Mr. Yosuke Kotsuji
New Business Manager, Africa Agribusiness
International Finance Corp.
2121 Pennsylvania Ave., NW
Washington, DC 20533 USA
Via electronic mail (ykotsuji@ifc.org)

Re: **Indorama Eleme Fertilizer-III**

Dear Mr. Kotsuji:

We are writing to express our concerns and seek answers regarding IFC's proposed US$1.25 billion loan package to Indorama Eleme Fertilizer and Chemicals Ltd., Indorama Eleme Fertilizer-III, disclosed on July 28.

Our concerns reflect both local and global impacts. At the local level, we expect the expansion of Indorama at Eleme in Rivers State to contribute to effluent discharge, especially at Okulu River in Aleto, Eleme, and possible air pollution, which would impact both local terrestrial and marine biodiversity and, critically, the health of people living in the project's vicinity given increased ammonia emissions. How will these impacts be addressed?

We note that no new stakeholders have been identified during the stakeholder engagement for Train 3. Given that this will expand Indorama's operations there by 50%, this is surprising. Will additional people, including employees and their families, not be impacted?

IFC also does not anticipate any project impacts that require management under PS 6, Biodiversity Conservation and Sustainable Management of Living Natural Resources. Given the scale of the investment, projected increases in production, and related increases of discharged ammonia and urea, we are concerned this assessment is inaccurate. How has IFC (or Indorama) assessed these impacts and related mitigation needs?

At the global level, the regular use of chemical fertilizers is not an appropriate way to boost agricultural productivity in the Global South or anywhere else. While nitrogen fertilizers can boost productivity in the short term, they are damaging to the environment and human health and risk undermining soil fertility and quality. Indeed, the World Bank's recent report *Detox Development* highlights that inefficient use of nitrogen fertilizers leads to "diminishing crop productivity." The use of chemical fertilizers is also a key factor in nitrogen and phosphorus pollution, the planetary boundaries of which have already been transgressed. How does IFC plan to mitigate these and other downstream impacts of the use of Indorama's products?

Many of these fertilizers are used to produce feed crops for factory farmed animals. On a global basis, increased industrial livestock production is a key driver of climate change, deforestation, biodiversity loss, and the pollution of the planet's air, land, and water, and overconsumption of water resources. As the IPCC has pointed out, these impacts are already negatively impacting agricultural production and food security in Africa, particularly among smallholders and rural populations who are already struggling with rising temperatures and water shortages. To the extent IFC's investment in Indorama will support the expansion of industrial livestock production and the diversion of finite resources toward feeding factory-farmed animals in Africa and elsewhere, the Bank should account for and seek to mitigate relevant negative impacts on food security, human health, and economic stability in the region, especially given that acute food insecurity recently reached a 10-year high in West and Central Africa.

Whatever the end-use of Indorama's products, IFC's proposed loan offers financing on favorable terms for the expansion of an industrial approach to agriculture while the World Bank itself has for years emphasized the need for public support for more sustainable agroecological and regenerative approaches. Given evidence that in Africa, nature-based agriculture such as agroecology can boost yields and farmer livelihoods while benefiting the environment, shouldn't IFC be focusing its limited resources on such approaches?

Please see the attachment, **Chemical Fertilizers' Issues vs. Better Options for Africa's Agricultural Development**, which outlines in more detail the evidence of how chemical fertilizers offer minimal benefits at a high cost to the environment, climate, and human health– and the better alternatives that are available for agricultural development in Africa. In light of this information, how will IFC change its Africa Agribusiness strategy and portfolio?

We look forward to your response ahead of the scheduled Board date for this loan.

Sincerely,

[Signatory organizations:]

Nigerian CSOs:
Abajitoru Women Development Initiative
Access Africa for Rights and Development Initiative
Accountability Lab Nigeria
Better Living Foundation and Capacity Development,
Centre For Ecological and Community Development (CECD)
Connected Advocacy for Empowerment and Youth Development Initiative
Peace Point Development Foundation- PPDF
Stakeholders Alliance For Corporate Accountability (SACA)

Other African CSOs:

Association for Solidarity through Humanitarian Imperative Action International Cameroon
Centre for Ecosystems Research and Development, Uganda
Club Humanitaire sans Frontières République de Guinée (Conakry)
Federation of Environmental and Ecological Diversity for Agricultural Revampment and Human Rights (FEEDAR & HR)
Nouvelle Génération de la Cinématographie Guinéenne République de Guinée
Mazingira Network - Tanzania (MANET) Tanzania
PIDP République Démocratique du Congo (RDC)
Sustainable Holistic Development Foundation (SUHODE) Tanzania
Women in Conservation Ghana/Biodiversity Alliance Ghana

International CSOs:
Animals Asia Foundation - Hong Kong
Bank Information Center -USA
Community Alliance for Global Justice -USA
Community Resource Centre - Thailand
Compassion in World Farming - UK
Ethical Farming Ireland - Ireland
Farm Forward - USA
Friends of the Earth-US
Global Forest Coalition -int'l
International Accountability Project - int'l
JPIC Kalimantan - Indonesia
Phoenix Zones Initiative USA
Sinergia Animal - int'l

cc:
Nessim Ahmad, Senior Director, Environment and Social Policy and Risk
Tania Kaddeche, Director, ESG Sustainability Advice & Solutions
IFC Executive Directors

Attachment:

Chemical Fertilizers' Issues vs. Better Options for Africa's Agricultural Development

Most nitrogen in synthetic fertilizers is not absorbed by the crops - that's a problem
The World Bank report *Detox Development* highlights the low efficiency of nitrogen fertilizers. It states: "According to an average of 13 global databases, of the 161 teragrams of nitrogen applied to agricultural crops, only 73 teragrams of nitrogen reach the harvested crop." The report points out that the nitrogen that is not absorbed by crops "gets lost to the surrounding environment in its multiple chemical forms—as nitrites and nitrates, polluting the waterways; as anhydrous ammonia or nitrogen oxide, worsening air quality; and as nitrous oxide, exacerbating climate change and stratospheric ozone depletion."

The World Bank report states: "Science suggests that the world may have surpassed the planetary boundaries for nitrogen, and some believe that nitrogen is the world's largest externality, exceeding even carbon."

Synthetic fertilizer harms soil quality…
A 2022 study points out that "Applications of N [nitrogen] fertilizer can improve soil quality, but the long-term excessive application of N fertilizer can lead to the deterioration of the soil environment, alter the properties of organic matter, and affect the adsorption and accumulation of soil pollutants."[1]

In a 2007 paper entitled 'The Myth of Nitrogen Fertilization for Soil Carbon Sequestration' Khan *et al*, soil scientists at the University of Illinois, stated: "After 40 to 50 years of synthetic fertilization … a net decline occurred in soil C [carbon]" and added that their "findings implicate fertilizer N in promoting the decomposition of crop residues and soil organic matter."[2]

And causes: Ailing waters…
In a section headed 'Ailing waters' the World Bank report states: "The massive increase in nitrogen fertilizers has left a scar across many of the world's water bodies. …Runoff of excess nitrogen increases concentrations of nitrate and nitrite in the waters. These concentrations can lead to cyanobacteria-related algal blooms. …Large algal blooms can devastate ecosystems, often resulting in hypoxia or dead zones, a condition that arises when water bodies lack sufficient oxygen. The legacy effects of nitrogen pollution on the environment can also endure decades after nitrogen inputs have ceased, with long time lags between the adoption of conservation measures and any measurable improvements in water quality."

Air pollution…
The World Bank report states: "Fertilizer is a key culprit in nitrogen pollution, which fouls the air and water worldwide." The report points out that some of the nitrogen applied as

fertilizers ends up in the atmosphere where it is a key cause of air pollution, as it contributes to the formation of fine particulate matter that adversely affects human health.

...And climate change
Much of the nitrogen fertilizer applied in agriculture gets broken down by microbes in the soil, releasing nitrous oxide into the atmosphere**;** nitrous oxide is the most potent of the greenhouse gasses.

Evidence supports nature-based solutions for boosting agricultural productivity
In light of the World Bank's analysis of the detrimental impact of synthetic nitrogen fertilizers on water, air, and climate change, it defies common sense that the IFC should be funding the manufacture of such fertilizers. IFC could (and should) instead be funding nature-based agriculture in Africa and in particular the use of organic fertilizers. Krasilnikov *et al* (2022) point out that "unlike largely studied synthetic fertilizers, such as urea and phosphates, organic fertilizers (animal manures, plant residues, farmyard manure) and bio-fertilizers (beneficial microbes) not only increase crop productivity, but also increase soil carbon stocks, and improve soil physical and biological properties."[3]

There is strong evidence that in Africa nature-based agriculture such as agroecology can boost yields and farmer livelihoods while at the same time benefiting the environment. Studies show that resource-conserving agriculture can deliver substantial productivity gains. One study examined the impact of 286 projects in 57 poor countries.[4] The projects included integrated pest and nutrient management, conservation tillage, agro-forestry, and rainwater harvesting. These projects increased productivity on 12.6 million farms. The average crop yield increase was 79%, while the African projects showed a 116% increase in crop yields. All crops showed water use efficiency gains. Of projects with pesticide data, 77% resulted in a decline in pesticide use by 71% while yields grew by 42%.

An analysis of 40 projects in 20 African countries has been carried out.[5] The projects included agro-forestry, conservation agriculture, integrated pest management, livestock and fodder crops. Crop yields more than doubled on average over a period of 3-10 years.

A helpful case study is provided by *Sustainable Agriculture Tanzania* (SAT) which explains that unsustainable farming "is, simultaneously, a cause and an effect of poverty. People who urgently need money are likely to plant only a few promising crops and to apply synthetic fertilizer and hazardous pesticides, hoping to secure their yields. However, in the longer run this practice can lead to various harmful effects that worsen the farmers' situation: loss of soil fertility, increased pest attacks, reduced water holding capacity, to name a few. All this causes a vicious circle where reduced profitability aggravates the farmers' situation who in response, try harder to exploit the land with unsustainable methods."[6]

SAT teaches farmers how to escape the poverty trap by the adoption of agroecological methods. Since agroecology was introduced the farmers have achieved improved yields, better livelihoods and healthier, more balanced diets with diverse nutrition. SAT aims to create food self-sufficiency and food security all year round. Moreover, soil health and fertility have been built by composts and crop residues and steep land has been terraced to prevent soil erosion. Water is retained in the soil through mulches; water use has been reduced by 59%.[7]

Beneficial insects and intercropping with repellent plants are used to repel insect pests. The use of agro-chemicals has been reduced, in the case of pesticides to almost zero. The farmers have revived and regenerated degraded land. They use inputs that are produced on the farm, rather than relying on inputs brought in from far away; as a result, 61% have reduced their input costs.[8]

In sum, nature-based solutions for agriculture such as agroecology can boost yields and farmer livelihoods while at the same time benefiting the health of farmers, their communities, and the environment, locally and globally.

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[1] Kunlong Hui *et al*, 2022. Long-term application of nitrogen fertilizer alters the properties of dissolved soil organic matter and increases the accumulation of polycyclic aromatic hydrocarbons. Environmental Research Volume 215, Part 2, December 2022, 114267 https://www.sciencedirect.com/science/article/abs/pii/S0013935122015948

[2] Khan *et* al, 2007. The Myth of Nitrogen Fertilization for Soil Carbon Sequestration. Journal of environmental quality https://doi.org/10.2134/jeq2007.0099

[3] Krasilnikov, P.; Taboada, M.A.; Amanullah. Fertilizer Use, Soil Health and Agricultural Sustainability. Agriculture **2022**, 12, 462. https://doi.org/10.3390/agriculture12040462

[4] Pretty J *et al*., "Resource-conserving agriculture increases yields in developing countries,"

Environmental Science and Technology, 40:4, 2006, pp. 1114−1119.

[5] Pretty J *et al,* 2011. Sustainable intensification in African agriculture, International Journal of Agricultural Sustainability, 9:1, 5-24

[6] Sustainable Agriculture Tanzania. 2019 Annual Report.

[7] *Ibid.*

[8] *Ibid.*