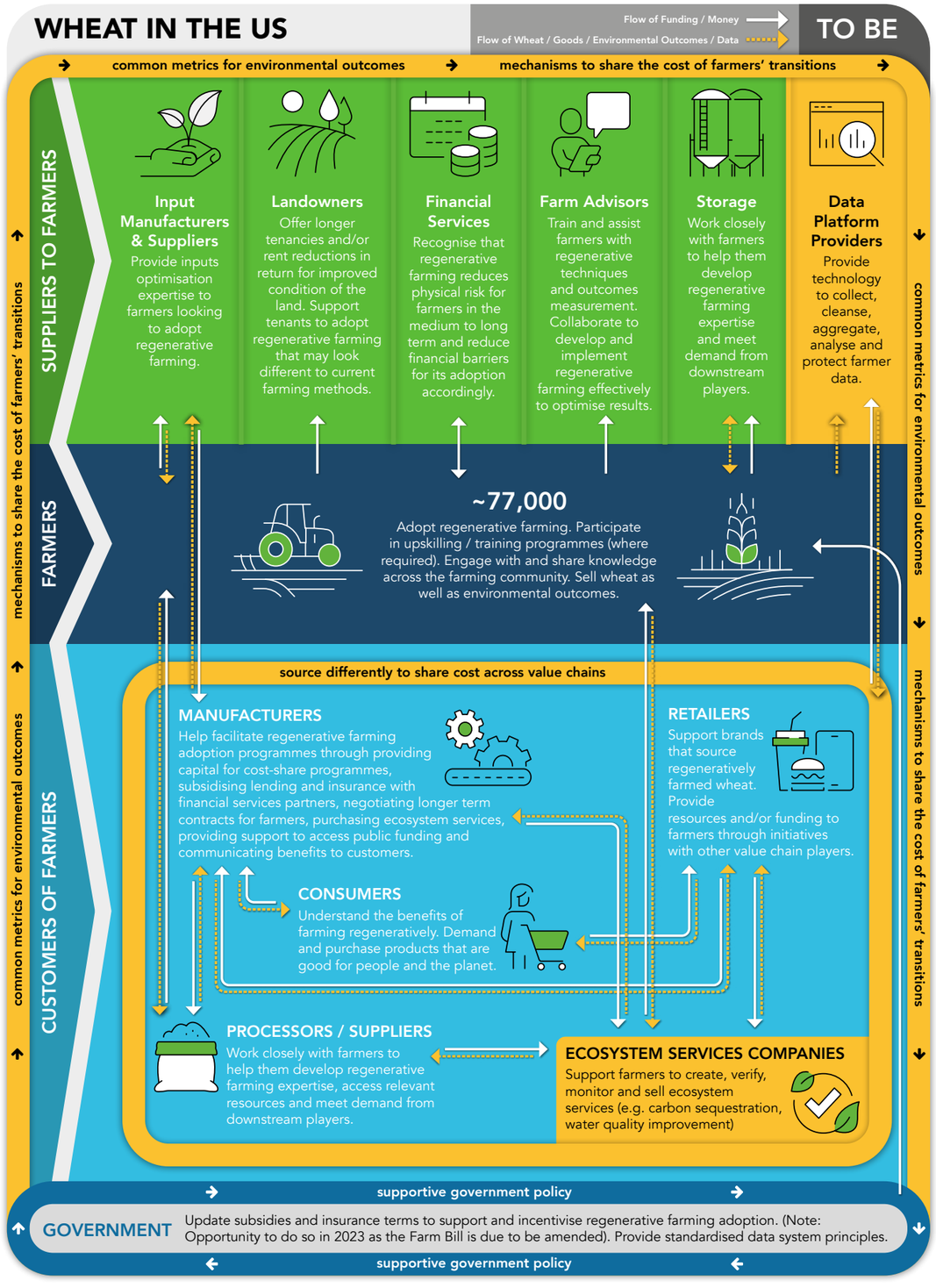
Opportunities

- Farmers' customers realise the importance of involving farmers in decision making to help build trust
- Farmers are willing to be part of the solution to climate change and recognise the benefits of increased resilience to new weather patterns
- Recent volatility in input and wheat prices makes a low input system a less risky option
- Our modelling shows a profit improvement after a few years
- The most significant financial barrier is capex for new equipment that could be overcome with innovative financing arrangements

HOW THE VALUE CHAIN WORKS TODAY



HOW THE VALUE CHAIN SHOULD WORK IN THE FUTURE



SMALLHOLDER: BASMATI RICE IN INDIA

Key value-chain characteristics

The Working Group decided to focus on basmati rice because it is largely exported and is therefore where the private sector might have the most influence. It accounts for about 10% of the total Indian rice crop and is a higher-value crop than non-basmati rice. Basmati farmers farm on average 3.2 hectares. Although government plays an active role in the rice industry, it has little involvement in the basmati market.

Priority farming changes

- Crop diversification
- Direct seeded rice
- No stubble burning
- Alternate wetting and drying
- Reducing/eliminating tilling
- Optimisation of input usage (pesticides, fertilizers, labour, fuel)

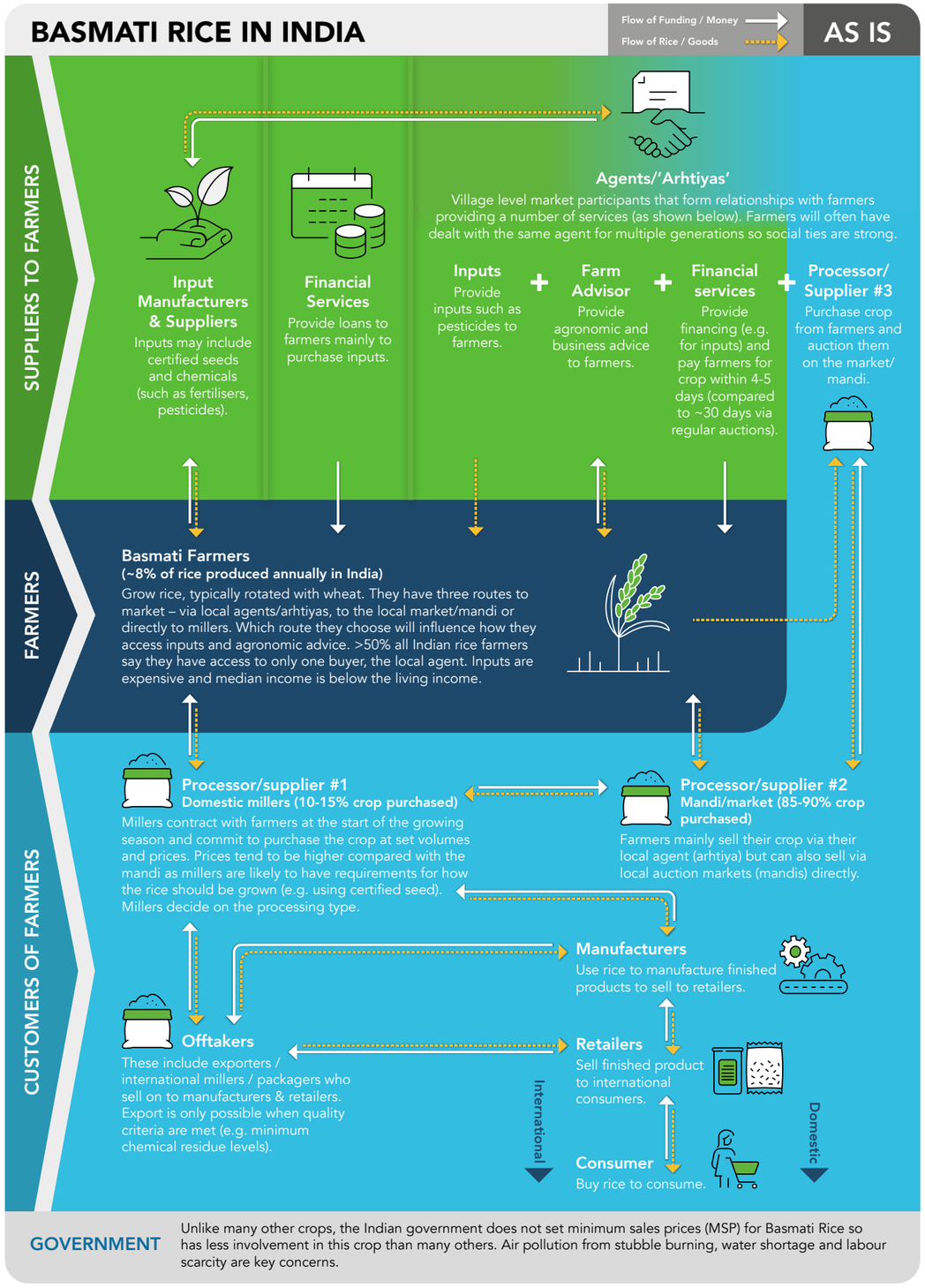
Barriers identified

- Agents earn more by selling more inputs than farmers need to use
- Low level of machinery and technology use
- Farmers earn below the living income so they have little tolerance for risk or capacity to innovate
- Lack of strong formal environmental science education and low environmental awareness in rural parts of the country means environmental issues (e.g. soil health) are not taken seriously
- Groundwater and electricity are free of charge so there is little incentive to conserve
- Lack of transparency of market prices means farmers often aren't aware of the premiums they could get for more sustainably grown rice
- Lack of a premium for regenerative products

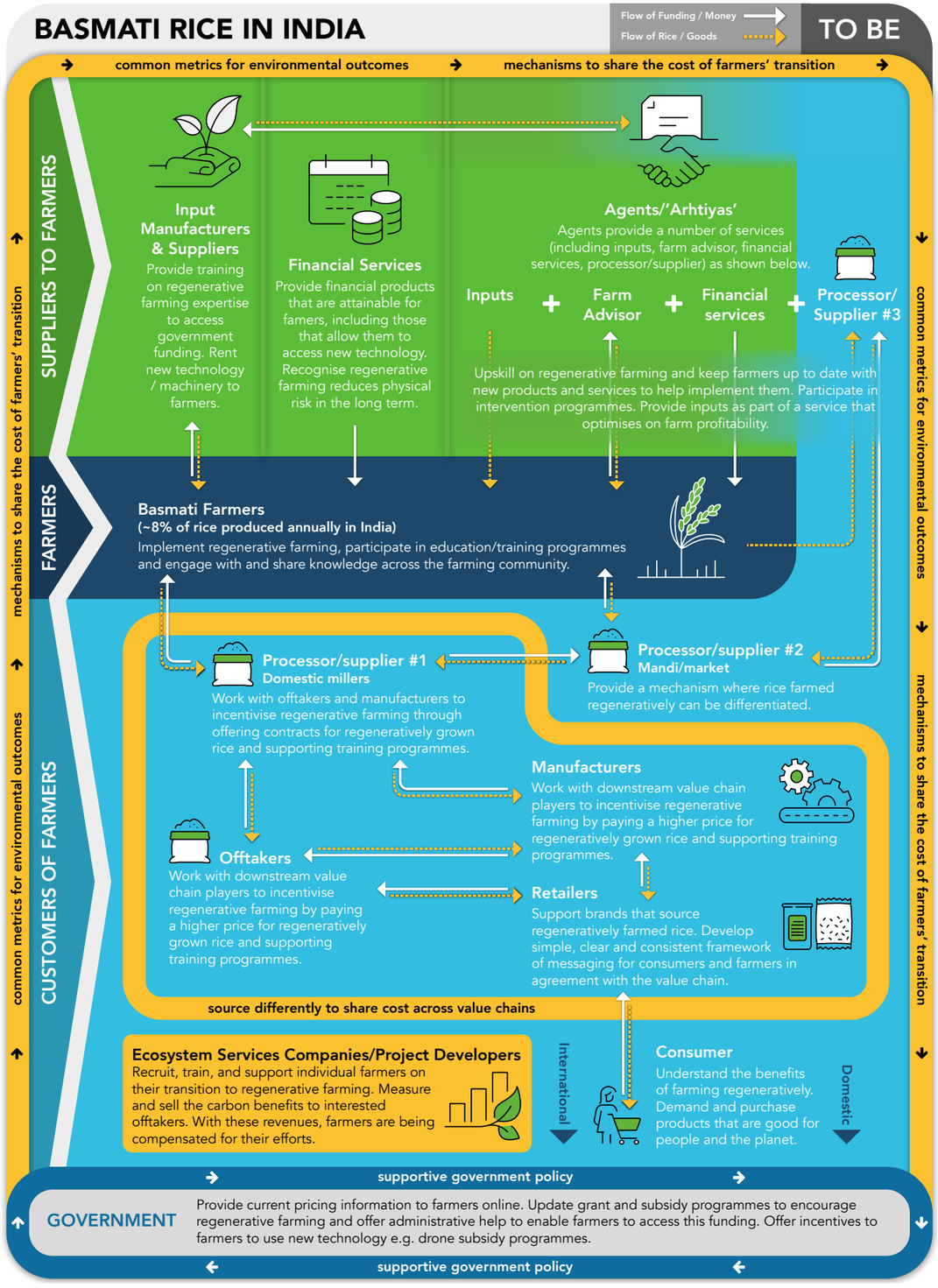
Opportunities

- Farmer Producer Organisations (FPOs) offer a powerful social network of farmers through which to engage
- Extension agencies which are properly trained and incentivised to provide regenerative agriculture transition support including on demand access through call centres
- Policy changes that incentivise regenerative agriculture production and demand
- Some understanding of environmentally friendly practices will enhance adoption of regenerative agriculture
- Farmers are open to working with agri-businesses and keen to learn better practices
- Demand from European/US market for more sustainable product (but only c. 15% of the global basmati market)
- Potential for digital and physical technology to play a role e.g. prediction modelling, pricing information to smartphones, community owned drones to help farmers know when to apply crop protection
- Introduction of products suitable for regenerative agriculture (e.g. biologicals)

HOW THE VALUE CHAIN WORKS TODAY



HOW THE VALUE CHAIN SHOULD WORK IN THE FUTURE



COMMERCIAL CONTRACT GROWER: POTATOES IN THE UK

Key value-chain characteristics

In 2020 the UK, the 11th largest producer in the world, produced 5.4m[23] tonnes of potatoes. However, only 1% of utilised agricultural land in the UK[24] is used to grow them, 40% of this being in Eastern England.[25] Potatoes are grown for consumption (ware) and for further farming (seed). Farm consolidation is a significant trend with the number of registered potato growers having fallen by over half since 2000.[26] This is driven by price volatility and high costs associated with equipment. Most land used to farm potatoes is rented on a short-term basis (one year) as potatoes are only grown one year in five to seven and high costs for specialist machinery and storage need to be spread over a large acreage to be viable.

Priority farming changes

- Cover cropping
- Companion cropping
- Pesticide optimisation (Integrated Pest Management)
- Fertiliser optimisation
- Low tillage
- Livestock integration
- Water/irrigation efficiency

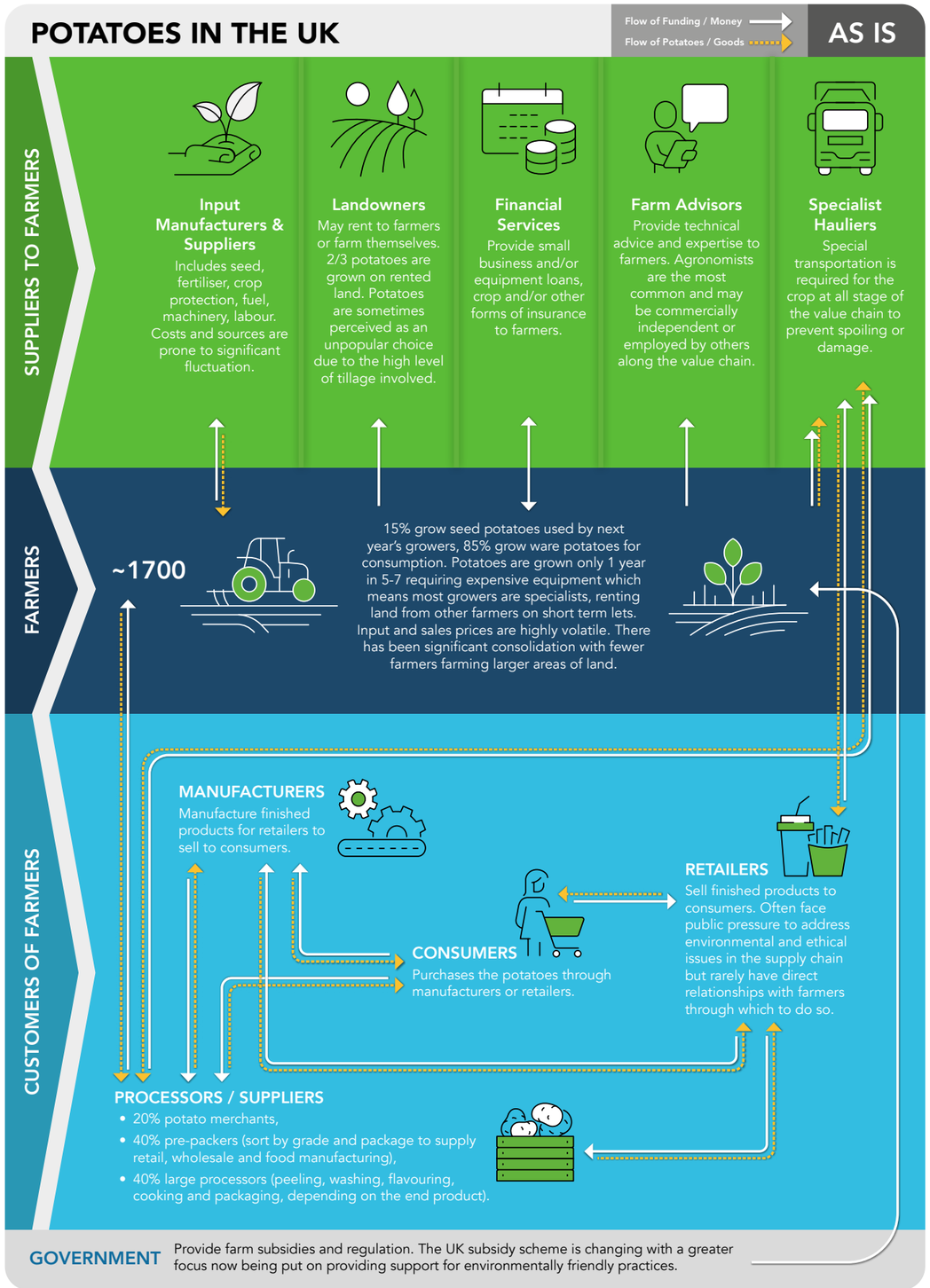
Barriers identified

- Predominance of rented land on short terms means farmers have little incentive to invest in a change of system with a long payback period
- High cost and long life cycles of existing farm equipment (10-15 years) prevent voluntary decommissioning in favour of new technology
- As a root crop, potatoes are inherently a difficult crop to grow regeneratively given the soil disturbance required, so there is debate about the best agronomic approach
- Systems to support technical and farm management data are immature and lack governance
- Lack of trust through the value chain and feeling that regenerative farming suggests that current practices are wrong or harmful

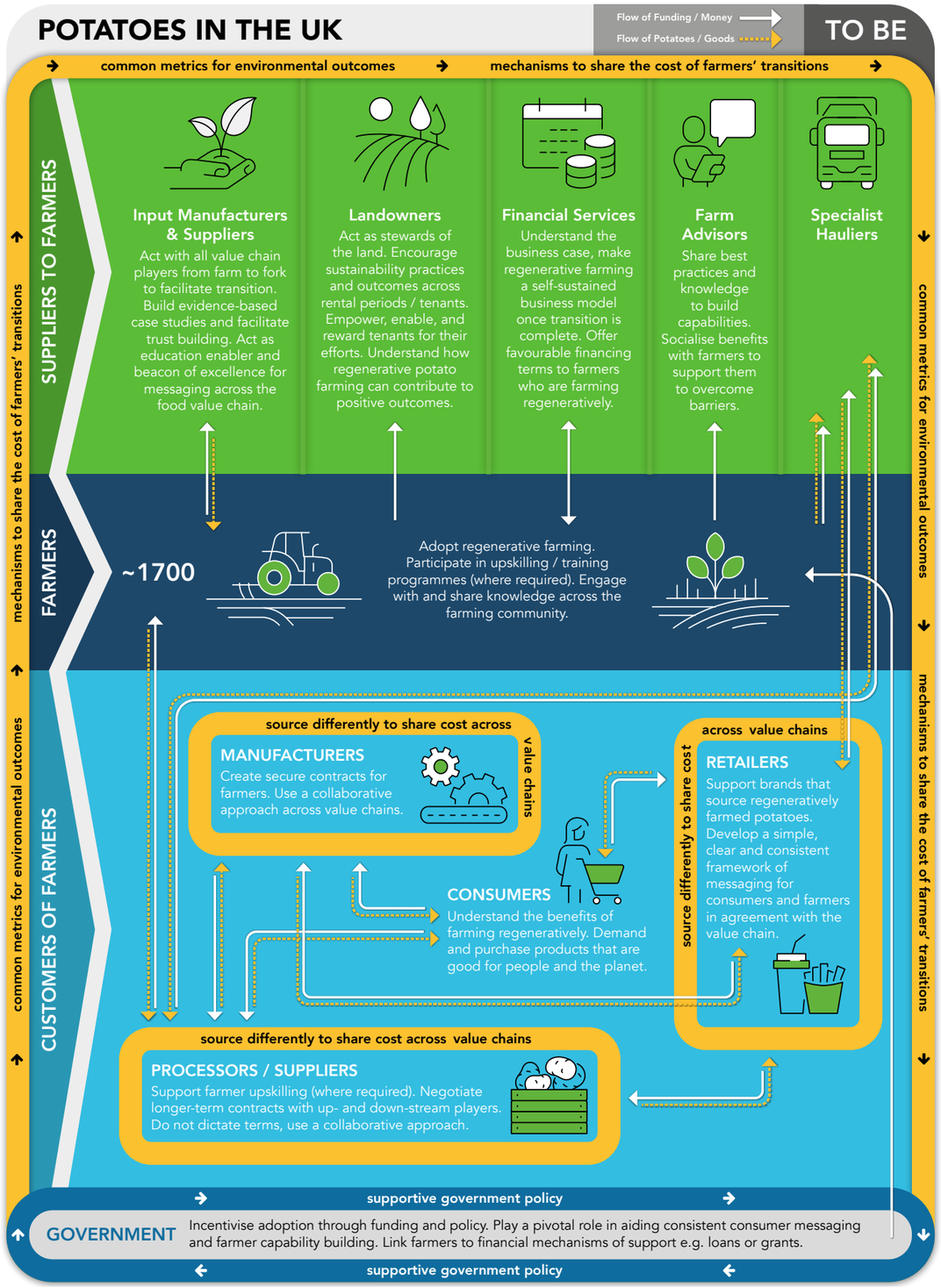
Opportunities

- Willingness among some farmers to try regenerative techniques
- Positive learning on successful implementation from demonstration farms, both small and large scale
- Agreement along the value chain of ability of buyers and retailers to drive scale
- Rising input costs make a low input system more attractive to farmers
- Greater awareness among landowners of importance of protecting soil health driving down availability of land for potatoes grown with current farming methods

HOW THE VALUE CHAIN WORKS TODAY



HOW THE VALUE CHAIN SHOULD WORK IN THE FUTURE



APPENDIX

OUR APPROACH

This Action Plan is the result of a year of collaboration across a group of committed companies, using three value chains as case studies for developing recommended actions that can also apply to a wider range of crops and geographies.

How we agreed our scope

We consulted with a range of organisations and other corporate coalitions working on this issue to identify where we could best add value and avoid duplication. As a result, we agreed to focus on identifying the role each sector of the value chain needs to play to drive action and unlock scale. Our emphasis was on collaboration and speed – getting to an output quickly rather than waiting for perfection - and harnessing the collective power of our members and the broader SMI network.

The three value chains were chosen based on the environmental impact of their production, the Task Force's sourcing footprint and influence, and the transferability of learnings to other crops and geographies. The aim was to identify three different farming archetypes. As a result, we chose to focus on:

- **Commercial Contract Grower: UK - Potatoes**
- **Smallholder: India - Basmati Rice**
- **Mid-large family business: US - Wheat**

It is important to note that our work has been focused only on annual row crops (albeit in different regions) and that there could be different outcomes if we looked at (for example) perennial crops.

Working Groups

A Working Group was formed for each value chain to harness the collective power of the Task Force members. The goal of each group was to derive a set of actions that would help make regenerative farming a no-brainer for farmers. Relevant experts from other SMI industry task forces also provided input.

Within a 14-week period, each of the Working Groups, followed a four-step process to:

1. Map how their value chain operates today by looking at profiles for the key players in the value chain, identifying their key motivators, challenges, and interactions with farmers, and by understanding the key regenerative farming practices for these crops (wheat, potatoes and rice) and in these geographies (US, UK and India respectively).

2. Identify barriers to regenerative farming through engaging in interviews with farmers and other external stakeholders in order to understand how the current value chain and market conditions may be creating a barrier, as well as where there may be opportunities.

3. Create solutions to overcome the barriers and challenges identified in step 2. Each solution was evaluated to consider the primary purpose, key action steps for relevant players, enablers and to identify existing examples of the solution in action. We also identified the timeline for the solutions, recognizing that some will be temporary, others will evolve over the years and others will be permanent.

4. Determine how the value chain should operate in future to enable regenerative farming to become mainstream.

Consolidation and validation

The findings from the three value-chain Working Groups were consolidated to form the actions in this document. Then, we consulted with farmers and other stakeholders to sense check and refine them to ensure that these actions would indeed support making regenerative farming the best business decision for farmers.

Financial Modelling

We tasked Systemiq with modelling the financial impact on the farm business P&L of transitioning to a regenerative system. They identified an archetype farm for each of three systems (UK potatoes, US wheat, India basmati rice) from national databases; forecast over 10 years a business-as-usual and regenerative transition scenario with four change factors (yield, farmgate price, capital expenditure, operating expenditure) and summarised the 10-year profit evolution, annualised changes to farm-level profit and loss, and sensitivities. This financial modelling used publicly available data with all investment costs and establishment/upfront expenditure amortised.

We found that the transitions break even in India and improve margins in US and the UK but only after 2-3 years. These results can be improved by using inputs more judiciously and sharing capital costs – for example pooling regenerative equipment could save up to $200,000 per farm in the US.

Anti-trust

Industry initiatives such as the SMI Agribusiness Task Force have an important meaning, not only for the companies involved, but also and especially for the goals they pursue. However, every such activity must comply with local and regional competition laws which prohibit agreements, decisions and concerted practices that prevent, restrict or distort competition and enable abuses of dominant market positions. The SMI Agribusiness Task Force adheres to these principles and all participating companies ensured that their involvement is not anti-competitive. The initiative is based on the understanding of the participating companies that every company is welcome to contribute to the initiative, the initiative is non-exclusive and on a voluntary basis. The participating companies agreed to strictly adhere to the rules set out in the jointly agreed antitrust guidelines. Each meeting was conducted under a compliance disclaimer and relevant Task Force meetings were attended by an antitrust expert.

ACKNOWLEDGEMENTS

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Sunny George Verghese	CEO, Olam
Ramon Laguarta	CEO & Chairman, PepsiCo
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Communications & creative support	freuds

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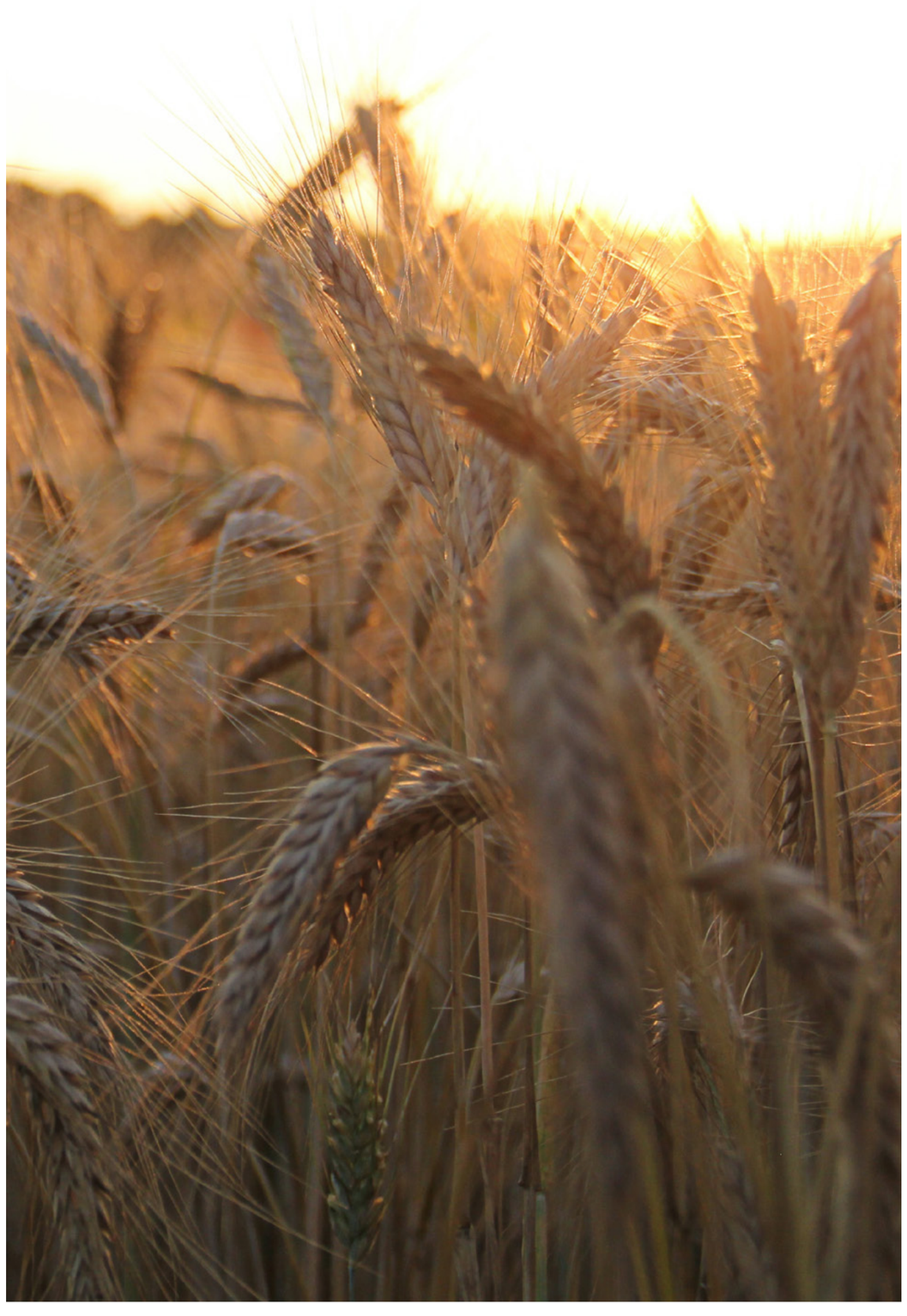
Please note that any contribution to the Action Plan, or any part of it, or any reference to a third- party organisation within the Action plan, does not indicate any kind of partnership or agency between the contributors and the SMI, nor any endorsement by that contributor or third party of the Action Plan's conclusions or recommendations.



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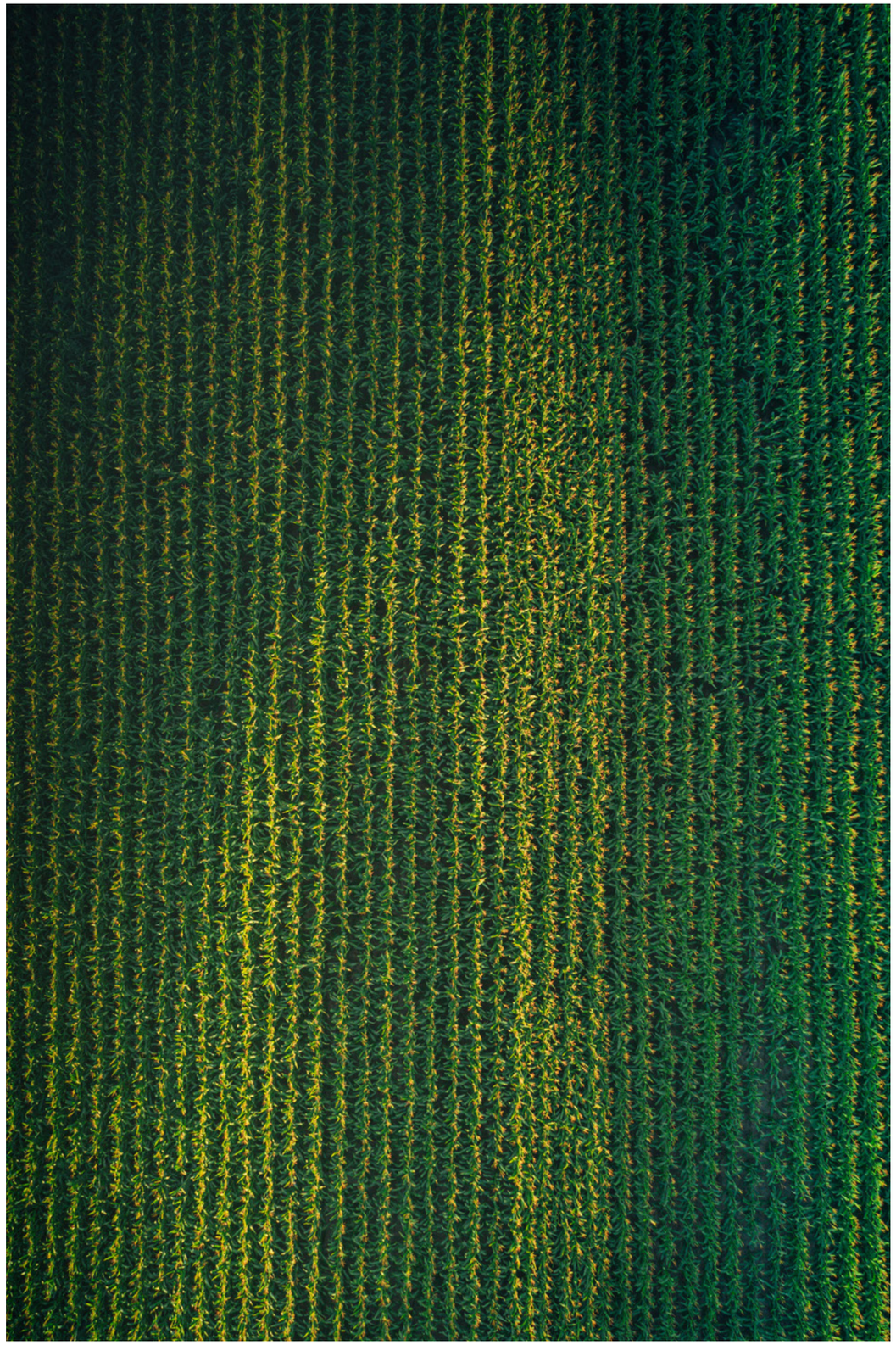
"Our business model is to protect what we've been blessed with, but you still have to feed your family...What is the bottom line for us to do this?"

US FARMER (NEW YORK TIMES)[27]



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