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DECARBONISATION, NET ZERO AND AGRICULTURE

Agriculture has the ability to play a significant role in value chain decarbonisation and in reducing poverty by improving food security and creating sustainable jobs – all critical objectives within the Global Sustainable Development Goals.

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“Net Zero” is the requirement to cut greenhouse gas (GHG) emissions to as close to zero as possible, with any remaining emissions being re-absorbed from the atmosphere by oceans, forests and plants in order to avert the worst impacts of climate change and preserve a liveable planet. (UNFCCC COP 26, 2021). In this regard, it is important to note that carbon is not created or destroyed, it is transferred from one form to another via the carbon cycle. Plants play a critical role in this cycle through the natural process of photosynthesis, where they use light energy from the sun to convert water, carbon dioxide, and minerals into oxygen and energy-rich organic compounds. It is this inherent biogeochemical primary production process that enables agriculture to positively contribute to value chain decarbonisation.

Many of the practices and processes (fertiliser use, mechanisation, processing and transport) associated with delivering commercial competitive agricultural value chains and produce, contribute to greenhouse gas emissions. With increased global focus and pressure on reducing the carbon emissions across all sectors, mainstream agriculture will have to evaluate and invest in innovative technologies, practices and solutions to address value chain GHG emissions. Role players across the agricultural value chain will have to drive efforts to reduce direct emissions and also support value chain initiatives that collectively reduce emissions – innovations in transport, handling, production and processing. At the primary production level, investing in approaches like regenerative agriculture (a conservation and rehabilitation approach to food and farming systems) provides an integrated and sustainable framework, that focuses on implementing practices that regenerate topsoil, improve water retention and increase biodiversity, whilst maintaining high levels of productivity and ensuring carbon sequestration takes place to ultimately support value chain decarbonisation.

The diagram below illustrates the high-level integrated concepts of regenerative agricultural and the key benefits that can be delivered.

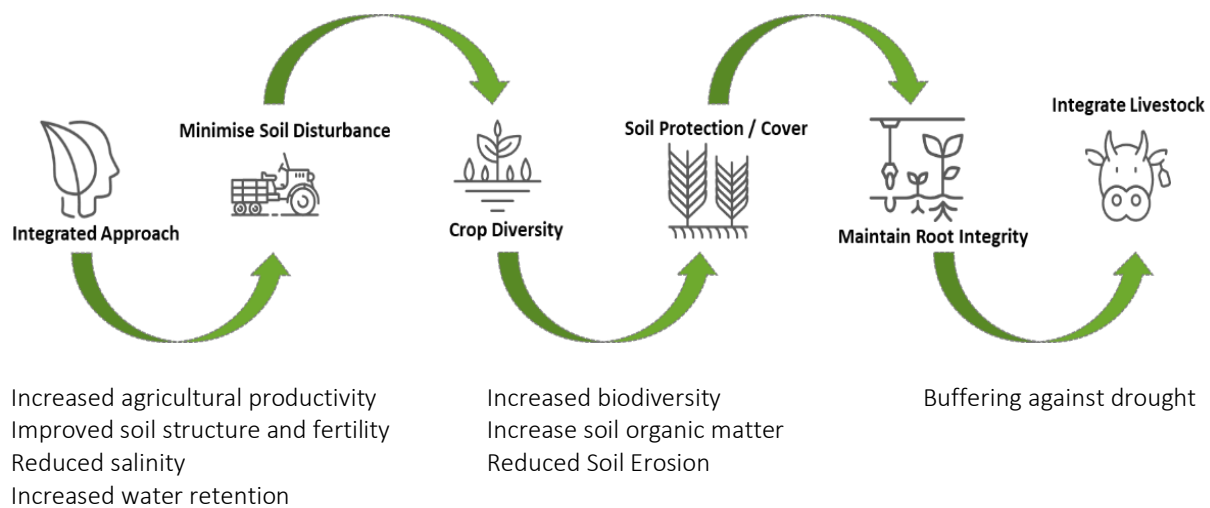


Figure 1: High-level integrated concepts of regenerative agricultural & the key benefits deliverables

Governments and corporates worldwide have made ambitious commitments to deliver measurable abatement impacts across the diverse set of performance criteria set out within the Sustainable Development Goals. Increasingly, it is being realised that achieving these interconnected goals will take collaboration across multi-disciplinary teams exploring innovative opportunities and integrated solutions. Balancing the **use and management of natural resources** (land and water) to satisfy the **increasing demand emanating from human needs** (energy and food) and **socio-economic priorities** (jobs, greater equality) will

require careful strategic planning and **trade-offs**. Delivering the long-term sustainable change that is required to achieve Net Zero will need consistent effort and investment into diverse initiatives that jointly contribute to achieving the multitude of different objectives. A well-structured and integrated strategy needs to define which intervention will have the optimal impact, where the intervention should be located, how it needs to be structured, financed, resourced, and measured as well as what impact is desired.

In this regard, BFAP has developed and implemented the requisite methodology and frameworks for policy and investment prioritisation through its capacity to conduct deep-dive value chain analysis, based on a market led evidence-based analysis, and the ranking of a multitude of cross-functional criteria that enables the identification and selection of prioritised value chains for investment, in order to maximise the sustainable impact.

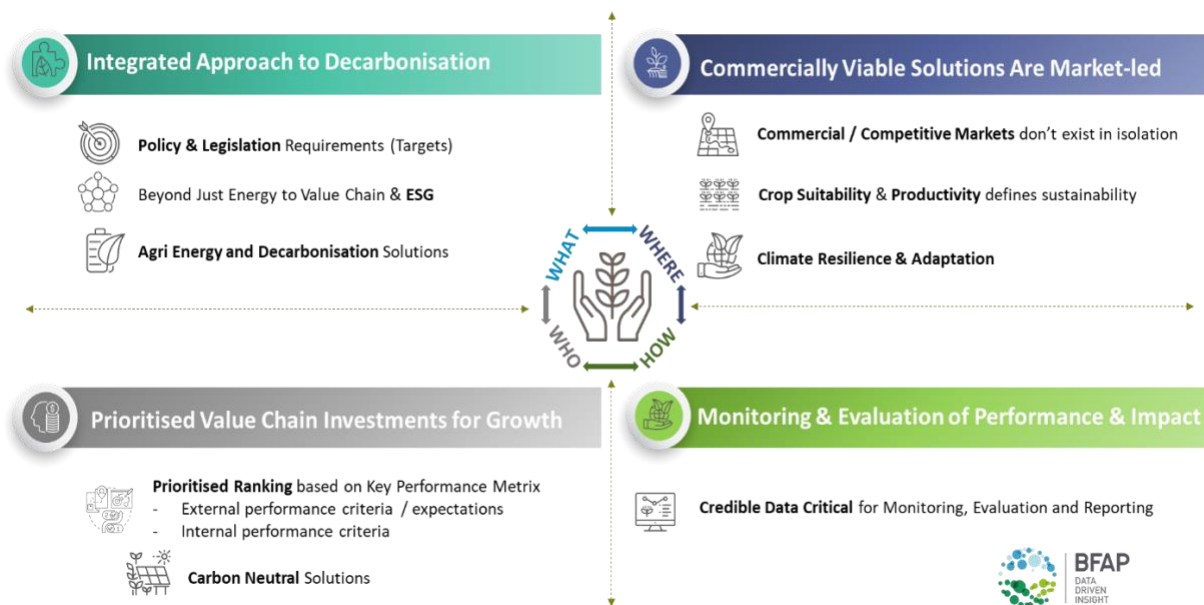


Figure 2: BFAP’s integrated framework for the identification and implementation of prioritised value chain initiatives

The achievement of Net Zero and value chain decarbonisation goals cannot depend on one-size-fits-all solutions; each investment decision requires detailed analysis of the policy and legislation environment, the technical viability, the financial and economic feasibility, the social, environmental and governance requirements, and the impacts. An investment into sustainable agricultural initiatives can provide “quick-win” benefits, but it shouldn’t be treated as a “quick-win” intervention. Long-term collaboration between stakeholders across different sectors and industries is required to drive commercially viable and sustainable investments.

Following a market led approach to quantify the commercial viability and sustainability of agricultural value chain investments, whether focusing on providing bio-energy as part of a renewable energy portfolio (supporting initiatives where corporates and governments aim to systematically replace carbon-based energy with renewable energy sources) or value chain decarbonisation through regenerative agricultural programmes, ensures that the underlying commodity has both economic and social value. By identifying and investing in agricultural value chains that provide both economic growth (through competitive market participation) and sustainable impact (through job creation and carbon sequestration) corporates can deliver real value chain decarbonisation while enhancing livelihoods, contributing to improved food security, and reducing poverty.