

Questions regarding World Bank's Sustainable Fodder Production And Low Methane Livestock Development Program-For-Results ([P181021](#))

Background/Project Summary: The PAD states (para. 31) it will address climate impacts through: (a) promoting advanced climate smart technologies and practices to improve productivity and climate resilience of fodder production systems; (b) promoting novel technologies and practices to lower GHG emissions and environmental footprint from intensive livestock production systems; and (c) establishing an enabling governance system to support the introduction and future scale-up of the green, productivity-improving and low-emission livestock sector.

Target Livestock Production Entities: The 700 TLPEs (para. 33) are medium and large scale commercially oriented entities, including 52 enterprises, 141 farmer cooperatives, and 507 family/household farms.

GHG Emissions/Reductions

- **Baseline:** How did the Bank determine the baseline (2023) emissions?
- **Business As Usual/Scale:** BAU emissions are shown to increase 32%, in parallel with the number of animals (31.6%). Should not emissions per animal decrease even under BAU, given economies of scale, e.g. for transport?
- **BAU Trend:** What was the prior trend in emissions per animal– does BAU reflect that trend?
- **Numbers of Animals:** Some ERs are achieved through a 3.3% reduction in number of animals vs. BAU. However, as the project is expected to increase productivity and profitability, won't this (Target Livestock Production Entity incomes increasing by 10-20% vs BAU) draw more farmers/entrepreneurs into raising livestock, or at least incentivize TLPEs to expand?
- **MTR vs Final:** Emissions with the program are projected to decrease 26.7% vs BAU at mid-term review and 27.4% at completion, meaning close to 97.5% of the ER rate is achieved by mid-term. Yet ca. 62.5% of project spending occurs after MTR. How do you account for the increase in cost of additional ERs post-MTR?
- **Cost:** WB spending of \$200M for 78,310 tCO₂e ER p.a. at completion. Cost for one year is \$2,553.95/ton, or \$255.40/ton over 10 years. Does the Bank consider this to be cost-effective ERs? How does this compare with the cost of other potential ERs in Gansu or China more broadly?
- **Emissions Increase vs Paris Alignment:** PAD Annex 1, para.14 states "The operation is aligned with the goals of the Paris Agreement on both mitigation and adaptation, and resilience." However, the project will support increases in livestock (particularly beef and dairy), a carbon-intensive food and protein source, and resulting emissions. Does the Bank believe that increasing resources and profitability in carbon-intensive industries is Paris-aligned? Further, how does increased reliance on ruminant livestock for nutrition qualify as adaptive? And if the project promotes increased concentration in the livestock sector, how does that promote resilience?

- Offsets: If TLPEs enroll in voluntary carbon offset programs under China’s Certified Emission Reduction (CCER) scheme (PAD fn. 34), how will the Bank confirm that project ERs are additional and permanent, i.e. result in real net reductions?
- Monitoring: How will emissions/ERs be monitored, and by whom?

Assumptions/Alternatives/Financing

- Assumptions/Uptake: Per PAD para. 28, “achievement of the above results depends on the willingness of the TLPEs to voluntarily adopt the new technologies and practices.” Given that change to new technologies usually involves learning and transaction costs, how will the project motivate farmers/enterprises to undertake them?
- Assumptions/Collaboration: Per PAD para. 29, “The novel nature of such technologies and their upfront costs would require close collaboration between the public and private sector.” How does the Bank assess the likelihood of such collaboration? What consultations and stakeholder engagement has been done, and by whom, to assess and encourage it?
- Assumptions/Consumer Markets: Per PAD para. 29, the “opportunity to enter green/organic/low emission consumer markets, which value sustainable practices, would provide additional price incentives.” Has the Bank confirmed that such markets exist in China and in Gansu, and that they offer a price premium that offsets additional production costs?
- Alternatives: Per PAD Annex 1, para. 15, analysis of project ER benefits was based on “the approach of with project versus without project to lower the emission of livestock farms in the Program counties.” Did the Bank also assess the approach of investment in alternative agricultural products, e.g. alternative protein sources (e.g. soy, legumes, nuts) and infrastructure to support them, their processing, distribution, and consumers’ education/ marketing?
- Scale: Profitability shows the highest percentage improvements among the largest enterprises. How will this affect trends in farm size? (I.e. Won’t this tend to promote larger enterprises over smaller ones? If so, how will this affect employment, land use, etc.?)
- Government Role/counterpart financing (Program for Results advantages/ disadvantages): How does the Bank assess the risk of delays or defaults in counterpart funding? If achieving results turns out to be costlier/more difficult than anticipated, what is the risk of the government abandoning the program?

Other topics potentially to be discussed/explored

- Technical Assistance by provincial experts: Who vets them and how? What are their qualifications, especially as regards (promoting/training in) low emissions technologies for livestock production? What topics will be covered by project-supported TA?
- Disbursement Linked Indicators (DLIs): Do these align with WB Corporate Scorecard?
- “Sustainable” Fodder: How does the project promote sustainability via a circular economy (to reduce/reuse/ recycle resources)? Of all fodder used by TLPEs, how much and what percentage is human-edible?

- Environmental & Social Standards, stakeholder engagement/consultations: Are ESSs in Gansu equivalent to WB ESSs? If not, how have relevant officials been trained to apply them, particularly ESS 10 on stakeholder engagement and information disclosure?

Risk Mitigation: The PAD states (para.72) that “typical E&S risks under the Program include temporary and site-specific risks and impacts of dust, noise, waste, vegetation and habitat disturbance, soil erosion, land use, labor and OHS issues during construction relating to recruitment of temporary labor from surrounding communities, lack of access to Grievance Redress Mechanisms, inequitable benefit sharing, discharge/emission of various wastes, endangerment of farmland ecology and biodiversity, spread of pathogenic microorganisms, animal and zoonotic diseases, community and public health and safety risks/impact during the operation of the constructed facilities and application of technologies promoted and some downstream E&S impacts induced by non-physical activities.”

Animal Welfare

Which standards will be used to protect animal welfare during breeding, rearing, handling, live transport and slaughter? For example, will the dairy cattle, beef cattle, sheep and goats have access to pasture? Will indoor confinement and barren, crowded feedlots be used?

The Program Appraisal Document references GlobalGap standards. These standards were unsatisfactory for animal welfare and are no longer in place.

The program appears to be promoting industrial animal agriculture. Looked at together, components such as aiming to reduce the age of animals at first reproduction, ‘improved’ breeds, animals bred to function on low quality feed, and dependence on technical methods to address methane emissions imply industrial animal production methods.

Will the World Bank program lead to an increased use of intensive systems?

Industrial animal farming systems disregard animal sentience. A report from UNEP, [What’s Cooking?](#), states: ‘There is increasing recognition that justice considerations in food systems transitions must go beyond humans and extend towards non-human animals’. It adds: ‘Intensive systems deprive animals of some of their most basic physical and psychological needs’.

What steps is the World Bank taking to reduce the risk of an increased use in antimicrobials and increased disease risks?

Industrial livestock production, in which large numbers of animals are kept in crowded, stressful conditions, can lead to the emergence, transmission and amplification of [diseases](#) both viral and bacterial, some of which are zoonotic. The report [Preventing the next pandemic](#) by UNEP and ILRI identifies unsustainable agricultural intensification and increasing demand for animal protein as major drivers of zoonotic disease emergence.

The Program Appraisal Document notes: ‘The environment and sanitary conditions of some livestock farming zones may be inadequate ... Further, they may be supervised and inspected inadequately by health authorities. There is a need to upgrade pollution control and animal and zoonotic diseases control facilities, improve their internal management systems and further strengthen the health and safety (including animal welfare) awareness-raising and environmental protection training as well as the daily supervision.’

What consideration did the World Bank give in this project to – rather than funding intensification - supporting more sustainable methods of production that incorporate higher standards of animal welfare?

World Bank economist **Berk Özler** has [written about](#) the value of policies under which countries can grow without causing massive increases in suffering among farmed animals. He writes: ‘As with other technologies, such as mobile data, perhaps many low-income countries can leapfrog the stage of industrial animal farming, towards something more sensible’.

Professor Don Broom, who is a global expert in animal welfare science and sustainability of farming, [concludes](#) (ch. 12): ‘Stop feeding maize, wheat, other cereals and soya to cattle’ and ‘Stop using feedlots and indoor housing of beef cattle’.

What consideration did the World Bank give to the health and welfare problems of high-yielding dairy cows?

The project seeks to increase milk yield of dairy cows. Very high yielding cows tend to be zero-grazed. Breeding for high yield plus zero-grazing entails serious [health and welfare problems](#) for dairy cows. Cows that have no or minimal access to pasture tend to have higher levels of lameness, hoof pathologies, hock lesions, mastitis, uterine disease and mortality compared with cows in pasture-based systems. Moreover, cows without access to pasture are unable to engage in key normal behaviours, which include:

- exercise which is needed for normal bone and muscle development;
- foraging, which accounts for a large proportion (up to 80%) of the daily activity of cows kept in a semi-natural situation;
- investigation and manipulation of their environment. Cows have a natural tendency to explore their environment and they show a fair amount of curiosity;
- appropriate social interactions.

Cows cannot properly carry out these behaviours when they have no, or limited, access to pasture. Professor Don Broom [points out that](#) such cows ‘live with the poor welfare for a substantial part of their lives’.

Why is the World Bank choosing to depend on technical approaches such as methane-suppressing feed additives, despite the evidence that they are not a long-term

solution; and what consideration has the World Bank given to the potential adverse effects of such feed additives on animal welfare?

Methane-suppressing feed products are not a long-term solution to climate mitigation. There is [overwhelming evidence](#) that meat and dairy reduction [is essential](#) to meeting climate targets, and that technical approaches such as the use of methane-suppressing feed products will not be sufficient for the agri-food sector to play its part in the Paris targets. For example, 100% worldwide adoption of the use of methane-suppressing feed products [is not enough](#) to meet the required minimum decrease in enteric CH₄ bearing in mind the current projected global increases in meat/dairy consumption.

Indeed, the World Bank report, [Recipe for a Livable Planet](#), stresses that ‘demand-side measures to curb meat demand are much more cost-effective than these supply-side measures’. There is a lack of knowledge on the [repercussions for animal welfare](#) of the known (and emerging) strategies to reduce GHG emissions.

[Not specific to this project, but a question for the Ag & Food Dept. more broadly.]

When will the World Bank incorporate into its projects scientific recommendations regarding the need to reduce global animal production and consumption from both environmental and health points of view?

A report by the [Food System Economics Commission](#) (FSEC) highlights the need to transform current food systems if we are to tackle ‘the global climate, nature and health emergencies’ and because ‘the global food system is on an unsustainable trajectory’, the report advocates a Food System Transformation (FST).

Key elements of a Food System Transformation include healthy diets with a transition away from diets dominated by empty calories and animal-sourced proteins, and instead increased consumption of vegetables, fruits, nuts, legumes, and whole grains and a move to environmentally sustainable food production. This is to enable a rapid fall in GHG emissions and to ensure the land system becomes a net carbon sink by 2040, to reverse the decline of biodiversity, and protect and expand forests. The FSEC report states: ‘The shift away from diets rich in animal-sourced protein is important as these diets generate extreme pressure on land’.

Under this Food System Transformation, middle-income regions need on average to reduce their per capita intake of animal-sourced food by 62% from 2020 to 2050 (the figure for high-income countries is 68%), while increasing their intake of fruits, nuts, vegetables, and legumes. FSEC also finds that: ‘In total, low-income regions see a 33 percent aggregate decline in the intake of animal-sourced foods under FST even though their intake by currently undernourished groups in those regions should increase to improve health.’

Shenggen Fan and Xiaolong Feng, writing about [nutrition and health in China](#) (ch. 10), find that: ‘International trade and foreign investment have become increasingly important in transforming

diets of residents in China but have been neglected in their impact on sustainable healthy diets of the population. ... Foreign direct investment, represented by Western-style fast food, has increased the consumption of unhealthy foods by residents of China, affecting their nutritional health while simultaneously constraining the sustainability of resources and the environment.'

They say: 'China should incorporate dietary improvement into its policy objectives for international trade and overseas investment ... and adjust overseas investment tactics to achieve the dual objectives of population health and environmental sustainability.'

Analysis by the [Tilt Collective](#) on 'the transformation required within the global food system to address the urgent challenges of climate change, public health, and economic stability', finds that:

'There are three main levers or approaches to deliver the required food system transition:

- Shifting to plant-rich consumption and production (a plant-rich food system)
- Improving livestock and crop production practices on-farm (improving production practices)
- Reducing food waste (food waste)

'Of these, advancing a plant-rich food system offers the most potential for emissions reduction: 8 GtCO₂e by 2050 compared to 5 Gt by improving livestock and crop production practices, and 1 Gt for reducing food waste. While all approaches are needed simultaneously, advancing a plant-rich food system is 2.5 times more impactful as a climate investment compared to improving livestock and crop system production practices on-farm alone (average annual 28 MtCO₂e/\$bn compared to 11 MtCO₂e/\$bn).'

There is a serious mismatch between World Bank policy reports such as *Recipe for a Livable Planet* and *Detox Development*, which recognise the need for a reduction in global production and consumption of animals and animal products, and on the other hand, World Bank programs such as this one, that support an increase in production of farmed animals.