

DEVELOPMENT FINANCE IN THE LAND SECTOR

Progress towards Paris alignment



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Authors

Santiago Woollands
Aki Kachi
Pablo Lopez Lagarreta

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Abbreviations

ADB	Asian Development Bank
AFD	Agence Française de Développement
AfDB	African Development Bank
AFOLU	Agriculture, forestry and land use
CSA	Climate smart agriculture
DFI	Development Finance Institution
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
GHG	Greenhouse gas
MtCO₂e	Megatonne of carbon dioxide equivalent
IDFC	International Development Finance Club
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
KfW	Kreditanstalt für Wiederaufbau
LTS	Long-term Strategy
LULUCF	Land Use, Land Use Change and Forestry
MDB	Multilateral Development Bank
NDB	Nationally Determined Contribution
PA	Paris alignment
SDGs	Sustainable Development Goals
WBG	World Bank Group

Executive Summary

In this critical decade, ramping up climate action is more urgent than ever. While a shift from fossil fuels remains crucial to achieve our collective climate goals, fundamental changes in the way our food is produced and consumed is also essential. The land sector (including agriculture, forestry and land use) makes up a fifth of all anthropogenic GHG emissions (Nabuurs et al., 2022, p. 5), while the global food system as a whole is responsible for over a third of the total (Poore and Nemecek, 2018; Crippa et al., 2021).

Achieving Paris goals in the land sector while also eradicating hunger and keeping up with population growth will require profound changes in the current food system. First, we need to urgently stop deforestation and land degradation. At the same time, we need to rapidly scale up afforestation and restoration efforts. Agricultural productivity needs to increase to alleviate pressure on land use caused by agricultural land expansion, and food loss and waste need to be reduced. At the same time, total agricultural production emissions need to go down substantially. Critically, we need to reduce meat consumption and the meat we do eat needs to come from more sustainable and lower emission sources.

Development finance institutions have a crucial role to help bring about the needed shift in global food systems and the land sector more specifically. They can support the implementation of more sustainable agricultural practices, the identification and mitigation of climate risks along the value chain of their clients (for example associated with induced deforestation), and they can set up de-risking facilities to enable private sector investments into emerging industries such as alternative proteins. DFIs can also engage with the public sector for building capacity and supporting more ambitious climate policies. Without much more concentrated action on mitigating climate change and building climate resilience, the advancement of other sustainable development goals such as ensuring global food security and ending poverty will not be possible. DFIs have developed high-level joint frameworks to align their operations with Paris goals are still working toward refining and implementing them. One important remaining gap for DFI is how they will engage and shift their land sector lending.

The MDB joint framework for Paris alignment currently sets the bar too low for the land sector. Although partner country policies and priorities should be a priority area of engagement, current NDCs and LTS are insufficient to reach the Paris objectives and cannot be relied on to assess “Paris alignment”. MDBs and other DFIs can use sectoral 1.5°C-aligned pathways to better identify which activities they should support regardless of the level of ambition of countries’ NDCs. In a proposed “universally aligned list”, MDBs included several land sector activities such as non-ruminant livestock farming, fishing, and aquaculture. While these activities have a lower GHG footprint than ruminant livestock farming, they should not be considered “universally aligned” as they may still have significant negative climate and environmental impacts.

The land sector strategies of key MDBs and other DFIs do not yet reflect a clear approach to Paris alignment. Instead, first and foremost, these strategies target economic development with a focus on developing markets and supporting agribusinesses. DFIs consider climate mitigation in most strategies, but with a focus on efficiency gains rather than in transformative strategies for the sector. Despite some progress in identifying key improvement areas for the sector (such as the importance of reducing livestock-related emissions), a clear picture of a Paris aligned land sector is missing.

Land sector strategies need to be integrated into country strategies. Our analysis of Argentina, Egypt and Viet Nam shows that current strategies from key MDBs focus mostly on macroeconomic and fiscal policy aspects, and do not fully consider sectoral priorities. There is some progress in this area, with some MDBs already shifting towards a more encompassing approach to country strategies. However, to ensure that these strategies support countries to achieve Paris goals, they need to be anchored in 1.5°C-compatible pathways and identify and address barriers to make the most of opportunities at the country level.

Over half of the finance provided by MDBs in Argentina, Egypt and Viet Nam since 2015 lacked sufficient safeguards to ensure Paris alignment. MDBs private sector lending in all three analysed countries included projects where we identified potential risks of undermining Paris goals. Two common project types pose significant risks: (1) those where the activities supported would increase the production or sourcing of commodities which could drive deforestation due to insufficient value chain transparency, and (2) those which provided working capital finance to diversified companies with operations in sectors such as 1st gen biofuels, cattle and dairy, and/or operated in deforestation risk areas. Unaddressed risks in the value chain account for over 80% of finance flowing to high climate risk projects.

DFIs can fulfil their role as supporters of a land sector climate transition:

- **By developing more ambitious sectoral strategies using tools such as sectoral climate pathways.** We need a clear vision of the necessary transformation in the sector to understand the adequacy of planned measures, and to support countries to align themselves with Paris goals.
- **By better integrating climate and sectoral perspectives into country strategies.** This can help translate ambitious sectoral strategies into impact on the ground, by allowing for a better identification of sectoral priorities adapted to country contexts.
- **By developing more stringent criteria to classify economic activities into their positive and negative lists.** MDBs need to align these criteria need with scientific research on the potential GHG-impact of specific economic activities to avoid undermining Paris goals.
- **By improving safeguarding mechanisms for projects in the land sector to avoid supporting GHG-intensive industries and induced deforestation.** MDBs can both set high standards to avoid induced deforestation and help the private sector develop more transparent mechanisms to account for the origin of their sourced commodities.



INTRODUCTION

Greenhouse gas emissions from **agriculture, forestry, and land-use make up around 13-21% of anthropogenic GHG emissions** (Nabuurs et al., 2022, p. 5). Global food system emissions from the production, distribution and consumption of food (including loss and waste), accounted for up to ~16 GtCO₂eq in 2017, representing 26-38% of total human caused emissions (Poore and Nemecek, 2018; Crippa et al., 2021), and would exceed the available carbon budget even if all other sources of emissions were eliminated (Clark et al., 2020).

While emissions from the sector cannot be completely eliminated, they urgently need to be **reduced as much as possible**. The Land Use, Land Use Change and Forestry (LULUCF) sector, which is responsible for the majority of AFOLU emissions, will need to reach net zero globally by 2030 if we are to avoid overshooting the 1.5 temperature limit. From then onwards, it will need to become a significant carbon sink, compensating for other sectors' remaining emissions (Roe et al., 2019). Achieving this will not be possible without profound changes in the way we produce and consume food, especially considering growing global population and rising living standards.

The land sector is not only a major source of emissions but is also one of the most vulnerable to the physical impacts of climate change (Nabuurs et al., 2022, p. 116). Changes in weather patterns, increased frequency of extreme weather events, and water shortages all add stress to production systems. Their impact on agricultural productivity and rural livelihoods are only expected to get worse as a result of rising global temperatures (Nabuurs et al., 2022).

Developing countries will likely suffer the most (Boyd et al., 2022, p. 3). Their vulnerability is aggravated by their economic dependency on agricultural production. Building resilience and decreasing the carbon intensity of these production systems is a monumental

task, for which many countries will require substantial amounts of investment. At the same time, risk-return profiles of investments in this area are often unattractive for private investors.

Development finance institutions have a crucial role to play to achieve Paris goals, especially by channelling and mobilizing climate finance, building capacity, and facilitating the improvement of enabling regulatory environments. Without much more concentrated action on mitigating climate change and building climate resilience, the advancement of other sustainable development goals such as ensuring global food security and ending poverty will not be possible.

Acknowledging this reality, most DFIs, and especially Multilateral Development Banks **have pledged to align their operations with the goals of the Paris Agreement**. In 2018, both the MDBs (2018) and the International Development Finance Club (IDFC, 2018) published parallel approaches to Paris alignment, each laying out six dimensions or building blocks that outline the main focus areas of alignment. Since then, DFIs and especially MDBs have further developed their own strategies and processes to implement the joint approach (EBRD, 2022a), but uncertainty remains with respect to how this will impact different sectors and types of operations (for example, public vs. private sector lending) (McCandless et al., 2021).

MDBs still don't have clear methodologies in place to determine what to consider Paris aligned in the land sector. Building on previous research on the alignment of agribusiness and the wider food system (Kachi et al., 2021), this paper aims to evaluate the current status of Paris alignment of DFI strategies and activities in the land sector and to provide recommendations on how to advance to ensure the DFI interventions in the sector contribute to Paris goals.



2

METHODOLOGY

To provide input to DFI alignment efforts in the land sector, we draw on recent literature on sectoral climate modelling, as well as on previous research on MDB Paris alignment to assess current practice in MDB agricultural lending and make recommendations for improvements on how MDBs can better align their agriculture and wider land sector lending with the Paris Agreement.

For this purpose, we **identify a series of key indicators to build a frame of reference for Paris alignment**. These are based on research by Searchinger et al. (2019), who derive 1.5°C-aligned benchmarks for the land sector based on the GlobAgri-WRR model. The model estimates changes in agricultural production, GHG emissions and land-use demand over time based on inputs such as diets, population growth, crop yields, nitrogen use efficiency, and livestock efficiencies (see Searchinger et al., 2019 for further details). These indicators serve to build a picture of Paris aligned land sector pathways, current gaps, as well as key areas of action.

Once these indicators are identified, and based on previous research on MDB Paris alignment, we analyse the current status of DFIs strategies and policies at different levels:

- First, we assess to what extent the **MDBs' joint approach to Paris alignment** incorporates the use of these key indicators. For this purpose, we review recent developments in the joint approach methodology with a focus on the land sector.
- Second, we analyse to what extent **Paris alignment considerations are already integrated into current DFI land sector strategies**. Where this is already the case, we further assess the extent to which these key sectoral indicators are reflected.
- Third, we focus our analysis on a series of **illustrative case studies**.

In this context, we analyse country strategies of DFIs operating in the country to further understand development priorities and how they integrate the land sector and Paris alignment.

Finally, the case studies also include a portfolio analysis of land sector operations by selected DFIs. Based on the identified key indicators, we provide a project-by-project evaluation and a summary of the status of alignment of DFI operations in each country¹. This analysis is also based on previous research on the alignment of agribusiness, which develops guidance for MDBs based on sectoral indicators and benchmarks (Kachi et al., 2021).

1 Sectoral indicators are used as a reference point for the evaluation: they show the direction and order of magnitude of the needed change. The actual targets/benchmarks identified in Chapter 3 do not directly impact the evaluation of projects. We assess whether projects are at risk of having a negative impact on any of the key sectoral indicators.

 **3**

**CURRENT TRENDS
AND TRANSITION
NEEDS IN THE
LAND SECTOR**

The land sector has a critical role to play both for development and for the low-GHG transition. AFOLU emissions currently account for about 13-21% of total anthropogenic GHG emissions and are expected to keep growing with rising incomes and growing populations (Nabuurs et al., 2022, p. 3). Current food production and consumption trends are not compatible with the Paris Agreement goals (Clark et al., 2020). Making food systems sustainable will require a rapid and far reaching transformation of the sector.

Carbon dioxide released through deforestation and methane from ruminants' enteric fermentation are by far the biggest sources among AFOLU emissions. Other important sources are carbon dioxide from peatland draining, methane from manure on pastures and rice production, and nitrous oxide from synthetic fertilizers (upstream emissions from the production of fertilizers from fossil fuels, are also highly relevant but not included in AFOLU accounting). All of these need to be targeted and reduced.

Animal products account for 72 to 78% of total agricultural emissions, including the emissions associated with feed production, enteric fermentation, and manure-related emissions. In the forestry sector, livestock-related land use change is also a major driver of emissions (Springmann et al., 2018). Because a significant share of these emissions are unavoidable, it is clear that demand-side measures will also be necessary to shift the land sector into a Paris-compatible pathway (Springmann et al., 2018; Nabuurs et al., 2022). Existing studies show that extending current dietary trends and adjusting for population and income growth can lead to non-CO₂ agricultural emissions tripling between 2010 and 2055, to up to 15.3 GtCO₂eq/yr (Popp, Lotze-Campen and Bodirsky, 2010). This highlights both the

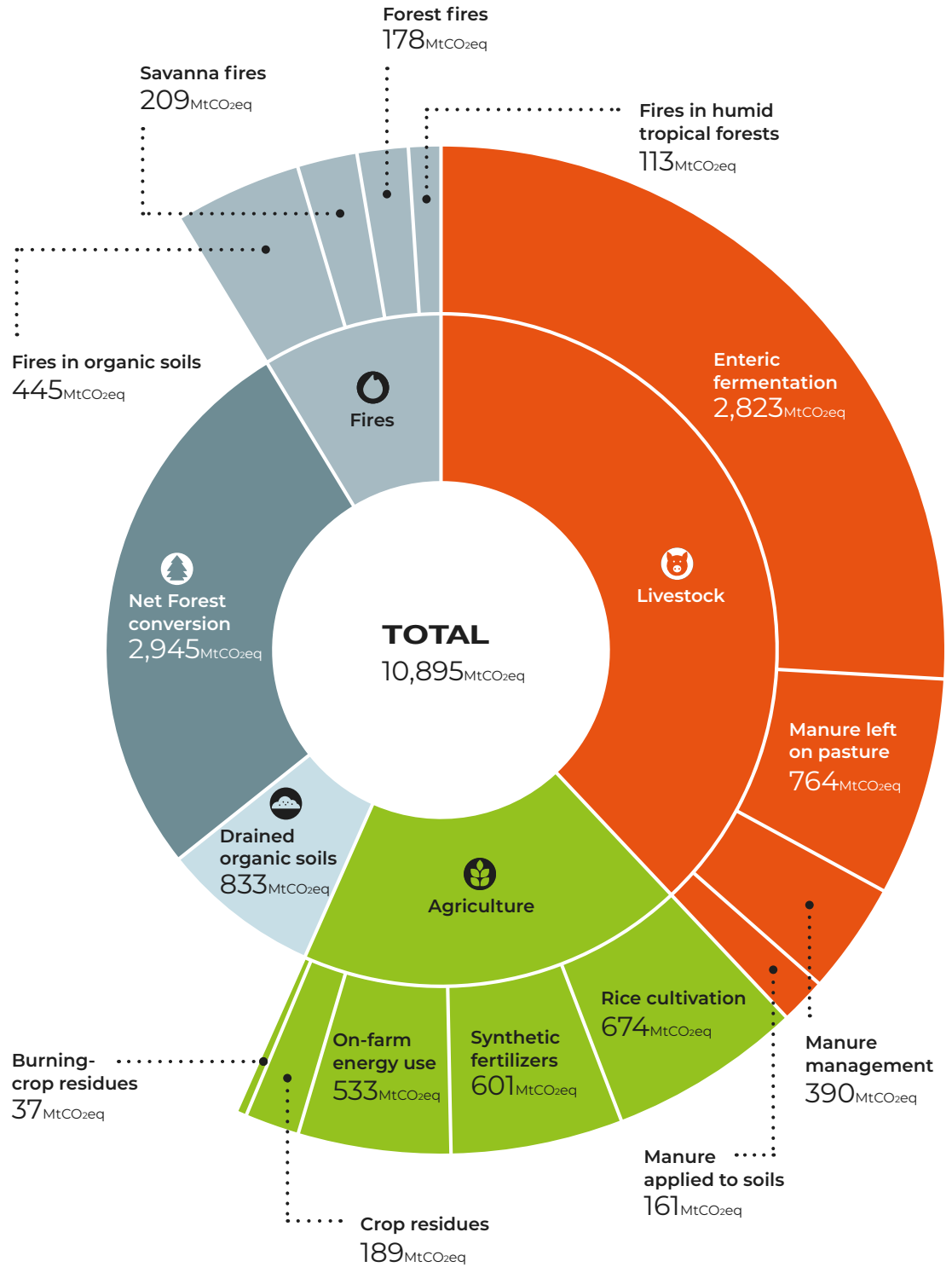
need for a shift in diets, as well as the key role that consumer choices have in shaping land sector emissions.

The land sector also plays a **key role in development and food security**. In 2020, almost 10% of the world population was estimated to be undernourished (FAO et al., 2021). The need to feed around 10 billion people by 2050 makes it impossible to keep AFOLU emissions Paris-aligned if current dietary trends continue (Searchinger et al., 2019). Critically, if the crops used for animal feed and 1st generation biofuels were instead consumed by humans, up to 70% more calories would be available in the global food system, enough to feed an extra four billion people (Stoll-Kleemann and Schmidt, 2017). Searchinger et al. (2019) finds that it is possible to feed growing populations while halting deforestation and reducing emissions, but it would require substantial changes in production and consumption patterns (Boehm et al., 2022).

The land sector is also particularly vulnerable to the physical impacts of climate change. Changing temperature and rainfall patterns, for example, can add water stress and reduce agricultural productivity. Zhao (2017) estimates that every 1 degree increase in global mean temperature can reduce yields of wheat by 6%, maize by 3.2%, rice by 7.4% and soy by 3.1%, albeit with significant regional differences.

In order to keep up with the challenge of feeding a growing population while improving diets and combating food insecurity globally, **agricultural production will need to become more resilient** (Searchinger et al., 2019). To achieve this, DFIs and governments can promote measures encompassed under approaches like climate smart agriculture, such as optimizing crops, crop rotation and cover crops, mainstreaming no-tillage practices, precision

Figure 1
2019 Global AFOLU emissions by source.



Source: FAOSTAT, 2022.

farming and improved irrigation systems (European Environment Agency, 2019). Agroecology approaches also consider issues such as nutrient cycles, crop-livestock interaction, dietary patterns, and socio-economic questions such as the role of small farmers and pastoralists. Improved soil health and soil carbon content as a result of agroecological practices can also contribute to climate change adaptation by improving both the water storage capacity and sequestration potential of soil (HLPE, 2019; IPCC, 2019, p. 499).

Sectoral scenarios and benchmarks are important to inform Paris alignment. They can provide an overview

not only of what needs to change, but also how much and how fast, as well as a way to track progress through key performance indicators. Such tools need to be in the background of MDBs project evaluation and approval processes, to ensure that investment does not flow into activities that directly or indirectly undermine the achievement of Paris goals. Based on previous research on MDB alignment of agribusiness operations (Kachi et al., 2021) as well as recent sectoral benchmark research (Boehm et al., 2022), we have compiled a selection of key indicators for Paris alignment of the land sector:

Table 1
Key global indicators for the land sector, including 2030 and 2050.

Category	By 2025	By 2030	By 2050
FORESTRY AND OTHER LAND USE	<ul style="list-style-type: none"> · End net deforestation. 	<ul style="list-style-type: none"> · Net zero CO₂ emissions from AFOLU. · Restore 100 Mha of tree cover in 2020-2030. · Reduce peatland degradation to 0 and restore 15Mha. · Reduce mangrove loss rate to 4900 ha/year and restore 0.24 Mha. · Reduce annual gross deforestation rate to 1.9 Mha/year. 	<ul style="list-style-type: none"> · Restore 300 Mha of tree cover in 2020-2050. · Restore 20 Mha of peatlands in 2020-2050. · Reduce annual gross deforestation rate to 0.31 Mha/year.
AGRICULTURAL PRODUCTION		<ul style="list-style-type: none"> · Reduce agricultural production emissions by 21% below 2019. · Reduce livestock emissions by 17% below 2019. · Increase crop yields by 18% above 2020. · Increase ruminant meat productivity by 22% above 2019. 	<ul style="list-style-type: none"> · Reduce agricultural production emissions by 38% below 2019. · Reduce livestock emissions by 29% below 2019. · Increase crop yields by 45% above 2020. · Increase ruminant meat productivity by 56% below 2019.
DEMAND		<ul style="list-style-type: none"> · Halve food loss & waste below 2019. · Decrease ruminant meat consumption by 13% below 2019. 	<ul style="list-style-type: none"> · Decrease ruminant meat consumption by 34% below 2019.

Source: Kachi et al., 2021; Boehm et al., 2022.

A Paris-aligned land sector calls for profound changes in key trends.

First, the world needs to stop deforestation and land degradation urgently, while afforestation and restoration efforts need to scale up orders of magnitude. Agricultural productivity needs to increase to alleviate pressure for land use change caused by agricultural land expansion. At the same time, total agricultural production emissions need to go down substantially. To contribute to this process, food loss in the production value chain, as well as food waste from consumers need to be cut in half by 2030. This would not only reduce emissions but remove some of the pressure on production systems by lowering total demand for products.

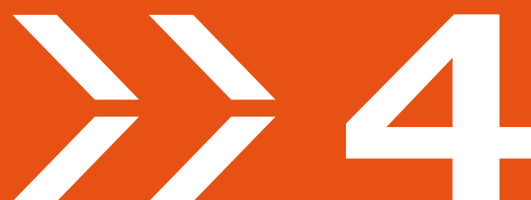
For ruminant livestock this means a productivity improvement of 27% by 2030 and reducing per capita consumption by 15%. Reaching 60 kcal per capita per day in 2050 by itself could decrease AFOLU emissions by 5 GtCO₂eq (Searchinger et al., 2019; Boehm et al., 2022). This number is based on global consumption averages, which means that high-consuming countries would require drastic reductions in consumption, while some developing economies, mostly in Africa, could still increase their consumption slightly. Balancing diets and improving nutrition would help address not only food insecurity, but the high prevalence of certain medical conditions such as cardiovascular disease, diabetes, cancer, and others in developed economies (Ritchie, Reay and Higgins, 2018). Acknowledging this, the EAT-Lancet Commission has developed “planetary health diets” with the dual objective of increasing health and nutrition outcomes linked to SDGs while transforming the food system to keep it within planetary boundaries in terms of its input needs and impacts (Willett et al., 2019). Such research could support development of country-specific pathways for the AFOLU transition.

These indicators also need to be understood together: **increasing efficiencies in the production system without decreasing aggregate demand will not reduce emissions in line with the Paris Agreement.**

Another important caveat is that efficiency increases can only be aligned if they are sustainable in a broader sense. This means fostering practices such as silvopastoral animal farming (Jose and Dollinger, 2019), where emissions intensity is reduced without increasing other negative impacts. These include the loss of biodiversity, the contamination of soils and waterways (FAO, 2006), and the over-use of antibiotics which leads to antibiotic resistant bacteria (Dewulf, Sternberg-Lewerin and Ryan, 2019) which caused almost 5 million deaths in 2019 (Murray et al., 2022). In this sense, Searchinger et al. (2019) find that it is possible to achieve large GHG productivity gains without moving to feedlots. But it is not possible to achieve these gains while also increasing aggregate demand.

DFIs can support the transition of the land sector by adapting strategies and policies along benchmarks such as those presented here². A clear picture of what a Paris aligned land sector should look like can help improve PA safeguards for DFI projects. Its use can go beyond preventing DFIs from supporting projects that negatively affect one or many key indicators, but also help focus efforts on particularly urgent issues.

2 One important caveat here is that the emissions scenario on which these benchmarks are based assume a high level of carbon removals through technologies such as direct air capture and bioenergy with carbon capture and storage. The assumptions about the development and cost-effective deployment of such technologies at the scale that the model requires determine the available GHG budget. This means that if a scenario includes an over-ambitious assumption about the role of negative emissions technologies, it is over-representing the available GHG-budget and allowing for less ambitious emissions reduction targets to be considered 1.5 aligned.



CURRENT MDB CLIMATE CONSIDERATIONS FOR AGRICULTURE

In 2018, MDBs set out an alignment approach to the objectives of the Paris Agreement, based on six core principles or “building blocks”³: (1) mitigation, (2) adaptation, (3) climate finance, (4) climate policy, (5) reporting and (6) internal activities (WBG, 2018a). In November 2021, MDBs came out with a Joint Assessment Framework for Paris alignment of direct investment operations covering the first two blocks (MDBs, 2021). The process aims at operationalizing their Paris alignment strategy and to lay out the procedure by which MDBs could determine whether a project is aligned or not.

The process of evaluating projects under building block 1 and classifying them as “aligned” or “not aligned” is fundamentally based on two principles: **first**, on whether the operation is consistent with a country-specific low-GHG development pathway, and **second**, whether it does not undermine a decarbonization transition, both in the respective country and globally. This process resulted in the creation of “positive” and “negative” lists (MDBs, 2021).

For activities not included in either list, MDBs propose “Specific Assessment Criteria”, which consist of specific criteria for mitigation and adaptation. In the mitigation building block, the framework proposes evaluating whether individual projects

- are consistent with countries’ NDCs,
- are consistent with countries’ LTS,
- are consistent with sector-specific PA criteria,
- do not involve lock-in risks, or enable misaligned activities
- do not involve transition risks.

In the adaptation building block, the framework proposes to assess alignment with countries’ climate-resilient development pathways by:

- checking physical climate risks,
- managing said risk and to build resilience, and
- assessing the broader resilience context related to national policies and with private sector and community priorities for resilience (MDBs, 2021).

These framework criteria for mitigation and adaptation can be applied in the land sector by interpreting them in line with the sectoral indicators/benchmarks outlined in the previous section:

We do not consider the use of countries’ NDCs and LTS, corresponding to the first two assessment criteria. This is mainly because, **country’s NDC pledges are highly diverse and collectively insufficient to accomplish the goals of the Paris Agreement**. This means that taking them as a reference to determine whether something is Paris-aligned is likely inadequate⁴. Additionally, MDBs check “compatibility with the country’s NDC” by determining whether the NDC explicitly prohibits the development of such activity. In practice, most NDCs do not reach the level of specificity that such a process would require. In turn, that may result in many potentially harmful activities being considered Paris aligned.

Sector-specific PA criteria should mainstream the use of all key AFOLU indicators identified in chapter 3 to ensure projects have either positive impact or otherwise do no significant harm⁵. This can be done by estimating and tracking the impact of individual projects on these key indicators and requiring the development of mitigation strategies to address these impacts. Based on country-specific

3 This chapter focuses on the MDBs joint approach framework and does not explicitly consider IDFC members. This is because they are yet to release their own implementation framework following the publication of their principles for Paris aligned investment.

4 However, we strongly recommend that MDBs and other DFIs work with countries that have set out NDCs and either have or are planning LTS to strengthen their policies, actions and targets, and to help identify sectoral gaps, for example, related to the land sector.

5 Do no significant harm criteria is currently in use in climate finance guidance mechanisms such as the EU Taxonomy (TEG, 2020). Its purpose is to ensure that activities that do not contribute to climate goals directly, also do not undermine them. Checking that an investment does no significant harm involves assessing transition and lock-in risks, indirect emissions, and physical climate risks.

sectoral development pathways, specific activities can also be excluded. Not every indicator will be relevant for each country and each project, but they should all be considered in the evaluation process as well as in performance frameworks to ensure supported projects are aligned. This can be done by developing an evaluation framework for individual projects, checking for potential impacts on key sectoral indicators both ex-ante and ex-post.

Lock-in risks can also be an issue in the land sector, for example through the expansion of GHG-intensive activities such as industrial livestock production, or indirectly through the production of crops for feed, which enable the production of livestock and increase pressure on the demand for agricultural land expansion. The development of such industries can prevent opportunities to transition to aligned activities by competing for resources and for market share with low-carbon alternatives such as plant-based proteins.

Transition risks in the land sector are also significant, especially associated with the GHG-footprint of commodities: countries that depend on the export of climate-problematic commodities are likely to be severely affected once major import markets introduce border carbon tariffs.

Identifying **physical climate risks and resilience** measures in the land sector, especially when considering the wider impacts of particular projects in neighbouring communities and within national contexts could promote a shift towards climate-smart agricultural practices and agroforestry, with a focus on maintaining soil quality and biodiversity, and away from intensification practices (such as industrial livestock) and monocultures.

MDBs have several land sector activities in their universally aligned activities list. Within this list there is a subsection for generally defined activities in the “Agriculture, forestry, land use and fisheries sector”. Activities included in the positive list are (EBRD, 2021):

- Afforestation, reforestation, sustainable forest management, forest conservation and soil health improvement
- Low-GHG agriculture, climate-smart agriculture
- Conservation of natural habitats and ecosystems
- Fishing and aquaculture
- Non-ruminant livestock with negligible lifecycle GHG emissions
- Flood management and protection, coastal protection, urban drainage

Activities included in the positive list are supposed to comply with the MDB’s two general criteria for Paris alignment, namely, to be compatible with low-GHG pathways, and to not undermine the decarbonization transition. We find that two of the six items included in this list do not universally comply with these criteria:

Non-ruminant livestock – even though its GHG footprint is comparably lower than that of ruminants, it is still considerable (Poore and Nemecek, 2018). This is mostly due to emissions associated with crops for animal feed, including the use of fertilizers and agriculture related deforestation, as well as manure management. The unsustainable intensification of livestock production does not align with mitigation or adaptation goals of the Paris Agreement and should therefore be excluded from the “universally aligned” list. To avoid the largest and most intensive producers (i.e. factory farms), we propose additional screening criteria

related to the number of animals per farm and stocking density⁶. Other specific criteria for the alignment of livestock should include the type and source of feed and the management of manure which should contribute to closed nutrient cycles. An important indicator could be the ratio between the number of animals and the area used for feed on the farm or in the region.

Fishing and aquaculture - from a GHG emissions perspective, the impact of this activity can vary depending on the type of fish and the feed. As for livestock, the increased need for animal feed is a powerful driver of agricultural land expansion and related deforestation. Aquaculture ponds in coastal areas, however, can also drive the loss of salt marshes, mangroves and seagrass meadows, all of which can store 30-50 times more carbon per hectare than terrestrial forests (Boehm et al., 2022). These activities should be evaluated on a case-by-case basis, not be considered “universally aligned”. Such an assessment should consider the impact of these activities on relevant sectoral indicators. For example, where the feedstock is sourced from, and whether the breeding facilities are located close to high-carbon stock coastal areas. DFIs could promote the circularity of feed production, for example, requiring a large share of annual feed to come from within the holding (Platform on sustainable finance, 2021).

The “universally aligned” list could also be expanded to include activities with transformative potential in the land sector. For example, investments in developing alternative proteins, including research, capacity building, value chains and market development, as well as information provision to consumers could all be included. Such

developments would not only have a potentially transformative mitigation impact on food systems and the land sector but could also help protect countries against lock-in and transition risks, as well as increasing climate resilience.

The “universally misaligned” list, on the other hand, is a lot shorter, and only includes four activities, all related to solid-fuel thermoelectric generation, mainly coal and peat. Expanding this list including for AFOLU related activities could be an important step towards decreasing the uncertainty associated with the Specific Assessment Criteria process and reducing reliance on national climate ambition of specific countries. The misaligned list could include activities such as industrially intensified livestock production (defined based on stocking density or similar criteria) with high GHG (such as deforestation risks in the supply chain, high-GHG emissions from the process and waste streams) and other environmental impacts, support for first generation biofuels, and other investments associated with deforestation and conversion of other eco-systems with high value for biodiversity, climate, and other ecosystem services.

6 For example, EU organic standards only apply to poultry farms below 3000 hens (Soil Association, 2022), and the UK defines farms with more than 2000 finisher pigs as intensive (Environment Agency, 2015).

»» 5

INTEGRATION OF PARIS-ALIGNMENT CRITERIA IN DEVELOPMENT FINANCE INSTITUTIONS' AFOLU STRATEGIES

Paris alignment criteria need to be mainstreamed at all levels of a DFI's operations. This section of our analysis reviews the current sectoral priorities and the state of integration of alignment criteria in land sector strategies of key DFIs. The assessment includes several aspects:

- Which DFIs currently have active **strategies** for the sector, when they were last updated, and to what extent DFI climate strategies include the land sector in particular.

- Assess to what extent **targets** or key objectives associated with sectoral strategies include a climate component, and whether they specifically aim to implement Paris alignment criteria in the sector.

- Whether specific criteria have been set for the **implementation** of existing targets, including priority investment areas, policy development support and others.

- Analyse to what extent relevant **sectoral indicators** are included in the strategy narrative, implementation plans and performance frameworks.

Figure 2
Overview of relevant DFI strategies.

Development Finance Institution	Sectoral strategy	Targets	Implementation plans	Key indicator use
	ADB	AFOLU or agriculture & land use related	Includes mitigation	Includes mitigation options
AfDB	AFOLU or agriculture & land use related	Only including development & adaptation	Includes mitigation options	No indicators mentioned
EBRD	AFOLU or agriculture & land use related	Includes mitigation	Includes mitigation options	Some indicators mentioned
EIB	AFOLU mentioned in cross-cutting strategy	Includes mitigation	Includes mitigation options	Some indicators mentioned
IDB	AFOLU or agriculture & land use related	Includes mitigation	Includes mitigation options	Some indicators mentioned
IsDB	AFOLU or agriculture & land use related	Includes mitigation	Includes mitigation options	Some indicators mentioned
NDB	Only short website overview	Not available	Not available	No indicators mentioned
WBG	AFOLU mentioned in cross-cutting strategy	Includes mitigation	Includes mitigation options	Some indicators mentioned
AFD	AFOLU or agriculture & land use related	Includes mitigation	Includes mitigation options	All or most sectoral indicators are mentioned
KfW	Only short website overview	Includes mitigation	Not available	No indicators mentioned
IFAD	AFOLU or agriculture & land use related	Only including development & adaptation	Includes mitigation options	No indicators mentioned

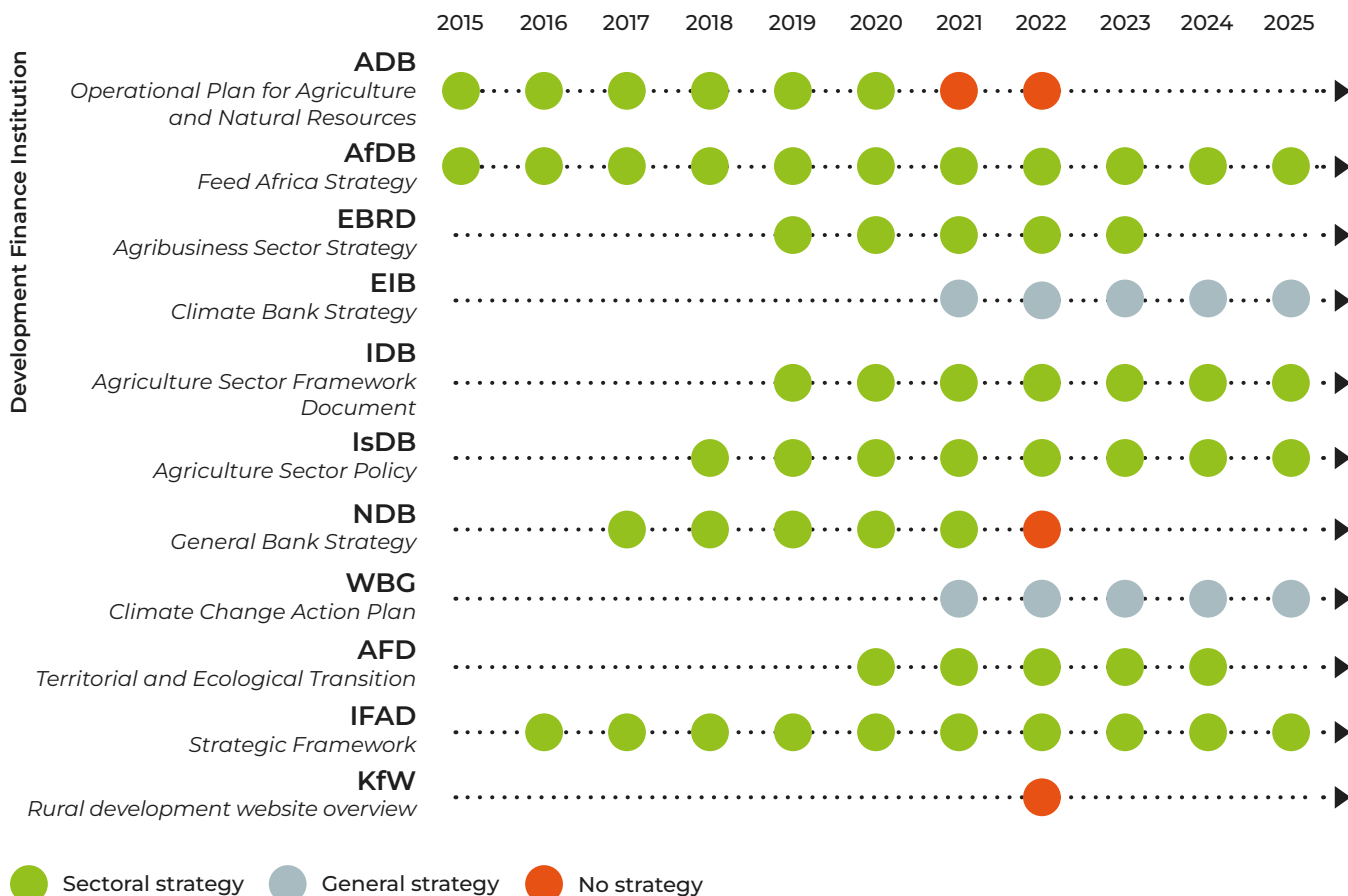
Source: ADB, 2015; AfDB, 2016; IFAD, 2016; NDB, 2017; EBRD, 2019; IDB, 2019; IsDB, 2019; AFD, 2020; EIB, 2020; WBG, 2021b; KfW, 2022.

This process aims to track progress, identify gaps, and provide recommendations for DFIs which are in the process of coming up with new land sector strategies. These need to move towards a focus on climate and development as one issue, ensuring that sectoral priorities include PA safeguards.

Most DFIs have at least one relevant sectoral strategy. Rural development and the land sector are key priorities for many development institutions. Almost all analysed organizations (except NDB) operate in the sector and have developed some sort of strategy to approach their project portfolio. However, there are substantial differences between different institutions as to what is included in their sectoral strategies. The African Development Bank

(AfDB), the Inter-American Development Bank (IDB) and the European Bank for Reconstruction and Development (EBRD) have a dedicated strategy for the land sector or similar, while others include it within either a more general strategy (such as the NDB), or within a cross-sectoral climate change strategy, such as the European Investment Bank (EIB) and the World Bank Group (WBG). As part of our analysis, we have tracked when existing strategies were established, and when they are due to expire. The review shows that most current strategies are set to run until 2025, with some ending in 2024 and 2023. The Asian Development Bank (ADB) stands out as its strategy expired in 2020 and so far, no new strategy has come out to replace it (see figure 3).

Figure 3
Overview of DFI strategy timeline.



Source: ADB, 2015; AfDB, 2016; IFAD, 2016; NDB, 2017; EBRD, 2019; IDB, 2019; IsDB, 2019; AFD, 2020; EIB, 2020; WBG, 2021b; KfW, 2022.

Land sector strategies target economic development first and foremost. DFI sector strategies focus on developing key agricultural commodities and resilient value chains, with not only with a view to economic growth, but also to ensure food security and alleviate food poverty. Sustainability is a key concern for DFIs in the discussion around food security, as physical risks from climate change already negatively affect agricultural output. In this context, climate change adaptation and the preservation of natural resources are a high priority. While some strategies include references to decreasing the environmental impact of the sector, we find no concrete financial commitments or other relevant targets.

DFI focus on supporting agribusinesses and developing agricultural markets. In line with recognizing the strong link between the land sector and economic development, most institutions focus their efforts in supporting the private sector either directly through investments, or indirectly through policy development finance. DFIs also share an interest in supporting smallholders and developing climate resilience in the sector, in line with food security objectives.

There is a shared view of challenges for the sector among development institutions. First, physical risks from climate change including extreme weather events and changing climate conditions already negatively affect agricultural output around the world. In response, many institutions claim to support climate-smart agriculture solutions, although in most cases these are not very clearly defined. Second, there are market risks associated with commodity price volatility and foreign exchange risks. These are especially relevant for institutions operating in regions where agriculture is an important economic engine. Third, another

major challenge for the development of the sector is related to domestic policy conditions. As a response, some strategies consider investing in capacity building and policy-based finance to help improve the regulatory environment for agribusinesses. DFIs should further address risks to global commodity supply chains associated with global crisis or major geopolitical conflict (such as the COVID-19 pandemic or Russia's invasion of Ukraine).

Both climate change mitigation and adaptation are included in land sector strategies. The focus is majorly on adaptation, as it is more directly relevant to the objective of growing agricultural output. Mitigation is mostly referenced in general terms as an objective of these strategies. When discussed more in detail, the approach to mitigation options for the sector is based on increasing efficiencies and lowering the carbon intensity of products, without focusing on absolute emission levels or transformative strategies for the sector. The importance of halting deforestation is present in every case where strategies include details on how to implement their climate objectives. A few DFI strategies, such as those from the EIB and IDB acknowledge the role of livestock-related emissions, and mention support both for increasing efficiencies through sustainable practices such as silvopastoral systems and reducing demand through diet shifts. This is a vital step in addressing AFOLU emissions, but these priorities need to be translated into concrete guidelines and targets.

Paris alignment of the land sector is not yet widely featured in MDB strategies. While climate is clearly a concern for most institutions and is referenced in one way or another across AFOLU sectoral strategies, a specific focus on Paris alignment is missing. Both the EIB and the WBG

have come out with climate strategies which focus on alignment (EIB, 2020; WBG, 2021b). These include commitments to align their operations with the Paris Agreement, as well as a section dedicated to the land sector. The EIB mentions it will use 1.5 compatible sectoral models to inform its investments, as well as an extended positive and negative list for AFOLU activities aligned with the EU taxonomy. This is a development in the right direction, but more stringent criteria are needed to ensure Paris alignment, especially regarding intensive livestock production.

The use of key sectoral indicators and benchmarks for Paris alignment of the land sector is not widespread. Some strategies include key elements such as halting deforestation, combating soil erosion, increasing yields, and improving the emissions intensity of agricultural production. However, these issues are not clearly mainstreamed into performance monitoring frameworks, and some key indicators such as the absolute level of AFOLU emissions are not included by any DFIs, with the focus set on increasing efficiency, in spite of the latent risk of rebound effects and other issues such as biodiversity loss and ecotoxicity.

Some DFIs have started to move towards the integration of sectoral perspectives in country strategies, as well as the coordination between operation branches at the country level. The ADB and the WBG specifically outline plans to integrate their land sector strategies into country strategy priorities, as well as coordinating between public and private sector lending based on sectoral and country priorities.

Another positive development in the ADB and WBG strategies (Asian Development Bank, 2015; WBG, 2021b; Asian Development Bank, 2022) is the reference to the **use of other financial**

instruments such as policy-based finance, partial risk guarantees, supply chain finance, agribusiness equity investments, and PPP projects, as well as increased technical assistance in the land sector. As outlined above, the use of a wider set of instruments can help increase the impact of MDB investments.

Overall, **DFI strategies avoid referring to absolute emission levels, choosing to focus on efficiency.** They do not fully address the urgent need for transformation, and how meat consumption will need to decline for a Paris-aligned land sector. However, there are some who already acknowledge the role of alternative proteins, and plan to support the industry, such as the WBG and IDB.

The MDBs joint approach provides an overview of what the priorities are when thinking about Paris alignment. For building blocks one and two, it now also provides specifics of how MDBs will address the evaluation of specific operations. However, **this guidance has so far not made it into MDB sectoral strategies** and provides very little detail as to what Paris alignment looks like in each specific sector – and the land sector is no exception.

 **6****CASE STUDIES**

To examine the role of climate in the land sector at the country level, we conduct a series of case studies focusing on MDB land sector strategies and operations in selected countries. We start by reviewing country strategies of relevant MDBs for each country, with the purpose of identifying what MDB priorities are, and to what extent they include the land sector and climate change.

As a second step, we perform a portfolio analysis of MDB land sector projects in each country since 2015. Based on information from the banks' environmental impact assessments, we evaluate projects considering their potential impact on the key sectoral indicators outlined above. Private sector operations are additionally assessed against alignment criteria developed in previous research (Kachi et al., 2021).

As a result of this evaluation process, we identify projects which either

contribute to Paris goals and/or are not likely to do significant harm, and projects where the lack of sufficient alignment safeguards creates a risk of undermining Paris goals. These projects are classified as having a risk of negative impact, which does not necessarily mean that they should not have been financed, but rather that there is insufficient information on their climate impacts along the value chain, and/or are missing strong mitigation components. In such cases, it is important to learn from these projects to strengthen exclusion criteria or find ways of mitigating such risks to the climate.

We have selected Argentina, Egypt, and Viet Nam as case studies. Our aim is to include different regions, political contexts, and land sector profiles. These countries face distinct challenges to develop their land sectors sustainably, and work together with diverse MDBs.

Table 2
Project evaluation framework.

<u>Evaluation</u>	<u>Explanation</u>
POSITIVE IMPACT/ DOES NO SIGNIFICANT HARM	<ul style="list-style-type: none"> • The project is expected to either directly or indirectly have a positive impact on key sectoral indicators • OR • The project is expected to have a negligible or no impact on key sectoral indicators.
RISK OF NEGATIVE IMPACT	<ul style="list-style-type: none"> • The project is directly or indirectly involved in activities related to high GHG and/or high-deforestation risk commodities without sufficient value chain transparency and/or plans to track and mitigate risks to climate.

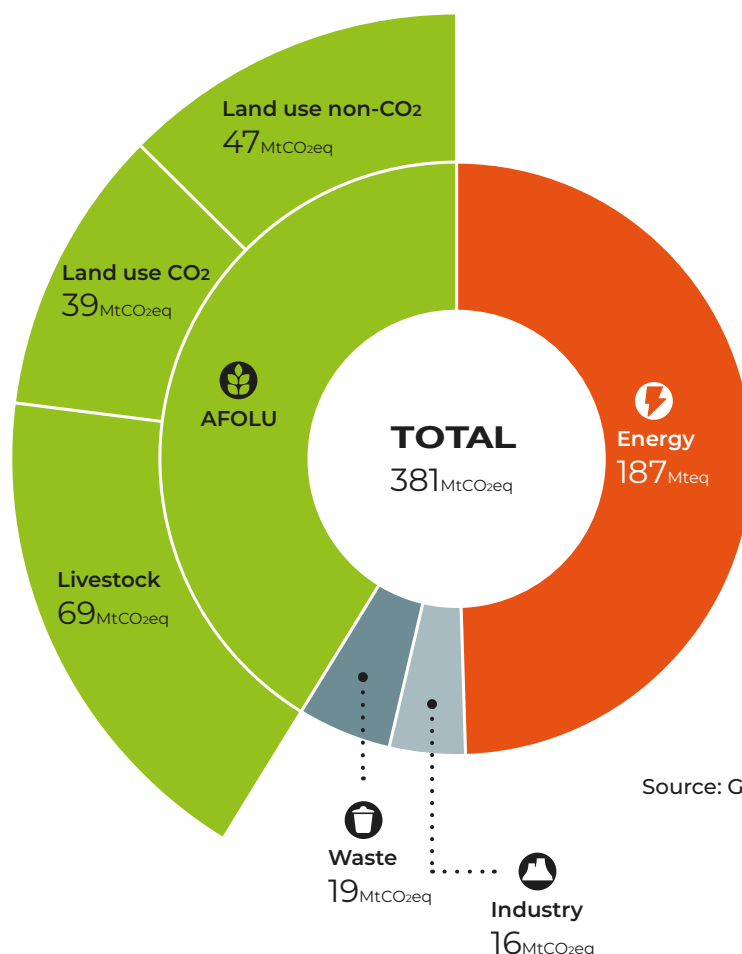
6.1 Argentina

Argentina is a major producer and exporter of agricultural commodities. Its land sector is an important driver of the economy. Agricultural exports made up ~71% of total exports in 2020 (OEC, 2022a). Soy is by far Argentina's biggest export in terms of total value, followed by corn, beef, and wheat (OEC, 2022a). Argentina's agricultural yields and farmgate GHG emissions⁷ for these commodities are in line with those of developed countries, and above most

other developing economies (FAO, 2022). **This high level of development in the sector is reflected in the value added of agricultural labour:** even though the value added of agriculture, forestry and fisheries was calculated to be 8.5% of GDP in 2019, employment in agriculture accounted only for 0.06% of the workforce (FAO, 2022). The relevance of the sector for the economy reflects in Argentina's GHG emissions, where **the land sector is the second largest**

⁷ These are defined as emissions originating in the production process within the farm, without accounting for upstream (e.g. from feed or fertilizer production) or downstream emissions (e.g. from distribution and consumption/waste) (FAOSTAT, 2019).

Figure 4
Argentina 2018 GHG emissions by sector.



Source: Government of Argentina, 2022.

source, only behind the power sector, with livestock being the single largest subsector. Emissions from major sources in the land sector are relatively high when compared to global averages, both in absolute and per capita terms (FAO, 2022).

Given the vulnerability of agricultural production to physical climate risks, **climate adaptation in the land sector is also a key development priority for the country.** For example, the 2018 drought and subsequent impact on agricultural production contributed an economic downturn (IDB, 2021). This was considered the worst draught in 50 years in Argentina, affecting its major productive areas and costing an estimated USD 6 billion in lost revenue, while reducing GDP by 2% (Barreiro, 2018). Soybean yields were the most affected, with a

33% drop compared to previous years, followed by maize with 21% (OECD, 2019). This is related to the fact that irrigated land constitutes under 1% of total agricultural land (WBG, 2018b). Floods also constitute a serious threat to agricultural productivity in Argentina. Many of the lands in the “núcleo productivo” are considered flood risk areas, and the World Bank estimates flood-related annual infrastructure losses at USD 500-1400 million (WBG, 2021a).

The WBG and the IDB have significant lending activities in Argentina. Their country strategies provide an overview of key development priorities in the country and guidelines to plan and implement projects.

More sectoral focus is needed. Countries like Argentina where the land sector is a relevant source of emissions,

Table 3
MDB Argentina country strategies.

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WBG COUNTRY PARTNERSHIP FRAMEWORK 2019-2022

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- Focus on macroeconomic challenges and public policy effectiveness.
- Includes NDC implementation as a priority through clean energy, climate-smart rural development, and low-carbon cities.
- Approach to agriculture focuses purely on adaptation.

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WBG COUNTRY CLIMATE AND DEVELOPMENT REPORT 2022

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- Based on net zero CO₂ scenario, but country's target is net zero GHG by 2050.
- In decarbonization scenario forestry needs to become a net sink, and agriculture emissions need to decrease by 56-65% below 2018.
- Many land sector mitigation measures discussed, but no clear assessment of their (in)sufficiency towards Argentina's long-term target.

.....

IDB GROUP COUNTRY STRATEGY WITH ARGENTINA 2021-2023

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- Focus on poverty reduction, economic recovery, and macroeconomic and fiscal stability.
- Integrates climate as a cross-cutting issue, including NDC implementation support.
- Proposes bank-wide approach to country interventions.
- Includes section on supporting agribusinesses.
- Focus on resilience and efficiency as a mitigation option.

Source: IDB, 2021; WBG, 2019, 2022a.

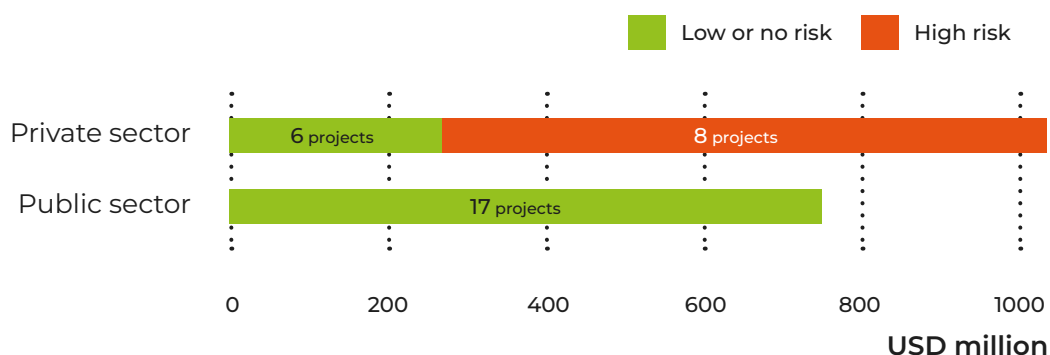
as well as a potential sink, sectoral mitigation objectives should be prioritized to ensure not only that DFI interventions are Paris aligned, but also that they contribute to the achievement of global Paris goals. A strategy that aims to support the country to achieve its climate goals can therefore not focus its intervention on the land sector exclusively on adaptation.

Our **portfolio analysis** of DFI land sector activities in Argentina covers

projects by the WBG, the IDB and IFAD. Since 2015, thirty-one projects have been approved (see figure 5).

We find that public lending operations in the period 2015-2022 either have a positive impact or have low or no risk of doing significant harm. These loans target smallholders with the aim of increasing their productivity and resilience, increase market access and development, and support the development of sectoral and climate policies, as

Figure 5
Land sector project portfolio analysis in Argentina 2015-2022.



Source: IDB, 2022; IDB Invest, 2022; IFAD, 2022; IFC, 2022; WBG, 2022.

well as building capacity in the public sector for better monitoring of sectoral climate performance. We consider that these activities either have a positive impact or enable other activities with positive impacts in climate mitigation and/or adaptation.

Private sector lending, on the other hand, is mixed. Around two thirds of finance provided to agribusinesses in the period covered lacked sufficient safeguards to ensure Paris alignment. Two types of projects pose significant risks to alignment: (1) those where the activities

supported would increase the production or sourcing of commodities which could negatively affect deforestation due to insufficient value chain transparency, and (2) those which provided working capital finance to diversified companies with operations in climate-problematic sectors such as 1st gen biofuels, cattle and dairy, and operated in deforestation risk areas. Many of these projects also lacked specific plans to reduce emissions associated with production along the value chain.

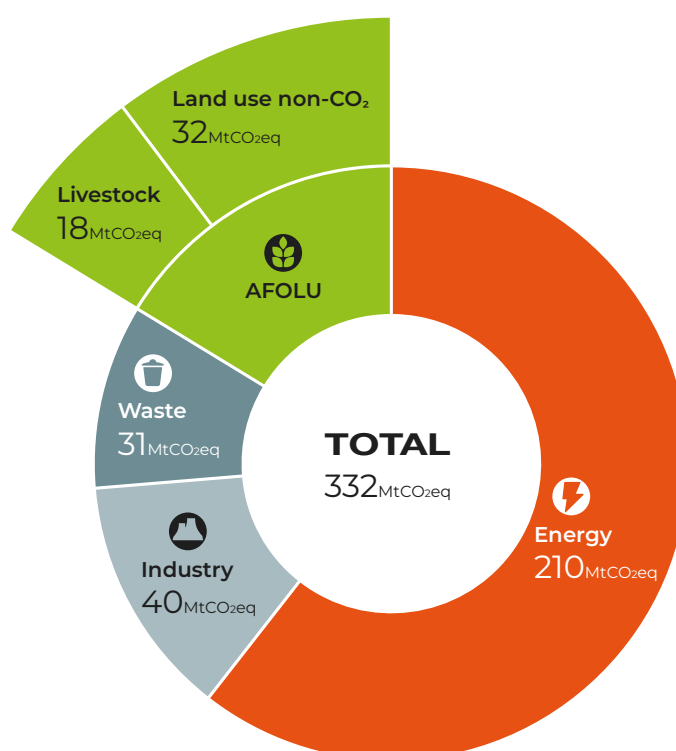
6.2 Egypt

Egypt is one of the biggest producers of agricultural commodities in Africa, such as rice, cotton, wheat, and corn. Agriculture accounted for 18% of total exports in 2020, driven by citrus fruits and other vegetable products (OEC, 2022b). However, **the country is a net food importer**, with agricultural imports tripling the value of exports. These imports are mainly wheat, corn,

and soybeans. The Egyptian agricultural sector has relatively high yields and low GHG farmgate emissions. This is partially driven by scarcity of resources such as freshwater and arable land, which lead to a focus on maximizing output based on existing resources.

In aggregate, however, the **value added of agricultural labour is not very high** compared to other

Figure 6
Egypt 2015 GHG emissions by sector.



Source: Egyptian Environmental Affairs Agency, 2018.

economies. Agriculture forestry and fisheries accounts for 11.5% of Egypt’s GDP, and for 21% of its workforce. Egypt’s **land sector is a significant source of emissions**, representing about 15% of the total. Most of these emissions come from agricultural production, with methane from rice and nitrous oxide from fertilizers (incl. synthetic and manure) as the leading sources. Emissions from these specific sources are relatively high when compared to global averages both in absolute and per capita terms.

Egypt is highly dependent on imports both to feed its population and livestock. This makes foreign exchange and price volatility risks a serious challenge, which can threaten food security in the country. In 2022, with commodity prices skyrocketing due to Russia’s invasion of Ukraine, Egypt received a

USD 500 million relief loan from the World Bank to front the costs of wheat imports (WBG, 2022b). Countries that are heavily dependent on food imports such as Egypt should not be focusing on cash crops, such as cotton (totalling approximately 10% of total exports), but rather on increasing food independence by replacing cash crops for food crops. They should also avoid importing grains to feed livestock, which competes with direct human consumption and drives prices up.

MDB operations in the Egyptian land sector are led by the WBG, the EBRD, and the AfDB. Their **country strategies provide an overview** of key development priorities in the country and guidelines to plan and implement projects (see Table 4).

Table 4
MDB Egypt country strategies.

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WBG COUNTRY PARTNERSHIP FRAMEWORK 2015-2019
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- Focus on governance, private sector development and social inclusion.
- Agriculture sector focus on irrigation and labour productivity.
- No mention of mitigation or adaptation in land sector.
- Plans to include policy-based loans and guarantees to complement loan operations.
- New Country Partnership Framework forthcoming in 2023.

.....
WBG COUNTRY CLIMATE AND DEVELOPMENT REPORT 2022
.....

- Presents sectoral decarbonisation pathways for energy and transport.
- For Energy and transport it develops current policies and deep decarbonization scenarios, proposing new climate policies and action.
- Does not address the land sector’s role in decarbonising Egypt’s economy.

.....
EBRD EGYPT COUNTRY STRATEGY 2022-2027
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- Focus on developing a more inclusive, green and competitive business environment.
- Green pillar focused on renewable energy and energy efficiency.
- NDC formulation and implementation support planned.
- Agriculture sector focus on irrigation.

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AFDB EGYPT COUNTRY STRATEGY PAPER 2022-2026
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- Focus on private sector competitiveness and building resilience to achieve food and water security and energy efficiency.
- Climate change presented as crosscutting theme.
- Agriculture sector focus on irrigation.

Source: WBG 2015, 2022b.

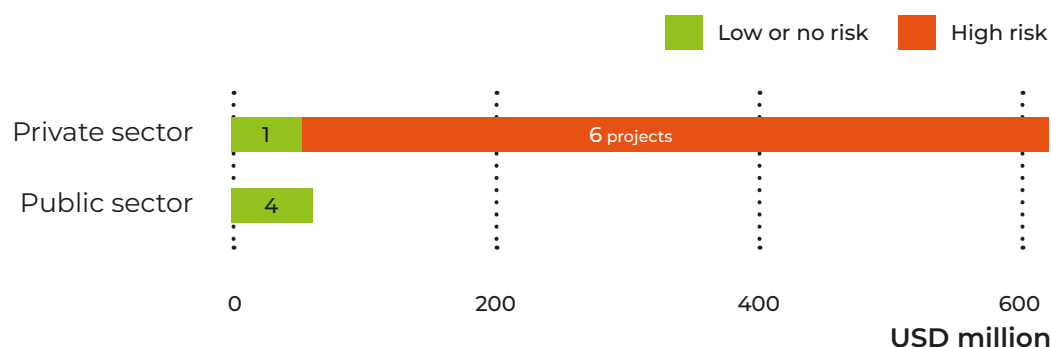
MDB strategies for Egypt share a focus on supporting the creation of a healthy business environment and improving governance systems. For the agriculture sector, MDB priorities are also aligned with a focus on improving irrigation systems and water use practices. This responds to the fact that Egypt faces significant water stress and is highly dependent on a single fresh-water source.

Country strategies need to incorporate mitigation options for the land sector. While agriculture is

discussed in every strategy, the focus is mostly on improving water use efficiency. DFIs could complement this by an analysis of the measures which have the potential to provide economic benefits for farmers and reduce emissions, such as incentives for the smart use of fertilizers.

Our **portfolio analysis** of DFI land sector activities in Egypt covers projects by the World Bank, the EBRD, and the AfDB. Since 2015, eleven projects have been approved (see figure 7).

Figure 7
Land sector project portfolio analysis in Egypt 2015-2022.



Source: AfDB, 2022; EBRD, 2022; IFC, 2022; WBG, 2022.

Public sector lending is heavily focused on reducing water stress and increasing irrigation efficiency. We consider all of these projects do no significant harm to mitigation objectives, and they contribute to adaptation goals by increasing resilience in agricultural production. However, in line with our recommendations for MDB country strategies, we argue that adaptation-focused projects should be complemented by mitigation-focused operations aiming to increase the efficiency and sustainability of production tailoring solutions to producers of different sizes.

Several private sector lending operations lack sufficient safeguards to ensure Paris alignment. These are operations which directly or

indirectly support economic activity in commodities associated with high climate impacts, and without strong requirements to ensure deforestation is rooted out of the supply chains. Examples of this include EBRD loans to large agribusinesses to purchase climate-problematic commodities without certification requirements. For GHG intensive activities such as livestock farming operations, no requirements are in place to mitigate either direct emissions or those stemming from the client's supply chain. Examples of this include IFC loans for largescale poultry producers and working capital loans for diversified agribusiness companies with operations in GHG intensive commodities.

6.3 Viet Nam

Agriculture was the backbone of the 1986 Doi Moi reforms, which is credited for transforming Viet Nam from one of the poorest countries to middle-income one with low poverty rates and steady economic growth (Baum, 2020). It is still a sector with high economic relevance in Viet Nam, as it employs over 37% of the country's workforce, and contributes to 16% of the national GDP. Over 39% of the country's land is used for agriculture (WBG, 2022), and while local consumption is high, agricultural products account for 11% of total exports (OEC, 2022c). Rice is the dominant staple crop, accounting for 77% of total harvested land area, followed by maize (11%) and cassava (5%). Shrimp and pork are also important products (FAO et al., 2017).

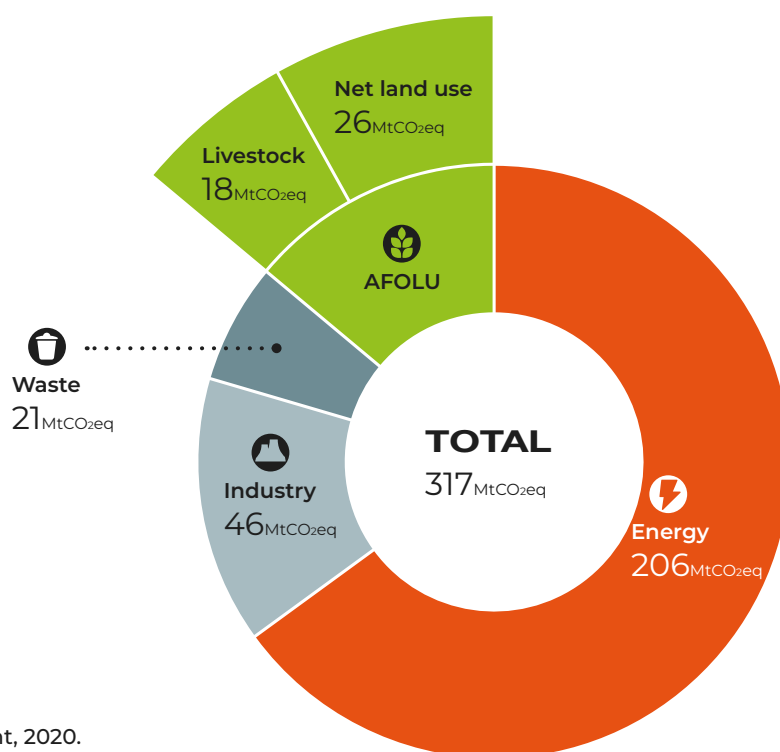
Agriculture is the second largest GHG emitting sector, at about 19%, only

behind the energy sector. It is highly vulnerable to the impacts of climate change as rising temperatures will impact plant growth cycles, and water shortages will lead to lower yields. The Mekong Delta, the most productive area in the country, is severely threatened by sea level rise and associated saltwater intrusion (WBG, 2022d).

MDB operations in Viet Nam are led by the WBG and the ADB. Their **country strategies provide an overview** of key development priorities in the country and guidelines to plan and implement projects.

A singularity of the climate impact of the Vietnamese agriculture sector is that over 70% of GHG emissions are methane and nitrous oxide, mostly coming from rice production (48%), enteric fermentation (15.3%) synthetic fertiliser application (12.9%) and manure

Figure 8
Viet Nam 2016 GHG emissions by sector.



Source: Viet Nam Government, 2020.

Table 5
MDB Viet Nam country strategies.

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WBG COUNTRY PARTNERSHIP FRAMEWORK 2018-2022

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- Focus on increasing productivity and private sector participation to sustain economic growth.
- Integrates environmental sustainability and resilience as a focus area and includes supporting the goals of the NDC.
- Recognises agriculture as a key sector for poverty reduction and includes climate smart agriculture and agri-business development as one of the main objectives.

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WBG COUNTRY CLIMATE AND DEVELOPMENT REPORT 2022

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- Presents economy-wide decarbonization pathway with focus on key sectors.
- Recognizes the relevance of the land sector in Viet Nam’s emissions.
- Land sector mitigation plans do not propose a transformative strategy but rather efficiency increases in current production models.
- Not clear if these measures are sufficient for Viet Nam to reach it’s net-zero target.

.....

ADB COUNTRY PARTNERSHIP STRATEGY 2023-2026

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- Follows the 2016-2020 strategy that focused on inclusive and sustainable growth and a competitive market economy.
- The new strategy aims to respond to evolving priorities for post-pandemic economic recovery, socioeconomic development, and climate change.
- One of two main pillars is to support Viet Nam’s transition to a green economy. Second is to promote private sector development and social equity.
- Seeks to reorient the Bank’s approach by including all their operation more provincial approach.
- Agriculture projects to support rural development and food security, considering accelerating climate change mitigation and adaptation.

Source: WBG, 2017, 2022c; ADB, 2022b.

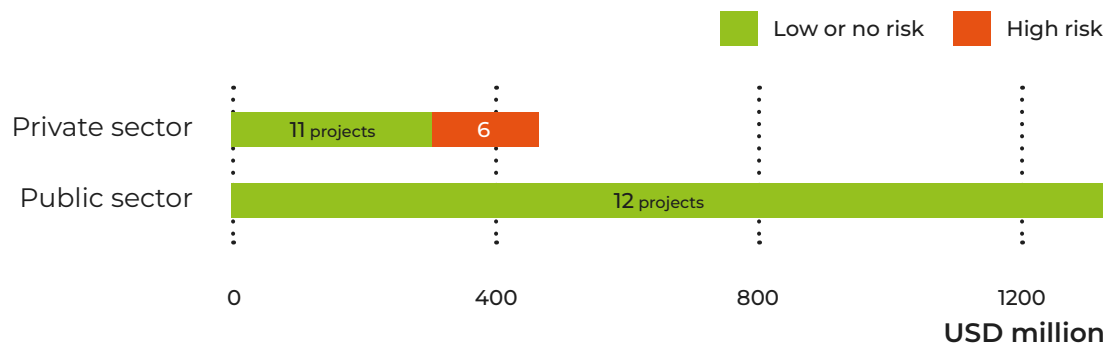
management (9.5%). This makes the sector relevant as reducing its emissions could have a larger short-term impact than CO₂ intensive sectors.

Our **portfolio analysis** of MDB land sector activities in Viet Nam covers projects by the WBG, the ADB, and the IFAD. Since 2015, these organizations

have approved thirty-six projects in land sector activities (see figure 9).

Public sector lending is mostly focused on rural development, with some operations specifically focused on supporting the Vietnamese government deliver on their climate targets. While most projects do not include

Figure 9
Land sector project portfolio analysis in Viet Nam 2015-2022.



Source: ADB, 2022; IFAD, 2022; IFC, 2022; WBG, 2022.

mitigation measures, we consider that they adhere to the “do no harm” principle.

There are several potentially problematic private sector projects, mainly due to the expansion of intensive livestock farming without supply chain transparency requirements and specific actions to mitigate the climate impact of this expansion. One project worth highlighting is the IFC's 2022 working capital contribution to the Mavin group, which aims to expand its pork farming operations from about 257,000 heads to over 900,000 in 2025 (Mavin Group, 2022) without a clear description of

measures to mitigate GHG emissions from this increase. This expansion will also significantly increase the necessary amount of feed, for which there is no clear certification process and will be sourced from areas at risk of natural habitat conversion.



RECOMMENDATIONS

General recommendations

DFIs still need to mainstream Paris alignment into their sectoral, country and project levels. Using sectoral 1.5°C compatible scenario modelling and key indicators and benchmarks can help avoid approving projects that undermine the Paris Agreement's objectives and also help identify where DFI interventions can have the biggest mitigation impact. DFIs can support the development of such scenarios at a country level, for example, as part of the NDC update process, and in turn use them to evaluate alignment of projects. These tools could be implemented at the project level by developing safeguards in the project evaluation and approval process, for example by tracking their impact on key indicators, and requiring measures to mitigate potential negative impacts, also excluding projects where impacts are incompatible with country specific sectoral models.

DFIs should not only focus on efficiency as a mitigation strategy. Efficiency increases provide an incentive to produce more, and without an internalization of the climate cost of economic activity, it might result in higher total emissions than before. Absolute emission indicators need to be included alongside efficiency indicators in result matrixes and strategic priorities. A shift to a mixed approach, where productivity levels are monitored alongside overall emissions can help identify the need for supporting fiscal or sectoral policies to reduce land sector emissions in line with Paris goals, especially in public sector and policy-based lending.

DFIs could develop specific Paris alignment screening criteria for different economic activities in the land sector in line with climate smart agriculture principles. These could include the following for the livestock sector:

- Only financing livestock production with a maximum stocking density of not more than 2 livestock units per ha
- Requiring feed to be sourced mainly from the farm or locally
- Requiring credible proof of deforestation free supply chains (including on farm).
- Only financing livestock production increases in countries / regions where consumption of animal products is below international dietary recommendations
- Only financing ruminant meat production when it is fed mainly on pastures or with roughage not fit for human consumption and when pastures are managed to increase carbon storage.

And for arable agriculture:

- Excluding the expansion of arable agriculture into areas with significant ecosystem services
- Supporting the application of locally adapted crop rotation, including nitrogen fixing legumes, to foster biological pest control, reduce synthetic fertiliser use and improve soil quality including carbon storage.

DFIs could support the transformation of the land sector by targeting alternative protein value chains. Developing domestic markets for alternative proteins, as well as supporting export-oriented production could help countries move closer to their climate goals and deliver sustainable economic growth. Beyond

providing credit for start-ups and other actors in the sector, DFIs could support alternative proteins by setting up guarantee schemes aimed at investment in alternative proteins (Good Food Institute, 2022).

More coordination is needed between different DFI operation arms: aligning sectoral development objectives at the country level among public and private lending can not only help avoid inefficiencies and inconsistencies, but also create synergies and increase the impact of both types of interventions.

DFIs have a wide set of financing tools at their disposal. They could improve the effectiveness of their operations by coordinating the use of multiple instruments to address different aspects of a particular development challenge. In the land sector the use of guarantees alongside private sector lending can help channel more finance into new markets and technologies, and policy-based lending with sectoral and climate components can enable the creation of incentives for the private sector to reduce their emissions.

The MDBs Joint Approach to Paris Alignment sets out the basic principles of alignment. **This needs to be further developed to implement it at a sectoral level.** Particularly, expanding and improving positive and negative lists with the help of key sectoral decarbonization indicators can go a long way in improving climate impacts of DFI interventions.

Recommendations at the country level

We recommend **integrating sectoral perspectives into country strategies, coordinating strategic priorities and targets to increase impact on the ground.** So far, country strategies focus mostly on macroeconomic and fiscal policy aspects, and only touch upon sectoral priorities lightly. Countries where AFOLU is a major source of emissions should integrate a mitigation strategy for the sector at the country level. Improving land sector diagnostics at the country-level and developing decarbonization roadmaps can help convince country partners of important reforms.

There are positive developments already. For example, the IDB's commitment to integrate climate considerations into country strategies and to coordinate between operation branches at the country level. However, **more precision is needed to ensure the bank's interventions in the sector are Paris aligned.** During the second half of 2022, the World Bank has started developing Country Climate and Development Reports (CCDR) in an effort to restructure its interventions at the country level based on identified transition priorities. These CCDRs have the potential to help channel public investments into the most impactful areas both for the climate and for development. To do so, they should be anchored in 1.5°C-compatible pathways also for the land sector and seek to address barriers and identify opportunities at the country level.

The World Bank's Climate Smart Agriculture country profiles provide a good baseline of key indicators for AFOLU, with country level information on the state of the sector in productivity, employment, emissions, and adoption of best practices. They also review relevant climate and sectoral policies. This can be a very valuable input to country strategies for all MDB. For the World Bank, it could complement and help guide the implementation of CCDRs in the land sector.

What needs to be improved is integrating gathered data with sectoral emissions models and estimating the potential impact for different levels of adoption of CSA practices. This can help provide a better idea of what is **needed for a Paris aligned land sector in each country, and to what extent the proposed technical improvements can help achieve that goal.**

The information used to evaluate the alignment status of individual projects comes from the bank's own impact assessment reports. Using this information, we have found that roughly 60% of DFI finance provided to the private sector lacked sufficient safeguards to ensure do-no-significant-harm conditions. This shows the need to develop and adopt clear criteria to define Paris alignment in the land sector.

An increased focus on country strategies and wider integration of sectoral perspectives can yield positive results for development and climate. This country-focused approach to structure MDB operations, where multiple instruments are deployed following a coordinated strategy and common goals is gaining momentum among MDBs. One clear example is the One ADB approach, which proposes a move towards more collaboration within the bank's working teams, in an effort to overcome silo thinking which hinders progress towards the bank's goals (Asian Development Bank, 2022). Another example is the IDB, which has already started to coordinate project-level interventions at a country level among its public and private sector branches (European Investment Bank, 2020). AFD on the other hand, has reorganized itself into a new action matrix, dividing its operation areas into three territories and focused its interventions around supporting six different transitions (Agence Française de Développement, 2020). These examples show a recognition of the negative effects of current DFI structures, such as silo thinking and lack of coordination.

One of the key elements to shift away from silo thinking is to **better understand which types of financial instruments are better suited to address different types of client needs**, as well as how to leverage their respective advantages to create synergies between them. Having a common strategy for private sector lending and guarantees, as well as for public sector operations such as technical assistance, policy-based lending and financial intermediary lending can not only increase the effectiveness of MDB investments in terms of development outcomes and private finance mobilization, but it can also facilitate climate mainstreaming into all MDB operations in each country.

Annex 1: Project lists with case-by-case evaluations

MDB Land sector projects in Argentina 2015-2021.

Project name & description

Project name & description	Lending institution	Year	Finance type	Commitment amount	Rating and explanation
Adecoagro Dairy: "The company has requested IFC to extend an A/MCPP Loan of up to USD 100 MM to finance: (i) the expansion of its milk production facilities, (ii) the acquisition of two milk processing facilities and brands, and (iii) upgrade investments in the acquired facilities." (IFC, 2022)	IFC	2020	Private sector project financing	\$ 100,000,000	High risk: Expansion of a GHG intensive activity, but with some investment going to energy efficiency upgrades. There is some traceability of the value chain to prevent direct links to deforestation, but it only reaches direct suppliers. The analysis should go further up in the value chain to include feed producers.
Renova Crushing: "The company owns a soybean crushing and port facility with a crushing capacity of 20,000 tons/day and a biodiesel facility in San Lorenzo with a processing capacity of 480,000 tons/year. The proposed project will support the construction of a third soybean crushing line with capacity of 10,000 ton/day, a new grain port with loading capacity of 4,000 tons/hour and a barges port with a capacity of 9,000 ton/day, among others. This loan was co-financed with IDB invest." (IFC, 2022)	IFC	2017	Private sector project financing	\$ 75,000,000	High risk: The company sources certified and uncertified soybeans. Some of the uncertified soybeans come from deforestation risk areas, and with the expansion of productive capacity, soybeans from Paraguay and Brazil without certification will also be bought.
Molinos Cañuelas: "The proposed investment consists of up to \$60 million on IFC's own account and a B Loan of up to \$95 million to Molino Cañuelas which processes wheat and sunflower to produce flour and oil. The IFC investment will support the construction of a facility to produce a number of higher value-added wheat-based products. Additionally, the company will construct a new flour mill, conduct other maintenance and upgrading CAPEX at Molinos Cañuelas Plant, and the acquisition of other flour mills in Argentina." (IFC, 2022)	IFC	2015	Private sector project financing	\$ 60,000,000	Low or no risk: Company has a system and policy in place to examine environmental impacts of its value chain. However, there is no specific information regarding what impacts are specifically considered, and it lacks an integrated supply management plan.
Arla AFISA: "IFC A Loan and B Loan for an aggregated amount of USD 56 MM to Arla Foods Ingredients S.A., an Argentina-based whey processing joint venture. The IFC investment will support expansions to the company's whey intake from ~900,000 to ~1,200,000 MT per year and permeate drying capacity from 24,000 to 45,000 MT per year." (IFC, 2022)	IFC	2015	Private sector project financing	\$ 56,000,000	Low or no risk: Project uses by-products from cheese production as input (reducing food losses).
Renova Crushing: "The company owns a soybean crushing and port facility with a crushing capacity of 20,000 tons/day and a biodiesel facility in San Lorenzo with a processing capacity of 480,000 tons/year. The proposed project will support the construction of a third soybean crushing line with capacity of 10,000 ton/day, a new grain port with loading capacity of 4,000 tons/hour and a barges port with a capacity of 9,000 ton/day, among others. This loan was cofinanced with IFC." (IDB Invest, 2022)	IDB Invest	#####	Private sector project financing	\$ 75,000,000	High risk: The company sources certified and uncertified soybeans. Some of the uncertified soybeans come from deforestation risk areas, and with the expansion of productive capacity, soybeans from Paraguay and Brazil without certification will also be bought.
SaMi 2018: "The proposed investment consists of a USD 60 MM A/B long-term loan to San Miguel to be used in Argentina, Uruguay, Peru and South Africa for (i) short and medium-term debt refinancing; (ii) the financing of the 2018-2020 capex program; and (iii) permanent working capital. The total project cost is USD152.5 MM." (IFC, 2022)	IFC	2018	Private sector working capital investment	\$ 60,000,000	Low or no risk: Working capital loan for a company in the citrus industry (integrated). Supply chain is checked for impact on land use change.
Vicentin LTD: "The proposed investment consists of an up to USD 300 MM syndicated pre-export finance facility to support Vicentin S.A.I.C.'s working capital needs from exports of oilseed oil and sub-products (the 'Project')." (IFC, 2022)	IFC	2017	Private sector working capital investment	\$ 300,000,000	High risk: Only half of the soybeans purchased by the company are certified, and some are sourced from deforestation risk areas.
Los Grobo Equity: "IFC is investing up to D 50 MM in an investment consortium which is acquiring a controlling stake in Grupo Los Grobo LLC, a diversified agribusiness company operating in Argentina and involved in: (i) the manufacturing of crop-protection inputs, (ii) agri-inputs distribution, (iii) grain origination, storage and logistics services, (iv) farming, and (v) milling. The use of proceeds will be to refinance debt and gain working capital fire power in order to be ready to capture expected growth opportunities in the Argentine agribusiness sector and acquire the shareholding stakes of some minority shareholders." (IFC, 2022)	IFC	2016	Private sector working capital investment	\$ 50,000,000	Low or no risk: Equity investment for diversified company who provides services to producers to implement best practices such as targeted fertilizer use and no-tillage.
Adeco Agropecuaria Argentina: "IFC is providing a loan to Adeco Agropecuaria S.A. and Pilaga S.A. The investment proceeds will be used for AdecoAgro ARG's farming operations in Argentina. AdecoAgro S.A. is a diversified agribusiness holding with operations in Argentina, Brazil and Uruguay and is listed on the New York Stock Exchange (NYSE). The AdecoAgro Group produces sugar, ethanol and electrical energy through biomass combustion in Brazil, grains (corn, soybeans, sorghum, wheat, barley, cotton and sunflower seeds), rice and dairy products in Argentina, Brazil and Uruguay." (IFC, 2022)	IFC	2016	Private sector working capital investment	\$ 75,000,000	High risk: Positive: project includes detailed list of mitigation options and supply chain transparency including deforestation risk. Negative: the company has acquired recently deforested land, and forested land with high biodiversity value and has "mitigation" plan in place to reduce impact of cattle grazing activities in the area.
Vicentin Pre Exp: "The proposed investment consists of a medium-term pre-export finance facility to support Vicentin SAICs working capital needs from exports of oilseed oil and sub-products." (IFC, 2022)	IFC	2015	Private sector working capital investment	\$ 120,000,000	High risk: Working capital loan for diversified company with operations in GHG intensive operations such as livestock and dairy without mitigation objectives. Currently sourcing soybeans from deforestation risk areas without certification. Company committed to developing a supply chain policy and screening its suppliers, but it says it is hard to enforce it.
Profertil S.A.: "Profertil has a production capacity of 1.3 million tons of granulated urea per year. The IIC loan will comprise an A loan and a B loan for a total of up to USD 40 million. The main purpose of the loan is to improve the company's debt profile. The IIC will syndicate part of the loan to attract other banks to provide Profertil with financing on the same terms." (IDB Invest, 2022)	IDB Invest	2015	Private sector working capital investment	\$ 6,000,000	High risk: Given that fertilizer use emissions are a significant source in the sector, loans to fertilizer producers should not be "working capital" but be restricted to specific activities that would reduce GHG emissions and bring the company up to best practice.
Citrusvil S.A.: "Argentinian company that grows, processes, and sells lemons and lemon derivatives. The purpose of the loan is to refinance short-term debt and support a second Grupo Lucci company. The A/B loan for up to USD 65 million with have a tenor of five years and a 12-month grace period. Rabobank and Banco Itaú will be the initial participants." (IDB Invest, 2022)	IDB Invest	2016	Private sector working capital investment	\$ 65,000,000	Low or no risk: The recipient company does not contribute to any major sources of AFOLU emissions, and is close or up to best practice in managing GHG emissions.
Desdelsur S.A.: "An A/B loan for up to USD 30 MM for the purpose of financing: (i) USD 11.2 million of Desdelsur's growth capital investment (livestock and industrial) for 2018 and 2019 and to finance a consultancy for the design and implementation of the mandatory corporate governance action plan included in the Loan Agreement; (ii) USD 8.8 MM in permanent working capital to cover the structural needs increase of Desdelsur's business cycle; and (iii) USD 10 MM for the refinancing of commercial bank loans whose funds were allocated to capital investments for DDS's agro-livestock activities during 2018." (IDB Invest, 2022)	IDB Invest	2019	Private sector working capital investment	\$ 15,000,000	High risk: Positive: cattle feed is produced in situ by the same company. Negative: this loan supports the expansion of feedlot capacity without specific mitigation measures (only a plan to assess the environmental impacts of the untreated effluents of the feedlot).
FACOVITA: "Cooperative that associates 29 primary cooperatives comprising 5,000 wine producers and winemakers. The production area covers 25,000 hectares of vineyards. IDB Invest financing would be used to improve the company's debt profile and rebuild its working capital. As of 12/31/2018, the total financial debt of USD 62 MM was 66% short-term and 34% long-term, while 42% was used for working capital and 58% for investments." (IDB Invest, 2022)	IDB Invest	2019	Private sector working capital investment	\$ 15,000,000	Low or no risk: The recipient company does not contribute to any major sources of AFOLU emissions, and has plans in place to reduce its energy consumption, increase renewable energy production, and implement and disseminate agricultural best practices.
Climate Intelligent and Inclusive Agri-food Systems Project: "The objectives of the project are to (i) support economic recovery and promote climate smart practices among project beneficiaries in Argentina's agri-food system; and (ii) respond effectively in case of an eligible crisis or emergency." (WBG, 2022a)	World Bank	2021	Public Sector Investment Project	\$ 400,000,000	Low or no risk: Project has an expected positive impact on adaptation and mitigation in the land sector.
AR Socio-Economic Inclusion in Rural Areas: "To increase the socio-economic inclusion of rural poor (small producers, indigenous people, and rural workers) by: (a) strengthening their organizational, planning and management capacity to achieve poverty-reduction goals; (b) improving their access to community infrastructure and services; and (c) piloting a new model for developing sustainable access to markets." (World Bank, 2022a)	World Bank	2015	Public Sector Investment Project Financing	\$ 76,500,000	Low or no risk: Project has an expected positive impact on adaptation and mitigation in the land sector.

Sustainable management and agri-food quality management program (PROMAGRO): "The general objective of the program is to promote the productivity, sustainability and climate resilience of agri-food and marine systems with a focus on technological innovation. The specific objectives are: (i) to improve the effectiveness of surveillance, control, and prevention of the introduction of pests and diseases; (ii) increase the scope and variety of INIDEP's research on oceanographic resources, marine ecosystems, and the coastline; (iii) increase the diagnostic capabilities of SENASA's laboratories and improve quality control of agrifood products; and (iv) improve the quality of the operational, information technology, and institutional management of SENASA and INIDEP." (IDB, 2022)	IDB		Public Sector Investment Project Financing	\$ 125,000,000	Low or no risk: Project has an expected positive impact on adaptation and mitigation in the land sector.
Support Program for Small Wine Producers in Argentina II (PROVIAR II): "The general objective of the Program is to contribute to the social, economic and environmental sustainability of Argentine viticulture, in particular, of small and medium producers, viticultural establishments and rural youth. As specific objectives, the program proposes to: (i) improve the productivity levels of small and medium wine producers with a focus on efficiency in the use of water resources; (ii) increase the sales of small and medium-sized wine establishments; and (iii) strengthen small and medium-sized enterprises (SMEs) in the rural sector to generate employment and increase sales with a focus on youth and women." (IDB, 2022)	IDB		Public Sector Investment Project Financing	\$ 40,000,000	Low or no risk: Project has an expected positive impact on adaptation and mitigation in the land sector.
WAYRA: "Differentiated Honey and Technology in the Argentine Gran Chaco: Increase the volume of organic honey exported from the region, consolidating COOPSOL and the WAYRA network in their capacities to accompany apiculture development in vulnerable communities of the Gran Chaco and the expansion of revenues generated from productive activities that conserve the native forest resources." (IDB, 2022)	IDB	2019	Public Sector Investment Project Financing	\$ 500,000	Low or no risk: Project has an expected positive impact on adaptation and mitigation in the land sector
Provincial Agricultural Services Program - PROSAP IV: "The objective of the Conditional Credit Line for Investment Projects (CCLIP) is to contribute to the competitiveness and development of regional rural economies through the execution of individual programs consistent with this purpose. Specifically, the third individual operation proposed here seeks improvements to productivity and an increase in sales and value-added for small and medium-sized agricultural producers, with a focus on increasing resilience to climate change." (IDB, 2022)	IDB	2016	Public Sector Investment Project Financing	\$ 100,000,000	Low or no risk: Project has an expected positive impact on adaptation and mitigation in the land sector.
Promotion of Resilient and Sustainable Agrifood Systems for Family Farming Programme: "The first investment component seeks to support poor AFCL producers in the transition from their current production systems to agroecological, sustainable, resilient and inclusive systems that provide a diversity of healthy foods. The second component aims to identify proposals to remove bottlenecks affecting poor AFCL producers, including those related to the application of public policies, through multi-actor participative dialogue spaces at the territorial level. The third component includes two subcomponents, one centred on knowledge management and South-South Cooperation, and the other on monitoring and evaluation and programme administration." (IFAD, 2022)	IFAD	2021	Public sector project financing	\$ 13,100,000	Low or no risk: Project has an expected positive impact on adaptation and mitigation in the land sector.
Goat Value Chain Development Programme: "The Goat Value Chain Development Programme aims to help small goat farmers in Argentina increase, enhance and market their production of meat, dairy products and fibre, especially mohair and cashmere. The programme is expected to benefit a total of 8,000 families across the provinces of Chaco, Formosa, Mendoza, Neuquén and Santiago del Estero, home to about some 60 per cent of the country's goat herds." (IFAD, 2022)	IFAD	2016	Public sector project financing	\$ 13,300,000	Low or no risk: Project expected to support development objectives without hindering Paris alignment.
Programme for Economic Insertion of Family Producers of Northern Argentina (PROCANOR) will benefit 8,000 families in the Greater North provinces of Argentina, especially those of Catamarca, Chaco, Corrientes, Jujuy, Misiones and Salta. The programme aims to integrate rural organizations of small-scale producers and indigenous communities in emerging and dynamic value chains, particularly quinoa, potatoes, yacón (a tuber), chia, llama and vicuña products, and horticulture." (IFAD, 2022)	IFAD	2015	Public sector project financing	\$ 24,300,000	Low or no risk: Program does not target commodities associated with high GHG emissions or high deforestation risk and focuses on increasing productivity.
Support for the preparation of public investments for the reactivation of the agri-food sector in Argentina: "This Technical Cooperation (TC) has the general objective of supporting the Argentine government for the preparation of investments linked to food chains, in the areas of technological modernization, productivity improvement, environmental sustainability, responses to climate change, international trade and use natural resource strategy." (IDB, 2022)	IDB	In preparation	Public sector technical assistance financing	\$ 300,000	Low or no risk: Project expected to enable positive impact on adaptation and mitigation in the land sector.
Agricultural public policies and monitoring of agro-environmental indicators: "To support the preparation of agricultural public policies proposals and facilitate the monitoring of agro-environmental indicators (waste, agrochemicals, emissions, deforestation, biodiversity) in Argentina." (IDB, 2022)	IDB	In preparation	Public sector technical assistance financing	\$ 200,000	Low or no risk: Project expected to enable positive impact on adaptation and mitigation in the land sector.
Support for the elaboration of the Agricultural Strategic Plan for Argentina 2030: "To support the elaboration of the Agricultural Strategic Plan for Argentina 2030. The new plan will replace the previous one, including updated perspectives on the productivity, competitiveness, and social and environmental sustainability of the agricultural sector in Argentina in the next decade." (IDB, 2022)	IDB	In preparation	Public sector technical assistance financing	\$ 500,000	Low or no risk: Project expected to enable positive impact on adaptation and mitigation in the land sector.
Strengthening of Technological Capacities in the Agricultural Sector: "The objective of this TC is to contribute to the training of young technicians and technicians capable of promoting innovation and technological development in the agricultural sector in the provinces of Argentina." (IDB, 2022)	IDB	2021	Public sector technical assistance financing	\$ 500,000	Low or no risk: Project expected to support development objectives without hindering Paris alignment
Smart Viticulture Program (SVP): "The general objective of the TC is to design and develop a Smart Viticulture Program (SVP) that contributes to increasing the productivity of the wine sector by providing knowledge for the integral, efficient, and sustainable management of the vineyards." (IDB, 2022)	IDB	2020	Public sector technical assistance financing	\$ 350,000	Low or no risk: Project expected to enable positive impact on adaptation and mitigation in the land sector.
Implementation of an Impact Evaluation for the Program for Rural Development and Family Agriculture (PRODAF): "Carry out the implementation of an impact evaluation study of the PRODAF Program, using methodologies and data of an innovative nature to evaluate the performance of this pilot program." (IDB, 2022)	IDB	2019	Public sector technical assistance financing	\$ 178,454	Low or no risk: Project expected to support development objectives without hindering Paris alignment.
WAYRA- Differentiated Honey and Technology in the Argentine Gran Chaco: "Increase the volume of organic honey exported from the region, consolidating COOPSOL and the WAYRA network in their capacities to accompany apiculture development in vulnerable communities of the Gran Chaco and the expansion of revenues generated from productive activities that conserve the native forest resources." (IDB, 2022)	IDB	2019	Public sector technical assistance financing	\$ 200,000	Low or no risk: Project expected to enable positive impact on adaptation and mitigation in the land sector.
Support Program for the Consolidation of Organizational Capacities for Research, Extension and Innovation at INTA: "Identify tools and investments needed for the design and implementation of a master plan for the consolidation of organizational capabilities at INTA." (IDB, 2022)	IDB	2017	Public sector technical assistance financing	\$ 500,000	Low or no risk: Project expected to support development objectives without hindering Paris alignment.
Collective Impact Investment Consortium Model for Argentina's Gran Chaco Region: "Model of maximizing the profitability of small producers in the Gran Chaco by taking full advantage of their forest, which will set market incentives to avoid selling to " the big soy " and changing land use associated with the expansion of the agricultural border." (IDB, 2022)	IDB	2016	Public sector technical assistance financing	\$ 880,000	Low or no risk: Project expected to enable positive impact on adaptation and mitigation in the land sector.
Financial Inclusion for climate-smart Agriculture in Argentina: "The objective of this project is to create a comprehensive assistance model based on the adoption of a series of technological solutions for CSA, technically validated by INTA, with high impact on productivity and potential scale adoption." (IDB, 2022)	IDB	2016	Public sector technical assistance financing	\$ 1,000,000	Low or no risk: Project expected to enable positive impact on adaptation and mitigation in the land sector.
Priorities of Agricultural Development in Norte Grande: "This CT proposes to carry out priority studies for the formulation of an investment program to support agricultural development in the NG of Argentina." (IDB, 2022)	IDB	2015	Public sector technical assistance financing	\$ 200,000	Low or no risk: Project expected to support development objectives without hindering Paris alignment.

Source: (IDB, 2022; IDB Invest, 2022; IFAD, 2022; IFC, 2022; WBG, 2022a)

MDB Land sector projects in Egypt 2015-2021.

<u>Project name & description</u>	<u>Lending institution</u>	<u>Year</u>	<u>Finance type</u>	<u>Commitment amount</u>	<u>Rating and explanation</u>
Water Recycling in Agriculture Project: "Gabel el Asfer Stage III (MIC TAF): Capacity expansion for wastewater treatment plant which will increase water availability for agriculture." (AfDB, 2022a)	AfDB	2021	Public sector technical assistance financing	\$181,644	Low or no risk: Project has an expected positive impact on adaptation in the land sector and no expected harm in key mitigation indicators.
National Drainage Technical Assistance: "Capacity building for designing better drainage systems in agricultural lands." (AfDB, 2022a)	AfDB	2016	Public sector technical assistance financing	\$558,904	Low or no risk: Project expected to enable positive impact on adaptation and do no harm mitigation in the land sector.
National Drainage Programme: "The principal objectives of this programme are to optimize the benefits of irrigation by draining excess irrigation water from agricultural land in order to reduce water logging and consequent soil salinity, in addition to making more land available for cultivation." (AfDB, 2022a)	AfDB	2015	Public sector project finance	\$56,315,345	Low or no risk: Project aims to develop infrastructure and build capacity to increase water use efficiency and yields.
Feasibility Study and Capacity, Building for the Use of Renewable Energy for Pumping Irrigation Water Project: "Financing for a feasibility study for renewable powered irrigation." (AfDB, 2022a)	AfDB	2015	Public sector technical assistance financing	\$1,117,808	Low or no risk: project expected to enable positive impact on adaptation and do no harm mitigation in the land sector.
Edita: "Market leading branded bakery products company in Egypt. Edita's investment plan includes (a) expansion into Morocco through a JV with a Moroccan partner to establish a production facility in Morocco, (b) capital expenditures in Egypt, (c) refinancing a portion of Edita's existing debt, and (d) acquisitions in Egypt and other countries." (IFC, 2022)	IFC	2019	Private sector working capital	\$30,000,000	High risk: Lack of transparency in value chain - no requirements to source inputs from certified sources.
Almarai: "One of the region's leading food and beverage companies. The proposed loan will fund Almarai's contributions to support the expansions of its joint-venture operation in Egypt which includes setting up of a new juice factory and expansion of its existing dairy facilities." (IFC, 2022)	IFC	2017	Private sector project finance	\$150,000,000	High risk: Project finance for expanded dairy and juice production capacity. No value chain transparency and no mitigation measures for dairy production.
Wadi IV: "Leading vertically integrated agri-food group in Egypt with operations in poultry, poultry feed, food, and food retail and logistics. The proposed project consists of (i) the establishment of new poultry grandparent and parent breeder sites to increase capacity, (ii) expanding Wadi's growers' hypermarket concept and relocating Wadi's food processing plant from Sadat City to a new, larger plant, (iii) refinancing some of Wadi's short term local-currency debt; and (iv) restructuring the corporate organization of Wadi and Fifty Four Holding, and clearing some of the inter-company debt." (IFC, 2022)	IFC	2017	Private sector project finance	\$22,000,000	High risk: Support for industrial poultry operation without focus on reducing emissions and increasing resilience of production. The project includes plans to provide certifications for deforestation free inputs, but not before payment.
Angel Yeast Egypt: "Provision of USD 52 MM senior unsecured loan to Angel Yeast Egypt, a fully-owned subsidiary of Angel Yeast Co. Ltd. The loan will be used for the construction of a new yeast extraction plant and a wastewater treatment facility in the city of Beni Sef in Egypt, both located at the Borrower's original site." (EBRD, 2022c)	EBRD	2017	Private sector project finance	\$52,000,000	Low or no risk: Project has no expected risk of harm on adaptation or mitigation.
IDJ Beyti: "The Loan will support: (i) refinancing of existing short-term loans used for capex with a longer tenor loan more adapted to the company's investment program, and (ii) capex investments to expand Beyti's dairy and juice production capacities and distribution network to strengthen its presence in the Egyptian dairy and juice sectors." (EBRD, 2022c)	EBRD	2017	Private sector project finance	\$44,000,000	High risk: Project finance for expanded dairy and juice production capacity No value chain transparency and no mitigation measures for dairy production.
Louis Dreyfus Company Grain Egypt: "Working capital needs are seasonal and cover the purchase of agricultural commodities at prices that fluctuate throughout the year. The project is providing stable working capital financing for merchandising activities in countries where liquidity can be a constraint." (EBRD, 2022c)	EBRD	2016	Private sector working capital	\$300,000,000	High risk: Working capital to multinational agribusiness without any requirement to certify its commodity purchases.
Egyptian Food Company 'Faragalla': "The EBRD is providing a long-term loan of up to USD 10 MM to the Egyptian Food Company part of the Faragalla Group. The loan will be used to (i) partially refinance existing short-term debt (ii) finance permanent working capital requirements." (EBRD, 2022c)	EBRD	2015	Private sector working capital	\$10,000,000	High risk: Working capital loan for diversified company including meat processing and distribution with some plans in place to increase value chain transparency requirements but no specific mention to emissions. No requirements to track and reduce emissions.

Source: (AfDB, 2022a; EBRD, 2022c; IFC, 2022; WBG, 2022a)

MDB Land sector projects in Viet Nam 2015-2021.

Project name & description	Lending institution	Year	Finance type	Commitment amount	Rating and explanation
Commercial Smallholder Support Project in Bac Kan and Cao Bang: "First an investment plan will be developed, in parallel with climate change adaptation planning. Then market-oriented socioeconomic development plans will be prepared, reflecting climate challenges. The project will also support equitable ownership and efficient use of forest resources. Almost 2,000 common interest groups will be developed or strengthened to implement profitable climate change-adaptation technologies and practices. Support will be given to newly established women's development funds, and an agribusiness promotion investment fund will catalyse approximately 25 private sector agro-enterprise investments." (IFAD, 2022)	IFAD	2016	Public Sector Project Lending	\$43,000,000	Low or no risk: Project expected to increase agricultural productivity and resiliency due to the adoption of climate smart agriculture technologies, reduce losses through innovative technology and improved infrastructure.
Climate Smart Agricultural Value Chain Development in Ben Tre and Tra Vinh Provinces: "The project aims to achieve sustainable and climate-resilient rural transformation in Ben Tre and Tra Vinh Provinces. It will generate sustainable income opportunities and improved rural livelihoods for 60,000 smallholder farmers' households, with a focus on women, youth, and ethnic minorities." (IFAD, 2022)	IFAD	2021	Public Sector Project Lending	\$42,990,000	Low or no risk: Project will support effective provincial and regional coordination and investment planning and establish inclusive and climate resilient value chains. Investments in climate smart infrastructure are expected to directly benefit 60,000 households. It also aims to improve capacities on climate smart agriculture practices.
Climate Change and Green Growth DP: "The program's objective is to promote: (a) climate resilient management of landscapes; and (b) adoption of cleaner transport and energy systems." (World Bank, 2022a)	World Bank	2020	Policy Based Lending	\$84,400,000	Low or no risk: This loan supplements the government's support program to respond to climate change (SP-RCC) 2016-2020, which provides policy reforms for effective implementation of climate change and green growth actions prioritized in the 2016-2020 socio-economic development plan (SEDP), national climate change strategy (NCCS) and Viet Nam green growth strategy (VGGs), and nationally determined contribution (NDC). It directly supports investments in irrigation and drainage, water supply, sanitation and waste management.
Strengthening Partnerships to Protect Endangered Wildlife in Viet Nam: "The project aims to strengthen the legal and regulatory framework, and the related implementation capacity for the protection of threatened wildlife." (World Bank, 2022a)	World Bank	2017	Public Sector Project Lending	\$3,300,000	Low or no risk: Project expected to enable positive impacts on adaptation without a risk of harming mitigation.
National Targeted Programs Support Project: "To improve the delivery of, and access to, investments for increasing agricultural production and enhancing livelihood opportunities within the program area." (World Bank, 2022a)	World Bank	2017	Program-for-Results Financing	\$153,000,000	Low or no risk: Program-for-Results Project with a large commitment from the National Government (UDS 1.68 bn USD), where 18% is invested in agricultural market development, commercialisation and agri-business. The rest of the funding is allocated for Social Protection (58%), Public Administration - Agriculture, Fisheries and Forestry (17%) and Public Administration-Social Protection (7%). The project is expected to support development objectives without a significant risk of hindering mitigation.
Forest Sector Modernization and Coastal Resilience Enhancement Project: "The project development objective is to improve coastal forest management in the project provinces." (World Bank, 2022a)	World Bank	2017	Public Sector Project Lending	\$180,000,000	Low or no risk: Project is expected to have a positive impact on mitigation through improved management and conservation of coastal forests.
MARD M&E Capacity Building for Agricultural Restructuring Plan Implementation (MECARP): "Enhance monitoring and evaluation capacity of Ministry of Agriculture and Rural Development and selected Departments of Agriculture and Rural Development to monitor progress of the Agricultural Restructuring Plan." (World Bank, 2022a)	World Bank	2017	Public Sector Project Lending	\$1,800,000	Low or no risk: Project expected to enable development objectives without a risk of significant harm to mitigation.
Viet Nam Project for Improved Land Governance and Databases (VILG): "The Project aims to improve the efficiency and transparency of land administration services in the project provinces, through the development and implementation of the national Multipurpose Land Information System (MPLIS)." (World Bank, 2022a)	World Bank	2016	Public Sector Project Lending	\$180,000,000	Low or no risk: Project is expected to enable development objectives without a risk of significant harm to mitigation.
Viet Nam-Partnership for Market Readiness: "The project aims to strengthen the Government of Viet Nam's capacity to develop market-based instruments (MBIs) to reduce greenhouse gas (GHG) emissions." (World Bank, 2022a)	World Bank	2016	Public Sector Project Lending	\$ 3,600,000	Low or no risk: Project is expected to enable mitigation through developing government capacities to design and implement climate policies.
Climate Change and Green Growth in Viet Nam: "The program's objective is to (a) improve inter-sectoral coastal planning and public investment finance programming across selected key sectors in support of climate change and green growth action; (b) develop and safeguard selected natural resources services; and (c) promote selected cleaner production systems." (World Bank, 2022a)	World Bank	2016	Policy Based Lending	\$90,000,000	Low or no risk: Project expected to enable positive impacts on mitigation. Performance indicators include reducing overall emissions, reducing emissions from specific sources, reducing energy consumption, improving water use efficiency, and increasing coastal forest area.
Mekong Delta Integrated Climate Resilience and Sustainable Livelihoods Project: "The project aims to enhance tools for climate-smart planning and improve climate resilience of land and water management practices in selected provinces of the Mekong Delta in Viet Nam." (World Bank, 2022a)	World Bank	2016	Public Sector Project Lending	\$387,000,000	Low or no risk: Project will support the development of tools to increase resilience and better management of forests with the aim of increasing water use efficiency and carbon sinks.
Mavin Group Joint Stock Company: "Established in 2004, Mavin Group operates in feed production, animal health, pig breeding, commercial pig farming and food processing. The company's operations are mainly in Viet Nam. The proposed IFC financing will support the expansion of Mavin's pig breeding and commercial pig farming capacity and associated working capital requirements." (IFC, 2022)	IFC	2021	Private Sector Lending	\$26,490,000	High risk: Project supports production capacity expansion of intensive livestock farming company without supply chain transparency requirements and without a focus on reducing environmental impacts.
Greenfeed Viet Nam Corporation: "Founded in 2003, GreenFeed Viet Nam is primarily an animal and aqua feed producer, with integrated operations across the pork value chain, from feed production, pig breeding and commercial pig farming to pig slaughtering and pork processing. The company's operations are mainly in Viet Nam, but it also has feed production operations in Cambodia, Laos and Myanmar. The proposed IFC financing will support the expansion of GreenFeed's commercial pig farming capacity and some maintenance of GreenFeed's feed mills in Viet Nam." (IFC, 2022)	IFC	2021	Private Sector Lending	\$43,370,000	High risk: Project supports production capacity expansion of intensive livestock farming company without supply chain transparency requirements and without a focus on reducing environmental impacts.
Nafoods Group Joint Stock Company: "Nafoods Group is a small but niche fruit manufacturer and exporter in Viet Nam. It is currently engaged in four business lines: fruit concentrate and puree, individually quick frozen (IQF) fruit products, passion fruit seedlings and more recently, fresh fruits. IFC for support will fund the construction of the second phase of the Long An factory; development of a passion fruit liquid extraction workshop and a packing house in Central Highland; R&D expenses for development of citrus seedlings, implementation of technology for supply chain management and permanent working capital." (IFC, 2022)	IFC	2019	Private Sector Lending	\$8,000,000	Low or no risk: Project expected to support development objectives without significant risk of hindering mitigation.
Ricegrowers Limited: "The proposed investment involves establishing a Global Trade Supplier Financing facility for rice suppliers of Ricegrowers Ltd, one of Australia's largest branded food exporters. The proposed USD 50 MM GTSF facility to finance Asia wide rice processors including two suppliers in Viet Nam, and one in Pakistan, in exchange for receivables owed by SunRice. This will help suppliers to better manage their cash flow needs and to access a cheaper source of financing, rice processing comprises of collection and storage, drying, polishing and removing of husks, and packaging to point of dispatch." (IFC, 2022)	IFC	2018	Private Sector Lending	\$50,000,000	High risk: Project supports increases in trade efficiency and enables expansion of rice production without requiring the identification and implementation of mitigation options for producers.
PanFarm JSC: "Established in 1998, Pan Group is an existing IFC investee in Viet Nam and a publicly listed group of agribusiness companies aiming to benefit from the fast growing and fragmented agricultural and food sectors in Viet Nam. The purpose of the project is to support the company's expansion plan in the agriculture and food sectors." (IFC, 2022)	IFC	2017	Private Sector Lending	\$10,110,000	Low or no risk: Project expected to support development objectives without significant risk of hindering mitigation.
BelGa JSC: "Established in 2013, Bel Ga JSC is one of the leading broiler breeding and hatchery companies in Viet Nam. The company is now operating 2 breeder farms with current size of 120,000 parent hens and 1 hatchery with current production of 10.5 million day-old-chicks (DOCs), all located in Lam Dong province, Viet Nam. Bel Ga JSC is planning to double its capacity by 2019 in order to meet the growing demand for high quality broiler DOCs from independent farmers in Viet Nam." (IFC, 2022)	IFC	2016	Private Sector Lending	\$4,000,000	High risk: Project supports the expansion of poultry production facilities without value chain transparency requirements or a plan to identify and mitigate associated emissions.
Anova Corporation: "Anova Corporation is a leading veterinary medicine company in Viet Nam. Since 1992, the company has specialized in importing, manufacturing, and distributing animal health products and raw materials for the veterinary industry. To strategically expand its reach in the fast-growing livestock and animal protein sector in Viet Nam, the company launched its animal feed business in 2012 under Anova Feed JSC. Anova Feed plans to construct two additional feed mills and a bulk warehouse over the next two years." (IFC, 2022)	IFC	2015	Private Sector Lending	\$15,110,000	High risk: Project supports the expansion of feed production without value chain transparency requirements.
The Pan Group: "Established in 1993, Pan Pacific Corporation is now a publicly listed group of agribusiness companies aiming to benefit from the fast growing and fragmented agricultural and food sectors in Viet Nam. The purpose of the project is to support the company's expansion plan in the agricultural and food sectors as well as its entrance into the branded packaged rice products for domestic consumers." (IFC, 2022)	IFC	2015	Private Sector Lending	\$6,560,000	Low or no risk: Project supports development objectives without significant risk of hindering mitigation.
Water Efficiency Improvement in Drought-Affected Provinces Project: "Integrates climate-resilient agricultural practices through a transformational shift in irrigation modernization, including (i) strengthening irrigation management to improve climate resilience, (ii) modernizing irrigation infrastructure, and (iii) supporting efficient on-farm water management practices. The modernized systems will enhance the provinces' ability to manage climate variability, improve the water productivity of agriculture, and increase incomes by supporting farmers in growing high-value crops (HVCs) such as coffee, peppers, grapes, apples, dragon fruits, and mangoes." (ADB, 2022a)	ADB	2016	Public Sector Project Lending	\$149,800,000	Low or no risk: Project is expected to contribute to adaptation (improving water use efficiency in agriculture), without significant risk of hindering mitigation.
Strengthening Institutional Capacity for the Implementation of the Master Plan on Socio-Economic Development of the Ethnic Minorities and Mountainous Areas 2021-2030: "The knowledge and support technical assistance (TA) will support the development of the institutional capacity of the Committee for Ethnic Minority Affairs and other government agencies to implement the Viet Nam Master Plan on Socio-Economic Development of the Ethnic Minorities and Mountainous Areas (Master Plan) 2021-2030. More specifically, the TA will strengthen government capacity to develop policies, identify livelihood opportunities and investments benefiting ethnic minorities, and enhance coordination and monitoring systems." (ADB, 2022a)	ADB	2021	Public Sector Technical Assistance	\$2,000,000	Low or no risk: Project supports development objectives without significant risk of hindering mitigation.

Water Efficiency Improvement in Drought Affected Provinces: "The proposed project aims to improve agriculture water productivity (crop per drop) by increasing water use efficiency in irrigated agriculture in five drought affected provinces in the Central Highland and South Central Coastal Regions. The impact of the project is productivity and competitiveness, climate resilience and disaster preparedness in the agriculture sector enhanced in line with the government's ARP." (ADB, 2022a)	ADB	2016	Public Sector Technical Assistance	\$800,000	Low or no risk: Project is expected to contribute to adaptation (improving water use efficiency in agriculture), without significant risk of hindering mitigation.
Enhancing Agricultural Competitiveness in Viet Nam: "The TA aims to establish the enabling conditions and financing requirements for ADB to provide programmatic investment support to the agriculture, natural resources and rural development (ANR) sector in Viet Nam." (ADB, 2022a)	ADB	2017	Public Sector Technical Assistance	\$1,800,000	Low or no risk: Project is expected to contribute to development and adaptation, without significant risk of hindering mitigation.
High-Value Horticulture Development Project: "The project will scale-up and transfer a successful high-value horticulture business model built on (i) the introduction of climate-controlled greenhouse technology in tropical highlands in Asia, and (ii) the integration of its business downstream into distribution in domestic and export markets. The flower business of the company will be scaled up in Viet Nam and the Philippines and will be introduced in Indonesia. The business model will be replicated for vegetable production in Viet Nam." (ADB, 2022a)	ADB	2016	Private Sector Lending	\$20,000,000	Low or no risk: Project supports development objectives without significant risk of hindering mitigation.
Olam International Limited: "Inclusive, Sustainable, and Connected Coffee Value Chain: "The TA (including a grant of up to USD 400,000 from the Canadian Climate Fund for the Private Sector in Asia) will complement the loan by providing capacity building support to 20,000 smallholder coffee farmers that Olam sources from across Timor-Leste, Indonesia, Viet Nam, and PNG. The TA will help smallholder coffee farmers fully benefit from their inclusion in the coffee value chain by meeting international certification standards and improving the productivity and quality of crops." (ADB, 2022a)	ADB	2020	Private Sector Technical Assistance	\$3,640,000	Low or no risk: Project is expected to contribute to development and adaptation, without significant risk of hindering mitigation.
Olam COVID-19 Smallholder Farmer Livelihood Support Project: "The project will help sustain the livelihood of smallholder farmers impacted by COVID-19 in Indonesia, Viet Nam, and Papua New Guinea by providing working capital financing to Olam International Limited (OIL) and Olam Treasury Private Limited (OTPL) to increase its raw material procurement from these farmers (coffee, cocoa, cashews and pepper)." (ADB, 2022a)	ADB	2020	Private Sector Lending	\$93,750,000	Low or no risk: Project is expected to contribute to development and adaptation, without significant risk of hindering mitigation.
New Hope COVID-19 Working Capital Support Project: "ADB will provide New Hope Singapore Pte Ltd (NHS) with a midterm corporate loan of up to USD 20 MM to fund NHS COVID-19 response operating expenses and working capital needs in South and Southeast Asia." (ADB, 2022a)	ADB	2020	Private Sector Lending	\$20,000,000	High risk: Project enables the expansion of livestock production without a plan to mitigate associated emissions.
ECOM COVID-19 Smallholder Farmer Climate Resilience and Livelihood Support Project: "Proposed loan of up to USD 60 MM to sustain the livelihood of smallholder farmers impacted by COVID-19." (ADB, 2022a)	ADB	2021	Private Sector Lending	\$60,000,000	Low or no risk: Project supports development objectives without significant risk of hindering mitigation.
Louis Dreyfus COVID-19 Climate-Resilient Smallholder Farmer Recovery Project: "Senior unsecured 3-year bullet loan of USD 100 MM to finance LDC's working capital needs in Asia for the sustainable procurement of coffee, cotton, and rice. The transaction will preserve the livelihood and climate resilience of 60,000 smallholder farmers affected by COVID-19 in the five project countries. A complementing TA (funded by trust funds) will establish 80 farmer groups and train 160 farmer group educators with an aim to help farmers obtain sustainability certifications." (ADB, 2022a)	ADB	2021	Private Sector Lending	\$100,000,000	Low or no risk: Project is expected to contribute to development and adaptation, without significant risk of hindering mitigation.

Source: (ADB, 2022a; IFAD, 2022; IFC, 2022; WBG, 2022a)

References

- ADB (2015) The Operational Plan for Agriculture and Natural Resources: Promoting Sustainable Food Security in Asia and the Pacific in 2015–2020. Available at: <https://www.adb.org/documents/operational-plan-agriculture-and-natural-resources-2015-2020>.
- ADB (2022) One ADB: An Evaluation of ADB's Approach to Delivering Strategy 2030. Available at: <https://www.adb.org/documents/one-adb-evaluation-adb-s-approach-delivering-strategy-2030> (Accessed: 1 July 2022).
- ADB (2022a) Projects & Tenders, Project database. Available at: <https://www.adb.org/projects> (Accessed: 29 November 2022).
- ADB (2022b) Viet Nam , 2023 – 2026 — Fostering Inclusive , Green , and Private Sector-Led Growth. ADB. Available at: <https://www.adb.org/documents/viet-nam-country-partnership-strategy-2023-2026>.
- AfDB (2016) Feed Africa Strategy. Abidjan. Available at: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Feed_Africa-Strategy-En.pdf.
- AfDB (2022a) Data Portal, Project database. Available at: <https://projectsportal.afdb.org/dataportal/VProject/list> (Accessed: 29 November 2022).
- AfDB (2022b) Egypt - Country Strategy Paper 2022-2026 . Available at: <https://www.afdb.org/en/documents/egypt-country-strategy-paper-2022-2026> (Accessed: 20 July 2022).
- AFD (2020) Territorial and Ecological Transition - 2020-2024 Strategy. Available at: <https://www.afd.fr/en/ressources/territorial-and-ecological-transition-2020-2024-strategy> (Accessed: 1 July 2022).
- Barreiro, R. (2018) 'Una sequía "sin precedentes" daña al 80% del campo argentino', El País, 2 March. Available at: https://elpais.com/economia/2018/03/02/actualidad/1520015057_664619.html (Accessed: 20 July 2022).
- Baum, A. (2020) 'Vietnam's Development Success Story and the Unfinished SDG Agenda', IMF Working Papers, 20(31). Available at: <https://doi.org/10.5089/9781513527024.001>.
- Boehm, S. et al. (2022) State of Climate Action 2022. Berlin, Germany and Washington, D.C.: Bezos Earth Fund, Climate Action Tracker, World Resources Institute. Available at: <https://www.wri.org/research/state-climate-action-2022> (Accessed: 2 November 2022).
- Boyd, E. et al. (2022) 'Chapter 8: Poverty, Livelihoods and Sustainable Development', in Climate Change 2022: Impacts, Adaptation and Vulnerability. IPCC. Available at: https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FinalDraft_Chapter08.pdf.
- Clark, M.A. et al. (2020) 'Global food system emissions could preclude achieving the 1.5° and 2°C climate change targets', Science, 370(6517), pp. 705–708. Available at: <https://doi.org/10.1126/science.aba7357>.
- Crippa, M. et al. (2021) 'Food systems are responsible for a third of global anthropogenic GHG emissions', Nature Food, 2(3), pp. 198–209. Available at: <https://doi.org/10.1038/s43016-021-00225-9>.
- Dewulf, J., Sternberg-Lewerin, S. and Ryan, M. (2019) 'Tackling antimicrobial resistance in the food and livestock sector', in M. Anderson, M. Cecchini, and E. Mossialos (eds) Challenges to Tackling Antimicrobial Resistance. Cambridge: Cambridge University Press. Available at: <https://doi.org/10.1017/9781108864121>.
- EBRD (2019) Agribusiness Sector Strategy. Available at: <https://www.ebrd.com/sites/Satellite?c=Content&cid=1395275559597&pagename=EBRD%2FContent%2FDownloadDocument>.
- EBRD (2021) 'Methodology to determine the Paris Agreement'. European Bank for Reconstruction and Development. Available at: <https://www.ebrd.com/news/events/ebdr-paris-agreement-alignment-methodology.html>.
- EBRD (2022a) COP27 Joint-MDB event on Paris Alignment progress update. Available at: <https://www.ebrd.com/sites/Satellite?c=Content&cid=1395309407892&pagename=EBRD%2FContent%2FContentLayout&rendermode=preview%3DNorth+Macedonia%3FfilterSector%3DTransport> (Accessed: 23 November 2022).
- EBRD (2022c) Project finder, Project database2. Available at: <https://www.ebrd.com/project-finder> (Accessed: 29 November 2022).
- Egyptian Environmental Affairs Agency (2018) Egypt's first Biennial Update Report to the United Nations Framework Convention on Climate Change. Available at: <https://unfccc.int/documents/204823>.
- EIB (2020) The EIB Group Climate Bank Roadmap 2021-2025 : November 2020. Available at: https://www.eib.org/attachments/thematic/eib_group_climate_bank_roadmap_en.pdf (Accessed: 1 July 2022).
- Environment Agency (2015) Environmental Permitting Regulations (England

and Wales) 2010 Regulatory Guidance Series, No EPR 2 Understanding the meaning of regulated facility Appendix 3-Interpretation of Intensive Farming Installations. Available at: www.environment-agency.gov.uk (Accessed: 30 August 2022).

European Environment Agency (2019) Climate change adaptation in the agriculture sector in Europe . Copenhagen. Available at: <https://climate-adapt.eea.europa.eu/metadata/publications/climate-change-adaptation-in-the-agriculture-sector-in-europe> (Accessed: 1 July 2022).

FAO (2006) 'Livestock's long shadow: Environmental issues and options'. Rome, Italy. Available at: <https://www.fao.org/3/a0701e/a0701e.pdf>.

FAO et al. (2017) Climate-Smart Agriculture in Viet Nam. Available at: <https://www.cgiar.org/news-events/news/studying-climate-smart-agriculture-in-vietnam>.

FAO et al. (2021) The State of Food Security and Nutrition in the World 2021, The State of Food Security and Nutrition in the World 2021. FAO, IFAD, UNICEF, WFP and WHO. Available at: <https://doi.org/10.4060/CB4474EN>.

FAO (2022) 'FAOSTAT database'. Available at: <http://faostat3.fao.org/faostat-gateway/go/to/home/>.

FAOSTAT (2019) Emissions intensities methodological note. Available at: https://fenix-services.fao.org/faostat/static/documents/EI/EI_e_2019_final.pdf (Accessed: 20 July 2022).

FAOSTAT (2022) Emissions Totals. Food and Agricultural Organization of the United Nations. Available at: <https://www.fao.org/faostat/en/#data/GT> (Accessed: 31 May 2022).

Good Food Institute (2022) Infrastructure Loan Fund. Available at: <https://gfi.org/solutions/infrastructure-loan-fund/>.

Government of Argentina (2022) Argentina. Biennial update report (BUR). BUR 4. , Submission to the UNFCCC. Available at: <https://unfccc.int/documents/419772> (Accessed: 12 August 2022).

HLPE (2019) 'Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition', A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, (July), pp. 1-162. Available at: www.fao.org/cfs/cfs-hlpe.

IDB (2019) Agriculture Sector Framework Document. Available at: <https://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=EZSHARE-2051054064-5>.

IDB(2021)IDBGroupCountryStrategywith Argentina 2021-2023. Washington D.C. Available at: <https://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=EZSHARE-225938550-11>.

IDB (2022) IDB Projects, Project database. Available at: <https://www.iadb.org/en/projects> (Accessed: 29 November 2022).

IDB Invest (2022) Our Projects, Project database. Available at: <https://idbinvest.org/en/projects> (Accessed: 29 November 2022).

IDFC (2018) 'IDFC Position Paper - Aligning with the Paris Agreement'. International Development Finance Club. Available at: https://www.idfc.org/wp-content/uploads/2018/12/idfc_alignment-with-paris-agreement_position-paper_12_2018.pdf.

IFAD (2016) Strategic Framework 2016-2025. Available at: <https://www.ifad.org/en/strategic-framework>.

IFAD (2022) Projects and Programmes, Project database. Available at: <https://www.ifad.org/en/web/operations/projects-and-programmes> (Accessed: 29 November 2022).

IFC (2022) IFC Project Information & Data Portal, Project database. Available at: <https://disclosures.ifc.org/> (Accessed: 29 November 2022).

IPCC (2019) Climate Change and Land: An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems - Summary for Policymakers. Geneva, Switzerland. Available at: <https://doi.org/10.4337/9781784710644>.

IsDB (2019) Agriculture and Development Sector Policy. Available at: <https://www.isdb.org/publications/agriculture-and-development-sector-policy>.

Jose, S. and Dollinger, J. (2019) 'Silvopasture: a sustainable livestock production system', *Agroforestry Systems* 2019 93:1, 93(1), pp. 1-9. Available at: <https://doi.org/10.1007/S10457-019-00366-8>.

Kachi, A. et al. (2021) Aligning agribusiness and the broader food system with the Paris Agreement. NewClimate Institute. Available at: <https://newclimate.org/2021/06/29/aligning-agribusiness-and-the-broader-food-system-with-the-paris-agreement/>.

KfW (2022) Rural Development, KfW Topics. Available at: <https://www.kfw-entwicklungsbank.de/International-financing/KfW-Development-Bank/Topics/Rural-Development/> (Accessed: 29 November 2022).

Mavin Group (2022) IFC supports Mavin Group to expand sustainable pig farming operations, Mavin Group News and Events. Available at: <https://mavin-group.com/en/news--events/ifc-supports-mavin-group-to-expand-sustainable-pig-farming-operations.html> (Accessed: 28 November 2022).

McCandless, B. et al. (2021) MDBs Pledged to Align Financial Flows with the Paris Agreement. They're Not There Yet. Available at: <https://www.wri.org/insights/mdbs-pledged-align-financial-flows-paris-agreement-theyre-not-there-yet> (Accessed: 23 September 2022).

MDBs (2018) 'Joint Declaration: MDB's Alignment Approach to Paris Agreement'. Available at: <https://www.worldbank.org/en/news/>

press-release/2018/12/03/multilateral-development-banks-mdbs-announced-a-joint-framework-for-aligning-their-activities-with-the-goals-of-the-paris-agreement.

MDBs (2021) BB1 and BB2 Technical Note Joint MDB Assessment Framework for Paris Alignment for Direct Investment Operations. Available at: <https://www.iadb.org/document.cfm?id=EZSHARE-1729984378-16>. (Accessed: 1 July 2022).

Murray, C.J. et al. (2022) 'Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis', *The Lancet*, 399(10325), pp. 629–655. Available at: [https://doi.org/10.1016/S0140-6736\(21\)02724-0](https://doi.org/10.1016/S0140-6736(21)02724-0).

Nabuurs, G.-J. et al. (2022) 'Agriculture, Forestry and Other Land Uses (AFOLU)', in P.R. Shukla et al. (eds) *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge UK and New York USA: IPCC. Available at: https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_FullReport.pdf.

NDB (2017) NDB's General Strategy: 2017-2021. Available at: <https://www.ndb.int/wp-content/uploads/2017/08/NDB-Strategy.pdf>.

OECD (2022a) 'Country profiles: Argentina'. The Observatory of Economic Complexity. Available at: <https://oec.world/en/profile/country/arg>.

OECD (2022b) 'Country profiles: Egypt'. The Observatory of Economic Complexity. Available at: <https://oec.world/en/profile/country/egy>.

OECD (2022c) Country Profiles: Viet Nam. Available at: <https://oec.world/en/profile/country/vnm> (Accessed: 28 November 2022).

OECD (2019) 'Water Governance in Argentina'. Available at: https://www.oecd-ilibrary.org/urban-rural-and-regional-development/water-governance-in-argentina_bc9ccb6f-en.

Platform on sustainable finance (2021) 'Platform on Sustainable Finance - Technical Working Group - Annex: Full list of technical screening criteria August 2021'. Available at: https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/210803-sustainable-finance-platform-report-technical-screening-criteria-taxonomy-annex_en.pdf (Accessed: 30 August 2022).

Poore, J. and Nemecek, T. (2018) 'Reducing food's environmental impacts through producers and consumers', *Science*, 360(6392), pp. 987–992. Available at: <https://doi.org/10.1126/science.aag0216>.

Popp, A., Lotze-Campen, H. and Bodirsky, B. (2010) 'Food consumption, diet shifts and associated non-CO2 greenhouse gases from agricultural production', *Global Environmental Change*, 20(3), pp. 451–462. Available at: <https://doi.org/10.1016/j.gloenvcha.2010.02.001>.

Ritchie, H., Reay, D.S. and Higgins, P.

(2018) 'Potential of Meat Substitutes for Climate Change Mitigation and Improved Human Health in High-Income Markets', *Frontiers in Sustainable Food Systems*, 2, p. 16. Available at: <https://doi.org/10.3389/FSUFS.2018.00016/BIBTEX>.

Roe, S. et al. (2019) 'Contribution of the land sector to a 1.5 C world', *Nature Climate Change*, 9, pp. 817–828. Available at: <https://doi.org/https://doi.org/10.1038/s41558-019-0591-9>.

Searchinger, T. et al. (2019) *Creating a Sustainable Food Future: A Menu of Solutions to Feed Nearly 10 Billion People by 2050*. Final report. Washington D.C. Available at: <https://www.wri.org/research/creating-sustainable-food-future>.

Soil Association (2022) Organic vs. Free Range Eggs - What's the difference, Soil Association. Available at: <https://www.soil-association.org/take-action/organic-living/what-is-organic/organic-eggs/> (Accessed: 30 August 2022).

Springmann, M. et al. (2018) 'Options for keeping the food system within environmental limits', *Nature*, 562(7728), pp. 519–525. Available at: <https://doi.org/10.1038/s41586-018-0594-0>.

Stoll-Kleemann, S. and Schmidt, U.J. (2017) 'Reducing meat consumption in developed and transition countries to counter climate change and biodiversity loss: a review of influence factors', *Regional Environmental Change*, 17. Available at: <https://doi.org/10.1007/s10113-016-1057-5>.

TEG (2020) *Taxonomy: Final report of the Technical Expert What is the EU Taxonomy? EU Technical Expert Group on Sustainable Finance*; European Commission. Available at: https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf [accessed on 28 August 2020].

WBG (2015) *Country Partnership Framework for the Arab Republic of Egypt 2015-2019*. Available at: <https://documents1.worldbank.org/curated/en/773051468197407822/pdf/94554-REVISED-R2015-0231-PUBLIC-disclosed-12-21-15-Box394824B.pdf>.

WBG (2018a) 'The MDBs' alignment approach to the objectives of the Paris Agreement: working together to catalyse low-emissions and climate-resilient development'. Available at: <http://pubdocs.worldbank.org/en/784141543806348331/Joint-Declaration-MDBs-Alignment-Approach-to-Paris-Agreement-COP24-Final.pdf> (accessed on 17 September 2019).

WBG (2018b) 'World Development Indicators 2018'. Available at: <https://data.worldbank.org/indicator/SP.POP.TOTL>.

WBG (2019) *Country Partnership Framework for Argentina 2019-2022*. Washington D.C. Available at: <https://documents1.worldbank.org/curated/en/579151556416868661/pdf/Argentina-Country-Partnership-Framework-for-the-Period-FY19-FY22.pdf>.

WBG (2021a) Inundaciones y sequías, los riesgos climáticos que más impactan a Argentina. Available at: <https://www.bancomundial.org/es/news/feature/2021/07/01/inundaciones-y-sequias-los-riesgos-climaticos-que-mas-impactan-a-argentina> (Accessed: 20 July 2022).

WBG (2021b) 'World Bank Group Climate Change Action Plan 2021–2025 : Supporting Green, Resilient, and Inclusive Development'. Washington D.C.: World Bank. Available at: <https://openknowledge.worldbank.org/handle/10986/35799>.

WBG (2022) World Development Indicators, Data Catalog.

the World Bank Group (2017) Country Partnership Framework for the Socialist Republic of Vietnam for the Period FY18-FY22, Country Partnership Framework for the Socialist Republic of Vietnam for the Period FY18-FY22. Available at: <https://doi.org/10.1596/27146>.

WBG (2022a) Country Climate and Development Report: Argentina. Washington D.C. Available at: https://openknowledge.worldbank.org/bitstream/handle/10986/38252/ARG_CCDDR_FullReport.pdf?sequence=6&isAllowed=y.

WBG (2022a) Projects & Operations, Project database. Available at: <https://projects.worldbank.org/en/projects-operations/projects-home> (Accessed: 29 November 2022).

WBG (2022b) Country Climate and Development Report: Egypt. Washington D.C. Available at: https://openknowledge.worldbank.org/bitstream/handle/10986/38245/Egypt_CCDDR_MainReport.pdf?sequence=5&isAllowed=y.

WBG (2022b) US\$ 500 Million Project Will Help to Strengthen Egypt's Food and Nutrition Security, World Bank News. Available at: <https://www.worldbank.org/en/news/press-release/2022/06/28/us-500-million-project-will-help-to-strengthen-egypt-food-and-nutrition-security> (Accessed: 20 July 2022).

WBG (2022c) Country Climate and Development Report: Viet Nam. Washington D.C. Available at: https://openknowledge.worldbank.org/bitstream/handle/10986/37618/Vietnam_REVISED.pdf?sequence=18&isAllowed=y.

WBG (2022d) 'Vietnam Country Climate and Development Report'. Available at: <https://doi.org/10.4337/9781789903621.world.bank.group>.

Viet Nam Government (2020) Viet Nam Third Biennial Updated Report. Hanoi. Available at: https://unfccc.int/sites/default/files/resource/Viet_Nam_BUR3.pdf (Accessed: 2 June 2021)

Willett, W. et al. (2019) 'Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems', *Lancet* (London, England), 393(10170), pp. 447–492. Available at: [https://doi.org/10.1016/S0140-6736\(18\)31788-4](https://doi.org/10.1016/S0140-6736(18)31788-4).

Zhao, C. et al. (2017) 'Temperature increase reduces global yields of major crops in four independent estimates', *Proceedings of*

the National Academy of Sciences of the United States of America, 114(35), pp. 9326–9331. Available at: https://doi.org/10.1073/PNAS.1701762114/SUPPL_FILE/PNAS.1701762114.SAPP.PDF.

**NewClimate – Institute for
Climate Policy and Global
Sustainability gGmbH**

Cologne Office
Waidmarkt 11a
50676 Cologne, Germany

Berlin Office
Schönhauser Allee 10-11
10119 Berlin, Germany

Phone: +49 221 999 83 300 (19)
Email: info@newclimate.org
Website: www.newclimate.org

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