



# Impacts and implications of oil palm in Uganda's Lake Victoria Islands

*The case of Kalangala district*

**POLICY SYNTHESIS PAPER**

## Executive summary

This synthesis paper brings together numerous studies on the impacts of oil palm plantations established in Kalangala district since 2002. It highlights the lessons, and presents recommendations for reviewing the Kalangala oil palm model in the light of the evidence presented.

In Kalangala, oil palm developers secured approval and support from government officials without securing a consolidated social contract. Related to this was support from local elites, local council leaders and people who the community trust, in what could qualify as connivance. Pressure was exerted on the district government, the District Land Board and Area Land Committees to make public land including lakeshore buffer zones available for plantations. The bait was a promise of employment and new roads, schools and health facilities, and food security, whereas almost all productive land is now under oil palm plantations. It concludes that ensuring sustainability of oil palm development in Kalangala requires the consolidation of successes seen during the Vegetable Oil Development Project (VODP), while avoiding social and environmental threats, pressures and impacts. Sustainability certification based on principles, criteria and indicators should be adhered to, with compliance to international best practices and conventions, as well as national laws, ordinances and bylaws. In addition, adherence to statutory monitoring and social and environmental audits is imperative, alongside a total economic valuation of the viability of current and future investments. For example, contrary to income gains, oil palm production is seen to lead to land conversion resulting in lost income as farmers have to cede current subsistence production in exchange for income from oil palm.

Seven recommendation for the government to support are proposed. These are (i) adherence to all relevant national laws and international best practices; (ii) effective communication of project objectives to communities and local leaders in the spirit of free, prior and informed consent; (iii) develop and roll out a chemical and waste management and disposal plan; (iv) encourage integrated oil palm plantation models including intercropping, agroforestry and livestock rearing; (v) establish a conflict and grievance redress mechanism especially relating to land; (vi) break the current monopoly and encourage Ugandan businessmen to invest in the value chain; and (vii) revise the loans scheme and repayment schedules so that farmers can meet their obligations within the cropping cycle.

It is essential that these recommendations are considered in the next phase of the National Oil Palm Project (NOPP), to maximise the benefits, and minimise the negative environmental, social and economic impacts observed in Kalangala.

# 1. Background and rationale

The Government of Uganda decided to develop a palm oil industry; to reduce poverty, contribute to import substitution and contribute to positive rural transformation. The Vegetable Oil Development Project (VODP) was implemented in two phases in Kalangala; Phase I between 1998 and 2010, and Phase II between 2010 and 2018, both geared towards poverty reduction. In 2018, VODP was transformed into the National Oil Palm Project (NOPP) with a focus on inclusive rural transformation building on socio-economic impacts achieved under VODP I and II. The interest in oil palm development originates from the Comprehensive African Agriculture Development Programme (CAADP), endorsed in 2003 (Maputo Decision, 2003) to stimulate reforms in the agricultural sector, to create sustainable socio-economic impacts by improving food security and nutrition, contributing to wealth and job creation, empowering women, and enabling increased exports.

With annual demand for edible oil at 120,000 tonnes but domestic production capacity of only 40,000 tonnes (Manishimwe, 2018), Uganda imports about 65% of its edible oil and soap needs. This will increase with increasing population, with an annual growth rate of 9% in domestic and regional demand for vegetable oil and by-products (Daily Monitor, 2018). Considering this, the government has the best intentions in developing the palm oil industry; to reduce poverty, contribute to import substitution through domestic production whilst contributing towards rural transformation. But so far, the initiative has fallen short on a number of aspects, leading to multiple negative impacts on the intended project beneficiaries as well as on the environment. It is thus crucial to acknowledge and better

understand these impacts, mitigate them, and prevent their reoccurrence in the other proposed oil palm expansion hubs.

Studies informing this policy synthesis paper were based on mix of qualitative and quantitative data collection and analysis. Statistical data was obtained from published reports. Qualitative data was collected from a range of stakeholders using interviews and focus group discussions, with oil palm outgrowers, coffee and subsistence farmers, fishing communities, local government and those in the industry, among others. The studies were commissioned and supervised by Ecological Trends Alliance (ETA) and Tropenbos International (TBI). The synthesis from these papers are premised on: a) highlighting threats and pressures of oil palm development, b) documenting lessons from Kalangala for consideration in future development, c) examining impacts and suggesting strategies that may be adopted and d) making recommendations that need to be considered in the NOPP. It is indispensable to understand oil palm development based on experiences from the first and second phases of VODP implementation in Kalangala regarding associated socio-economic, environmental and livelihoods impacts and safeguards. The line ministry, MAAIF and relevant Departments and Agencies e.g. NEMA and their counterparts in District and Lower local governments are particularly key to implementing the recommendations. The success of new expansion hubs like Buvuma will depend on lessons and experiences from Kalangala; avoiding negative impacts, adopting continuous improvement and adhering to international best practices such as sustainability certification schemes for compliance.

## 2. Kalangala in the context of oil palm development

Kalangala district comprises of 84 islands in Lake Victoria with a total land area of 46,830 hectares, more than half of which is on the main island of Bugala (27,000 ha), administratively divided into two counties. The population is 42% females and 58% males (UBOS, 2016), and 30% non-native, with 2% born outside Uganda. As far as oil palm is concerned, 70% of out-growers are non-native, mainly from the neighbouring districts of Masaka, Buikwe, Mayuge, Gomba and Bukomansimbi. The dominant land cover used to be natural forest, but today it is oil palm plantations. Other major cash crops are coffee and rice, and potato, cassava, maize, beans, tomato and pineapple are grown on a subsistence scale by nearly all farmers including

oil palm outgrowers. In addition to these, some farmers keep livestock that graze in oil palm plantations to reduce the grass, weeds or cover crops. The total area planted with oil palm is 10,924 hectares, with 6,500 hectares of nucleus estate run by Oil Palm Uganda Limited (OPUL), and 4,424 hectares by smallholder outgrowers (land owned by individuals). The 6500 hectares were part of public land under the administration of Kalangala District Land Board, subsequently acquired by the Uganda Land Commission, granting leaseholds to Oil Palm Uganda Ltd.



A strip of lake buffer left in an oil palm plantation in Kalangala

### 3. Model of implementation in Kalangala district

The project is a public–private partnership between the Government of Uganda, BIDCO Uganda Limited (BIDCO) and smallholder out-grower farmers. Of the total area, 6,500 hectares are nucleus estate under Oil Palm Uganda Limited (OPUL), a company incorporated by BIDCO to implement the project in Kalangala. Smallholder farmers are targeting to develop 4,700 hectares on their owned farms. The government and IFAD (the International Fund for Agricultural Development) established a business development service centre, the Kalangala Oil Palm Growers Trust (KOPGT) through which

farmers access credit, inputs, extension services and the use of two mills. Through KOPGT, farmers are also supported with loans worth US\$13 million for the maintenance of their plantations and the purchase of fertilizers and farm tools. In addition, farmers formed an association, the Kalangala Oil Palm Growers Association for mobilisation and advocacy. To become a member of the association, a farmer must have plantations covering a minimum of two acres (0.8 ha), for this is the minimum land area for an outgrower to break even. This model is visualised in Figure 1 below.

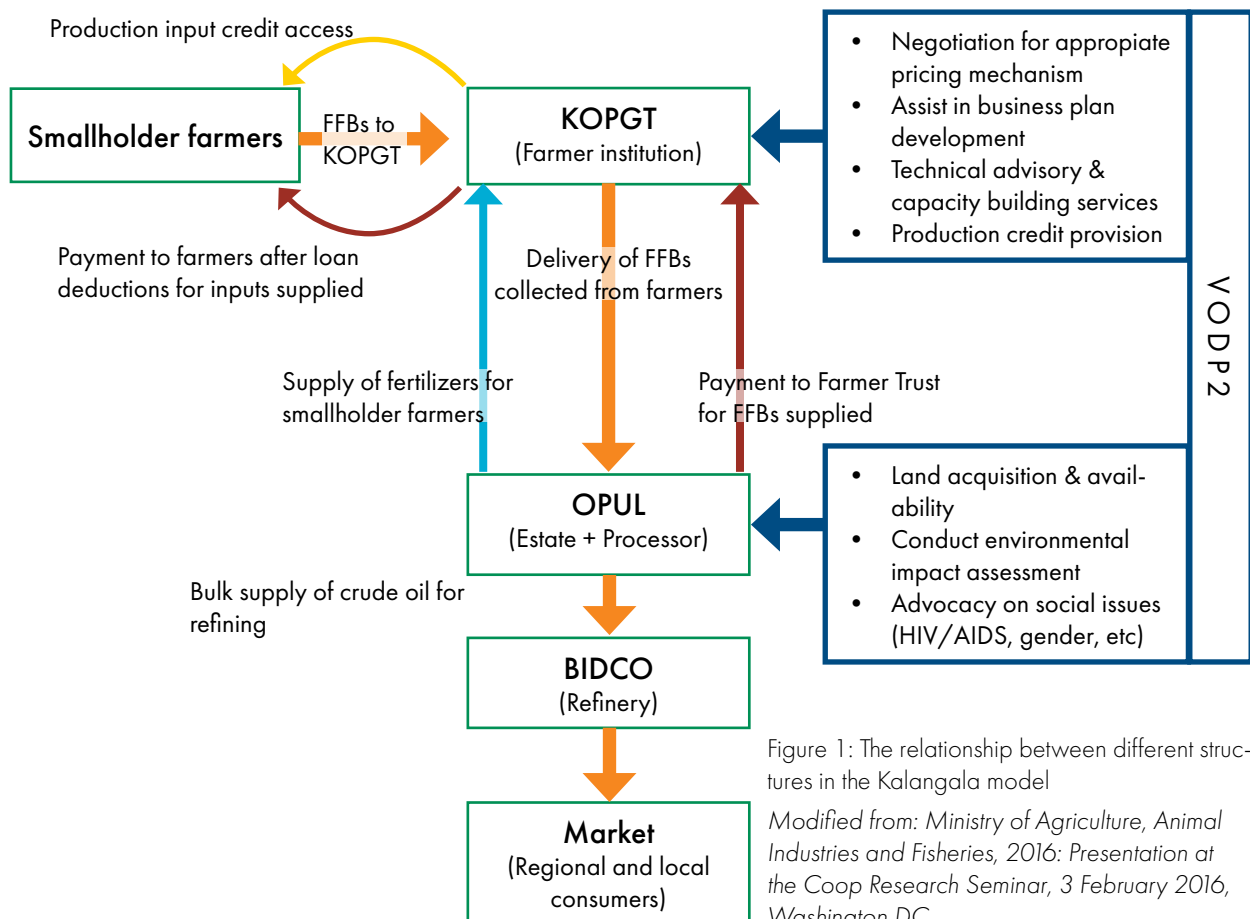


Figure 1: The relationship between different structures in the Kalangala model  
 Modified from: Ministry of Agriculture, Animal Industries and Fisheries, 2016: Presentation at the Coop Research Seminar, 3 February 2016, Washington DC

## 4. Threats and pressures of oil palm development in Kalangala

As indicated earlier, the Government of Uganda had the best intentions to develop the palm oil industry to reducing poverty, contributing to import substitution through domestic production of palm oil whilst contributing towards rural transformation under the new arrangements of the NOPP. Nonetheless, oil palm production presents threats and changing pressures that will give rise to negative impacts if unattended.



### Increasing population and demand for palm oil and its related products worldwide

Population is on the increase worldwide and this presents a major threat to environment and natural resources. The pressure related to palm oil is that it is the most commonly produced vegetable oil, with global demand for palm oil expected to double by 2020, hence more land needed for its production.



### Demand for biofuels

Biofuels are expected to represent over 90% of total renewable energy consumption in road transport by 2022, backed by policies that seek to cut the use of fossil fuels. Production is expected to grow, leading to more opportunities for the NOPP and thus more forest clearance being likely for rapid expansion of oil palm monocropping which is an inelastic pressure on land resources.



### Land uptake

Land for the nucleus estate originally belonged to the local district government and was freely handed over to the developers. To date, the district local government wants to degazette a forest reserve to implement new developments in the district (The Daily Monitor, 2019). Most land planted by outgrowers belonged to absentee landlords and has to date posed challenges since most outgrowers are squatters. Overall, land uptake has led to land use changes affecting biodiversity conservation (see Box 1) and the provisioning of ecosystem services including surface and ground water recharge. The pressures are from establishment of the main oil palm estate, the outgrowers scheme, subsistence agriculture for food crops, more land opened for settlements, increased industrial development, increased need for production, and workers camps among others



## Growing interest in the outgrower scheme

The interest by private land owners to enlist as outgrowers will present additional demand for land in the future. The pressures are that this will require additional vegetation clearance in the islands and conversion of land into plantations. The experience in Kalangala is that even for those who had not taken to oil palm growing, but are neighbours to those who have, are now being forced by circumstances. Oil palms have a wide canopy and if grown by all neighbours of a particular plot, then it will lose productively by being shaded unless it too is planted with oil palms.



## Land tenure security and controversies

Stakeholders have decried the failure to successfully and equitably apply the principles of free, prior and informed consent in acquiring land rights. The district local government was coerced to give away public land and now has a shortage of land for future developments. There is evidence of a lack of clarity in valuation and compensation processes for *bibanja* holders recognised by law, a lack of legal representation, and insufficient consultative processes among others. The pressure is that these will continue, and demand for equitable resettlement that may lead to encroaching on remaining public land in the islands.



## Food security and competing land uses

Conversion of reserved agricultural land into oil palm is having serious impacts on food security in the area with the remaining land not sufficient to produce enough food to meet local demand, resulting into hunger and malnutrition among households that may not earn enough to purchase nutritious foods. Kalangala District used to be the food basket for the neighbouring districts including Masaka, but food is now imported from the mainland into the islands and the food prices have since risen.



## Developments in the islands

These are interfering with ecosystems, river catchments and catchment functions, and this threatens the quality and quantity of ecosystem services in the islands such as quality and availability of water. The pressures are that there is an increase in land taken for economic development, immigrants are settling in fragile land, with increased demand for fuelwood, food and amenities. But above all, there pressure to boost productivity of the land under oil palm plantations, demanding continuous applications of agrochemicals including organic fertilizers which eventually leach into the environment and lake water.



## Urbanisation

In addition to being a threat in terms of land uptake, there is a threat regarding extra demand for social and infrastructural services resulting from population growth (internal population growth plus increasing immigration), with increased demand for water, roads, health institutions, sewerage systems, urban agriculture, recreation and tourism, presenting added pressure to the limited environment and natural resources.



## Pollution

Negative indirect impacts on aquatic life are caused by pollution from the use of herbicides and fertilizer run-off, and sedimentation of the lake from increased soil erosion which further compound the problem of food insecurity. In addition, there is further pollution arising from site clearances, enabling works, the compaction of land leading to increased surface runoff, pollution associated to operation sites, vehicular transportation (with oil spills) as well as release of aerosols and toxic gases into the atmosphere.



## Immigrants

Today, 30% of the population in Kalangala is non-native, with 2% born outside Uganda (Ssemmanda, et al., 2018). As far as oil palm is concerned, 70% of outgrowers are non-native, coming from the neighbouring districts of Masaka, Buikwe, Mayuge, Gomba and Bukomansimbi. The pressure is that Ugandans will continue to demand information relating to how they benefit from this project in terms of poverty reduction and improving the lives of Ugandans

### Box 1: Deforestation in Kalangala due to oil palm development

The land cover trends noted that oil palm has been the major driver of land cover/use change. Prior to oil palm plantations, vegetation in Bugala Island included 70% secondary forest cover, less than 10% cultivated land, the remainder being undulating grassland and swamp (Nangendo et al., 2018; 2019). Trends in land cover change in Kalangala indicated that the dominant land use in 1990 was fully stocked tropical high forest, but by 2015, this had been reduced to less than half (from 52% to 22%) while subsistence farmland stayed relatively similar, but uniform farmland (i.e. oil palm) increased by 8,231 ha, while fully stocked tropical high forest decreased by 15,215 ha. By 2017, oil palm plantations had the highest percentage cover on the islands (28%) at the expense of the tropical high forests (Nangendo, et al. 2019). This has secondary impacts related to biodiversity loss and loss of ecosystem services attributed to these key sensitive areas. Considering the large number of requests for land and proposed investments, there is still growing pressure on the forest estate. For example, there have been some cases of encroachment on forest reserves and other natural resources by outgrowers who plant oil palm, especially in the 200 m buffer zones.



## 5. Lessons from Kalangala for consideration in future developments

1. The Kalangala model cannot be replicated in the new hubs without subjecting it to the principles of sustainable and responsible development, guided by international commitments, best practices, the new National Environment Management Policy, National Environment Act 2019, and associated regulations. For example, making land available at almost no cost at the expense of community livelihoods is a contravention of IFC and World Bank best practices to which Uganda is a signatory. The issue of encroachment on fragile ecosystem is also outlawed in the new environment law.
2. Oil palm investments were linked to infrastructure development under the Kalangala Infrastructure Service that takes care of ferry, electricity power, roads, etc.. The claims were that the plantations are associated with infrastructure development, whereas the government should deliver such development independent of oil palm investments and without compromising community wellbeing.
3. The intended beneficiaries were not always reached as promised during project design and inception. Whereas the project promised employment opportunities, by July 2018 only 1,030 casual workers were employed by the nucleus estate. Outgrowers constitute the largest group, directly benefitting 2,353 people – 1,810 outgrowers and 543 casual workers in their plantations.
4. The project violates environmental principles enshrined in the constitution, provided for by environmental laws and accordingly regulated. It also defies international best practices. For example, unprotected areas have been converted into oil palm plantations, and local demand for forest products such as firewood is then redirected to protected areas. The lake buffer zone of 200 m was not respected by both the nucleus estate and by outgrowers as provided for under Section 8(b) of the National Environment Act 2019, and Schedule 10(1)(q) that requires such action to be subjected to an environmental impact assessment.
5. One of the challenges that the project presents is the continuous and unregulated use of herbicides (Glyphosate and Gramox-one) and pesticides. These are toxic to humans and animals and impact biodiversity. Considering that this is an island environment, any surface runoff will find its way into the lake leading to pollution and the breeding zones for fish will be affected in the long run. There is also very limited effort to control weeds using natural means.
6. Oil palm plantations tend to be grown in monoculture, with strictness in spacing aimed at maximizing space and increasing oil palm production, rather than diversification. This reduces the resilience capacity of the ecosystem in case of failure of that one crop. Trials have been made in Brazil and Malaysia on intercropping. Already, farmers are not happy with the ever fall-

ing prices paid for fresh fruit bunches by the single buyer. If diversification was encouraged, low prices would be offset by the sale of other agricultural crops or a non-agricultural enterprises purposely promoted to act as buffer.

7. Kalangala used to be the food basket for neighbouring mainland districts (such as Masaka) but now depends on neighbouring districts for food. Oil palm is singularly responsible for the new food insecurity now seen in Kalangala, as most arable land is converted through the outgrower schemes.
8. The District Land Board and Uganda Land Commission unjustly leased public land for oil palm plantations to the extent that the district government today faces land shortage for other development plans. The district is now requesting parliament to degazette part of the Lutoboka Central Forest Reserve to create space for infrastructure development such as a cemetery and hospital mortuary among others.
9. There are documented land acquisition injustices associated with oil palm in Kalangala, and outgrower schemes also showed a high risk of social injustices from the outset.

10. There are complaints by farmers about declining prices for fresh fruit bunches, and the lack of alternative markets to the established monopoly. Local opponents of the plantation project are also silenced by upcoming local businessmen that intend to invest in the business. But with no alternative buyers at hand, prices are likely to decrease still further.

11. The provision of government finance through short term loans makes smallholder farmers more vulnerable to the sole private sector player, and loans are accumulating and becoming more expensive to repay. In some instances, plantations require replacement even before the initial loan has been repaid, putting farmers under added risks, especially in the event that tragedies befall their investment and they still have to continue servicing the loans.

These, among others, are reasons as to why the oil palm model in Kalangala should not be replicated in the new proposed hubs.



Fresh Fruit Bunches at the mill in Kalangala

## 6. Impacts and strategies for future development



### Permanent loss of vegetation cover

Over 28% of the forest cover in addition to wetlands have so far been converted to oil palm plantations. The ecosystem services associated with provisioning of forests and wetlands has been altered, perceived by many as catchment degradation.

**Strategic action:** The developer explores and implements biodiversity offsets to counter environmental footprints. NEMA and the District Environment Offices should monitor compliance with mitigation measures provided for in environment and social impact assessments. The Ministry of Agriculture, Animal Industry and Fisheries and the Ministry of Water and Environment must commission and undertake routine audits.



### Surface and ground water contamination

The use of agrochemicals pollutes streams, rivers, the lakes and aquifers, with impacts on humans and on terrestrial and aquatic biodiversity.

**Strategic action:** The developer, the Directorate of Water Resources Management and the District Water Officer should establish water quality check points and undertake routine capture of water quality data and information, and routinely inform stakeholders about the status of water quality around oil palm plantations. Observance of water quality standards is critical.



### Landlessness

Poor management and handling of the resettlement action plan led to a complex mix of socio-economic ills, creating landless and hopeless communities, and abandoned women and children as husbands left with compensation payments.

**Strategic action:** A reassessment of compensation should be undertaken and where appropriate, the Uganda Land Commission, the Developer and the Ministry of Agriculture must provide and implement improved resettlement plans to ensure that social problems are not exacerbated.



## Unsatisfactory distribution of benefits and limited transformation of livelihoods of local people

The project aimed to improve livelihoods, but a report on economic trajectories (Masiga et.al., 2019) showed that most beneficiaries are migrants, with 40% of settlers in Kalangala being new arrivals, and out-migration of indigenous people due to the oil palm project (Bigirwa et.al., 2019). This means that the original targeted beneficiaries of the project are not the current beneficiaries.

**Strategic action:** The Ministry of Agriculture, Animal Industries and Fisheries, OPUL, and the National Oil Palm Project should take a strong interest in a landscape approach to transformation, rather than area specific benefits that lead to in-and-out migration that tend to increase inequalities in the distribution of benefits.

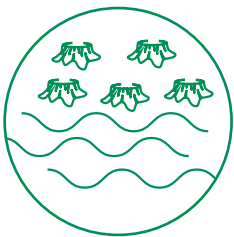


## Food insecurity

Being a monoculture with a closed canopy, mature oil palm plantations at the currently recommended spacing by OPUL does not allow for intercropping with traditional food crops such as banana, beans, cassava and maize. Coupled with this is the lack of fuelwood for cooking the little food available.

**Strategic action:**

1. The Ministry of Agriculture, Animal Industries and Fisheries, OPUL and the National Oil Palm Project should encourage outgrowers to set land aside for agricultural crops.
2. OPUL and NOPP should adopt and adhere to sustainability certification schemes to promote responsible oil palm production that respects social, economic and environmental concerns.
3. MAAIF should issue guidelines to OPUL and outgrowers in the new hubs for oil palm agroforestry approaches that guarantee food security and biodiversity conservation.



## Loss of the Lake Victoria buffer zone

The requirement for a 200 m buffer strip between oil palm plantations and the water body was breached, compromised, or disregarded entirely, with 694 ha of oil palm plantations falling within the buffer zone (Nangendo et al., 2019). About 32% of the required Lake Victoria buffer zone in Kalangala is either oil palm or subsistence farmland.

**Strategic action:**

1. NEMA reprimands and litigates OPUL, outgrowers and subsistence farmers for failure to comply with the law and existing standards.
2. NOPP refrains from encroaching on buffer zones in the planned expansion hubs.



## Encroachment on protected areas

Due to limited land left for agriculture and settlement, communities have turned to remaining protected reserves for provisioning, regulating, supporting and cultural services (Wambi et al., 2009). At the extreme, encroachment is visible, e.g. in Towa forest in Bugala island, or with the complete takeover of gazetted reserves by communities.

### Strategic action:

1. The National Forestry Authority (NFA), responsible for managing central forest reserve, increases law enforcement for increased protection of the remaining reserves.
2. Through corporate social responsibility, OPUL undertakes to restore affected forest reserves through regeneration programmes.
3. NFA undertakes to certify forest reserves in the islands to elevate their status.

In addition to these strategic actions, the following measures are proposed to minimize threats, pressures and impacts of developments on natural resources in Kalangala and future oil palm development hubs.

4. The Ministry of Water and Environment, in collaboration with the Ministry of Agriculture, Animal Industry and Fisheries, should prepare and implement a long-term environment and natural resources management and development plan addressing the identified threats, pressures and impacts.
5. The National Environment Management Authority and the Environment Protection Police Force should develop a zero-tolerance management approach to non-compliance (requiring stringent law enforcement teams at field level), and adherence to environment and social management plans developed alongside environment and social impact assessments.
6. OPUL and outgrowers should develop environmental management systems and plans for the restoration of buffer zones and catchments within the landscape.

## 7. Economic trajectories of oil palm development

OPUL must develop highly competent environmental oversight during operations and that will require specially trained and experienced staff, using robust sustainability certification scheme such as RSPO that is based on principles, criteria and indicators, with continuous improvement whilst enforcing a culture of zero-tolerance for pollution. Currently, oil palm dominates the economic performance of farm crop enterprises in Kalangala, with a profitability range of UGX 3.85 to 10.63 million/ha/yr. The direct benefit is the income associated with oil palm production obtained by outgrowers, and wages for workers in the nucleus estate. Direct benefits are estimated to be at least 25% of the income generated from the nucleus estate. In contrast to income gains, oil palm production also leads to land conversion that results in a loss of income, as farmers have to cede current subsistence production in exchange for income from oil palm. Within Kalangala, it is projected that oil palm production will continue to be the main source of income, but between 2026 and 2027, returns will decline, with other agricultural production from farmland overtaking oil palm assuming the area under oil palm remains the same (Masiga et al., 2019). It is also predicted that, unless prices from oil palm production increase, discounted gross margins show that revenues from oil palm will be overtaken by the future investment in ensuring food security by 2027.

Secondary impacts including the loss of ecosystem services, carbon storage, pollinator services and future fuelwood supply, among others, will also affect income streams. Over the projection period, total losses in ecosystem services and food security increased from UGX 3.37 billion/year in 2018 to UGX 32.7 billion/year in 2030.

The highest losses were associated with ecosystem services of well stocked tropical high forest, from UGX 4.1 to 13.1 billion/year over the projection period, followed by depleted tropical high forest from UGX 2.8 to 8.9 billion/year (Masiga et al., 2019). Losses from increased food insecurity due to land conversion to oil palm were higher than losses from woodland areas.

Hidden costs included impacts on food security that affect more vulnerable groups in a community where income from oil palm is either too low or their direct participation in the oil palm industry is limited. Also, costs such as carbon sequestration and loss of biodiversity affect the country's capacity to implement international commitments to the Nationally Determined Contributions (NDCs). In addition, there are also hidden costs associated with the opportunity cost of long-term impacts on ecosystem services related to wetlands, forestry and fresh water systems, and there are also potential impacts on livelihood resilience and the failure to cope to with lifestyle changes for some community members.

## 8. Conclusions and recommendations

Ensuring the sustainability of oil palm development in Kalangala will require the consolidation of successes seen during implementing the Vegetable Oil Development Project (VODP) Phase I and Phase II, and strategically avoiding social and environmental threats, pressures and impacts as detailed above. Important to note is the need to adhere to sustainability certification arrangements that are based on principles, criteria and indicators. This requires compliance to international best practices and conventions, as well as national laws, ordinances and by-laws. In addition, adherence to statutory monitoring and social and environmental audits is imperative, alongside the undertaking of a total economic valuation that provides trajectories to sustain the viability of current and future investments. For example, contrary to income gains, oil palm production leads to land conversion that results in losses in income as farmers have to cede current subsistence production in exchange for income from oil palm. It also leads to a reduction of food security due to land conversion for oil palm.

Based on the lessons highlighted in this synthesis paper, the overall recommendation is to review the Kalangala oil palm model, capture the positives, and address the negatives aspects, particularly during the next phase of NOPP, with the following specific recommendations.

1. Adherence and compliance to governing laws, international best practices and regulations is requisite.
2. Communication of project objectives to communities and local leaders should be prioritized in the spirit of free, prior and informed consent. This means, hav-

ing meaningful engagements aimed at win-win solutions with communities fully informed and involved.

3. Develop and roll out a chemical and waste management and disposal plan, with clearly assessed impacts and appropriate mitigation measures.
4. Initiate integrated oil palm plantation models including intercropping and agroforestry, with animal rearing and the cultivation of shade tolerant crops.
5. Develop and roll out a conflict and grievances redress mechanism or plan, that irons out injustices so far identified, such as those relating to land.
6. Market information and market stabilization is critical, which can be improved if the monopoly to buy/sell is broken by introducing Ugandan businessmen along the value chain.
7. Revise the scheme providing loans to enable farmers meet their obligations within the cropping cycle.

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