

# Analysis of oil palm projects in Uganda (2002-2018) – impacts and implications for future development



**Polycarp Musimami Mwima<sup>1</sup>**  
**Michael Opige Odull<sup>2</sup>**  
**Richard Ssemmanda<sup>3</sup>**

*1 Programme manager, International Union for Conservation of Nature, PO Box 10950, Kampala, Uganda. pmwima@gmail.com*

*2 Executive Director, Ecological Trends Alliance, JOFRA House, Bugolobi, PO Box 29940, Kampala, Uganda. michael.opige@gmail.com*

*3 Director of Programmes and Operations, Ecological Trends Alliance, JOFRA House, Bugolobi, PO Box 29940, Kampala, Uganda. ssemmarich@gmail.com*

## Summary

This assessment undertaken in July-August 2018 involved a review of available documentations, key informant interviews and focus group discussions in project sites, with supplemental field observations. It contributes to our understanding of the socio-economic and environmental impacts of oil palm development in Kalangala, and in particular on local livelihoods. It also provides insights on whether these experiences and lessons learned are being used to reduce risks of negative impacts in the new hubs to be opened for oil palm extension, specifically in Buvuma district. Subsequently, the report serves to provide recommendation for the proposed implementation of the ten-year National Oil Palm Project (NOPP).

The Vegetable Oil Development Project (VODP) oil palm sub-project was promoted by Oil Palm Uganda Ltd. (OPUL) through a public-private partnership with BIDCO Uganda Ltd. Arrangements were made to build a new industry, establishing a nucleus estate of 6500 ha with 3500 ha for out growers in Kalangala district. Since the inception of the VODP project through its second phase, focus and emphasis has been on achieving of

the set objectives of the project. International Fund for Agricultural Development (IFAD) supervision reports show that this has been achieved considerably but with reports skewed towards; land acquisition, acreage of oil palm planting, achievements in operations of OPUL and KOPGT, agronomy and agrochemicals, price of Fresh Fruit Bunches (FFB) and infrastructure development. These socio-economic aspects are important to enhance community buy in, hence the necessary support for scaling up the new interventions.

While delving into project achievements, there is need to evaluate other primary and secondary impacts of oil palm introduction in these hubs, and provide a clear path to have them improved. Court cases of fraudulent land acquisition in Kalangala that had the involvement of the Compliance Ombudsman Advisor should have served as benchmarks prior to commencement of acquisition in Buvuma, but rather, complaints of skewed and inadequate community sensitization, inadequate and delayed compensation are rife. In addition, Environment and Social Impact Assessments (ESIAs) undertaken concentrated on immediate project impacts within and around the project area, without including a comprehensive mix of other development factors beyond Bugala island. Issues of health, particularly HIV prevalence, pollution of lake waters, migration, environmental issues, and food and fuel security among others, all stretch beyond the project area. Migration between the islands and the mainland are also hampering efforts to manage HIV/AIDS, compounding the impacts. Furthermore, no by-laws on food production were enacted as recommended in the ESIs, with now, the food consumed on Bugala island imported from the mainland.

The effects of oil palm on cumulative pollution of Lake Victoria, adding to that from fish factories, industry and urban areas, also have far reaching impacts. This requires water management and catchment area protection plans, including comprehensive pesticide management, preservation of lakeshore vegetation, and conservation of key habitats to enhance wildlife conservation and ecosystem services. Also, a planned phased approach to mitigate loss of natural forest was not implemented due to time constraints as stated by the company. Now, pressure on protected areas and remaining forests and the resources they provide to local communities is inevitable, as populations grow.

## Introducing vegetable oil developments in Uganda

Uganda imports about 65% of its edible oil and soap needs, but with population growth and rising incomes continuing to fuel an annual growth rate of 9% in domestic and regional demand for vegetable oil and its by-products (Daily Monitor, 2018). Uganda's annual demand for edible oil is currently 120,000 tonnes, against a production capacity of 40,000 tonnes (Manishimwe, 2018). As such, there is growing interest by the Government of Uganda in developing palm oil for import substitution, and the fact that production from even poor yielding oil palm substantially exceeds that from a similar area of annual oilseed crops. The best area for cultivation of oil palm in Uganda was found to be the Lake Victoria islands, notably the Ssesse Islands (IFAD, 1997).

### The Vegetable Oil Development Project (VODP)

Since 1998, the Government of Uganda has invested in domestic production and processing of vegetable oils to meet the increasing national demand. The Vegetable Oil Development Project (VODP), implemented by the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), is the government's selected strategic effort to increase domestic vegetable oil production, while also addressing rural poverty by involving farmers, and improving the health of the population through increased vegetable oil intake. The broader project (not just palm oil) was implemented in Kalangala, Buvuma, and 51 other districts across eastern, northern and north-western Uganda. Regarding the palm oil component, the VODP implementation strategy was to be delivered through a public-private partnership arrangement where the government took sole responsibility for acquiring land for oil palm development, and the private sector partner, M/S BIDCO Uganda Ltd., committed to providing investment, resources and technology for oil palm development and value addition.

#### Phase I (VODP I)

The first phase of VODP started in 2002, completed on 31 December 2011 and closed on 30 June 2012. VODP negotiated a tripartite collaboration between the government, BIDCO (and its joint venture partners), and smallholder farmers, to establish plantations and processing units for production of palm oil on Bugala Island in Kalangala district. The BIDCO conglomerate set up the nucleus estate, the palm oil mill and refinery, and established Oil Palm Uganda Limited (OPUL) to manage the plantations and processing units. The first 10,000 ha were developed on

Bugala Island, with a nucleus estate of 6500 ha, plus 3500 ha of smallholder production, and the building of a mill to process 30-60 t of fresh fruit bunches per day.

The government provided leasehold land free from encumbrances for the nucleus estate for a 99-year period (with renewal options). The tripartite agreement was signed between the government, OPUL and smallholders represented by the Kalangala Oil Palm Growers' Trust (KOPGT). This stipulated that KOPGT would hold 10% of all OPUL shares, and 800 smallholders were targeted to participate in the first phase (Ssemmanda et al., 2018). The International Fund for Agricultural Development (IFAD) interim evaluation of VODP I highlighted its success in reducing dependency on imports (IFAD, 2011). The VODP I report indicated that by the end of this phase, 1286 smallholders had benefitted from the oil palm component of the project, of which 34% were women. Other beneficiaries from the sub-project included 3000 employees at the nucleus estate, the palm oil mill, and the refinery in Jinja (Barbanente et al., 2018).

### Phase II (VODP II)

The second phase of the Vegetable Oil Development Project (VODP II) was approved by IFAD's Executive Board in April 2010, and by the Uganda Parliament on 29 September 2010 (IFAD, 2012). It was funded by IFAD under a loan agreement (No. 806-UG) signed on 21 October 2010, with a total project cost of US\$146,175 million. Of this, US\$70.38 million was from Oil Palm Uganda Limited (OPUL), US\$52 million was a loan from IFAD, a GoU contribution of US\$14.14 million, US\$5.48 million from Kalangala Oil Palm Growers Trust (KOPGT), farmers' contribution estimated at US\$3.89 million, and US\$0.285 million from SNV (the Netherlands Development Organization).

VODP II was an 8-year project with one year devoted to start-up work, and seven years of full implementation due to end on 30 June 2019 (IFAD, 2012). The project had three components; the Oil Palm Development Component, the Oil Seeds Development Component, and Project Management. Under the oil palm development component, the project partnered with BIDCO to establish 10,800 ha of oil palm in phase one and two through a nucleus estate of 6500 ha and a smallholder scheme of up to 4300 ha. As of 2018, the nucleus estate was 6440 ha (99% of VODP target), and smallholder plantations at 4424 ha (94%), of which 3020 ha had reached maturity. A VODP II supervisory report (4812-UG, November 2018) indicated that the project was on target with respect to its major outputs and outcomes.

VODP II had also projected to have established a 2500 ha smallholder oil palm scheme in Buvuma district by December 2018, and to have expanded oil palm smallholder scheme in Kalangala District to other islands, including Bunyama (207 ha) and Bubembe (119 ha). In Buvuma district, the government had so far purchased 7591 ha of land, of which 5114 ha were free of encumbrances and had been offered to BIDCO. Clearing of encumbrances on the remaining 2477 ha already purchased was taking longer than planned and was expected to be completed by December 2018, to be offered to BIDCO by March 2019 (VODP II Report no. 4812-UG). Following the closure of VODP II, the National Oil Palm Project (NOPP) was to take over under a revised arrangement.

### The National Oil Palm Project (NOPP)

The National Oil Palm Project (NOPP) under the Ministry of Agriculture, Animal Industries and Fisheries (MAAIF), is designed to consolidate investments undertaken under VODP I and II to support communities producing oil palm. It is a 10-year project with the goal of 'inclusive rural transformation through oil palm investment'. Now in transition, NOPP is to invest in a number of oil palm investment hubs, defined as agroclimatically suitable areas within a radius of approximately 30 km around a crude palm oil mill where at least 3000 ha of oil palm production can be assured. Three hubs have been identified, Buvuma island, Mayuge, and Masaka/Rakai, with a fourth hub to be identified during project implementation, in agreement with IFAD. The development objective of NOPP is to 'Sustainably increase rural incomes through opportunities generated by the establishment of an efficient oil palm industry, that complies with modern environmental and social standards' (IFAD, 2017). NOPP proposes to empower communities to seize the emerging economic opportunities by developing both non-oil palm farming and non-farming livelihood activities, and to further mitigate potentially negative effects of oil palm investments in areas such as land tenure security, food security, environment and management of natural resources, and HIV/AIDS.

## Rationale of the assessment

Acknowledging the government's strategic plan of expanding oil palm growing and production, it is imperative to improve the understanding of oil palm development based on experiences from implementation in Kalangala. This is in respect to the associated socio-economic and environmental impacts and safeguards in particular, on the livelihoods of people inhabiting the island. This will help to ensure that successful practices are replicated in Buvuma and other identified oil palm hubs, whilst practices with predicted major negative impacts on the environment and livelihoods are avoided.

Insights from both the first and second phases of VODP allow further analysis of possible impacts of proposed NOPP interventions on the environment and livelihoods. Ecological Trends Alliance (ETA) and partners, supported by Tropenbos International (TBI) and the Green Livelihoods Alliance (the Netherlands) is providing such detail of NOPP and IFAD proposals, as the basis for interventions. This is leading to concrete recommendations on selected issues and assumptions, to inform implementation and strategic direction of NOPP and thereby contribute to inclusive and sustainable management of forested landscapes in Uganda. The objectives of this assessment were fourfold namely to: (i) understand the preconditions, implementation and lesson learnt in VODP I, (ii) understand what changed in VODP II, (iii) assess the environmental impact assessments and how preconditions have been addressed, such as mitigation measures and monitoring compliance, and (iv) generate recommendations that IFAD must consider.

## The origins of oil palm in Kalangala

The Government of Uganda's interest in the development of palm oil partly originates from the Comprehensive African Agriculture Development Programme (CAADP), and the government's Vision 2040, National Development Plans, the National Agriculture Policy (NAP), and the Agriculture Sector Strategic Plan (ASSP). CAADP, endorsed in 2003 (Maputo Decision, 2003), was formulated to stimulate reforms in the agricultural sector that would impact on socio-economic growth and sustainable development. It is Africa's policy framework for agriculture and agriculture-led development, and an integral part of the New Partnership for Africa's Development (NEPAD). Through CAADP, Africa believes that agriculture and the food industry can be the engine for growth in Africa's largely agrarian economies, with tangible and sustainable impact on improving food security and nutrition, contributing to wealth and job creation, empowering women and enabling the expansion of exports.

Agriculture is the most important sector in Uganda's economy in terms of food and nutrition security, employment, income, raw materials for industry, and exports to regional and international markets. It employs over 70% of the working population, and contributes 24% to GDP (UBOS, 2016). The Constitution of the Republic of Uganda commits under Objective XI (ii), to 'stimulate agricultural, industrial, technological and scientific development by adopting appropriate policies and enactment of enabling legislation'; and under Objective XXII (a) to 'take appropriate steps to encourage people to grow and store adequate food.'

The agricultural sector has the potential to sustain its historical reputation as the primary driver of economic growth and poverty reduction, and has been given the highest degree of attention in national development planning processes as reflected in the ambitious goals of Uganda's Vision 2040 being 'a transformed Uganda society from a peasant to a modern and prosperous country within 30 years, and subsequent plans and policies. Amongst the Vision 2040 strategies, the government aspires to transform agriculture from subsistence to commercial agriculture, provide food and income security, and create employment along the commodity value chain. The goal of the National Development Plan (NDP II) is to propel the country towards middle income status by 2020 (NPA, 2015). It recognizes agriculture as the backbone of Uganda's economy and one of the priority development areas, emphasizing commercialization of agriculture, agro-processing and marketing as a path to industrialization (NPA, 2015).

The 5-year Agriculture Sector Strategic Plan defines the priorities and interventions guiding its implementation, articulating the national agricultural development priorities in the National Development Plan (NDP II) and the National Agriculture Policy (NAP) 2013. It prioritizes 12 commodities (bananas, beans, maize, rice, cassava, potato, tea, coffee, fruit and vegetables, dairy, fish, and livestock) and four strategic commodities (cocoa, cotton, oil seeds, and oil palm) based on their contribution to household income and food security among others. Investment

over the medium term will focus on: research; extension; pest, vector and disease control; provision of quality inputs; post-harvest handling; improving markets access and value addition.

The Agriculture Sector Strategic Plan observes that production of oil palm requires economies of scale and that it is currently dominated by nucleus estates. But due to the interest shown by smallholder farmers, there is significant potential for improvement of household incomes by integrating smallholders into the scheme. The plan also highlights that despite its considerable potential, oil palm production faces productivity, processing and marketing challenges. Investments to address these were planned to cover land identification and acquisition, plantation establishment and development, with a total of 40,000 ha of land targeted in 14 trial districts.

At district level, development strategies provide an opportunity for local governments to decide what they want, and how development will be influenced over time. In Uganda, five-year district development plans are hinged on the National Development Plan, creating a link to the country's strategic direction and the Vision 2040, thus ensuring the adoption of national sectoral highlighted priorities. Under the Buvuma District Development Plan (DDP II) 2015/2016-2020/2021, the production and marketing services sector's broad objective is 'a competitive profitable and sustainable agricultural sector' (BDLG, 2015) that aims to improve rural incomes and household livelihoods and food and nutrition security. The start of the vegetable oil project is one strategy to achieve their objectives within this planning period. The Kalangala District Development plan recognizes that many more people have adopted crop farming as a livelihood compared to five years ago. Oil palm is now produced at commercial level, and the plan proposed to extend oil palm growing to outlying islands of Bunyama and Bubembe (KDLG, 2015) as one of the investment options for realizing the district's vision.

## Lessons learnt from implementing VOPD

VODP aimed to establish a new oil palm industry with heavy dependence on a single private-sector partner. Phase I operated in a small geographic area with new forms of land use, a plantation/smallholder mode of production (MAAIF, 2003). A nucleus estate of 1000 ha was initially planned on Bugala Island, Kalangala district, together with 3500 ha of smallholder development for a total planted area of 4500 ha. After failed negotiations with the original private sector investor, it was redesigned in 2000-2003 and in the new negotiations with BIDCO Oil Refineries Limited (Kenya), the nucleus estate was increased to 6500ha, with 3500ha for smallholder development, bringing the total area planted to 10,000 ha. The inception phase of VODP in Bugala island was to address high poverty levels in Kalangala district (FAO, 2013; Nsamba-Gyaviira and Kamusiime, 2015), with the first phase ending in June 2012 (FAO, 2011).

### Socio-economic perspectives

Since the inception of VODP through to the end of its second phase, the emphasis was on meeting project objectives, and a series of reviews and supervision reports note that this has been achieved. The focus of these reports was skewed towards the area of land acquisition and planting (nucleus and smallholder estates), achievements in operations of OPUL, KOPGT, agronomy and agrochemicals (where use of paraquat was observed in VODP), price of fresh fruit bunches (FFBs), and infrastructure development. All of these socio-economic aspects are important to enhance community buy-in, hence the necessary support for scaling up new interventions. In the November 2018 VODP supervision report, for example, it was indicated that planting targets in Kalangala were 99% achieved for the nucleus estate and 94% for smallholders, while the target of 2500 ha of smallholder plantings in Buvuma had been moved to NOPP. The strengthening of institutional framework in Kalangala, with registration of the growers' association as a primary cooperative, the completion of the first corporate audit for KOPGT, as well as concerns for the oil palm supporting infrastructure, were well captured.

However, while delving into the achievements regarding tons of crude oil produced, the establishment of the nucleus estate, and the financial sufficiency of KOPGT, there is also need to evaluate other impacts, primary and secondary, resulting from the introduction of oil palm in these hubs, in order to provide a clear path towards improvement. For example, government land acquisition in Kalangala led to contestations, with a court case against BIDCO and the involvement of the IFC ombudsman (CAO assessment report, 2017). Yet similar stories are rife in Buvuma under VODP II, with cases of inadequate community sensitization prior to compensation, and inadequate and delayed compensation. There were also third parties that extended scrupulous loans to cash-constrained community members who had vacated their land while compensation was delayed. These in turn led to a complex of socio-

economic ills, creating landless and hopeless communities, and abandoned women and children as husbands took off with compensation cash. While the project is hinged on improving the livelihoods of island people, a report on economic trajectories (Masiga et al., 2019) shows that most beneficiaries are migrants, with 40% and 70% of settlers in Kalangala and Buvuma respectively being new settlers, while out-migrations of indigenous people due to the oil palm project have been highlighted (Bigirwa et al., 2019).

Being a monocrop with a closed canopy, mature oil palm does not allow for intercropping with traditional food crops such as banana, beans and maize. With expanses of land under oil palm and other hubs targeted, there is a need to highlight issues of food security. The growing nucleus estates, coupled with inadequate knowledge of food insecurity among smallholder farmers, may escalate to the 'sugar-industry levels' in eastern Uganda, where farmers were encouraged to plant sugarcane leading to malnutrition in the region. In addition, there is need to further highlight labour rights and wage levels, the balance of trade (where the nucleus estate is much bigger than combined smallholder enterprises), and price regulation that benefits smallholder farmers in a situation with a single buyer (monopsony). While the reporting on such projects focuses on encouraging economic success, aspects such as those highlighted require urgent attention and the notice of all stakeholders, especially those who fund and support them.

### Environmental perspectives

In VODP I and II there have been commendable endeavours to establish the nucleus estate and land for smallholder production outside national protected forest reserves. However, respect for the 200 m buffer along the Lake Victoria shore as stipulated by law has been under contention with regards to oil palm development, and contraventions have been clearly mapped (Nangendo et al., 2019), with 694 ha of oil palm plantations falling within the Bugala island buffer zone. Issues of pollution have been reported by NAPE and Friends of the Earth, but require justification with measurements against a baseline. Extensive use of agrochemicals, including the earlier use of paraquat in oil palm plantations known for its negative effects on human and environmental health, and gross disrespect of buffer zones including by smallholders lead to increased pollution of the lake, but this needs to be quantified.

In a recent VODP supervision report (IFAD, 2018), palm oil investment in Kalangala is considered to have been carried out in an environmentally sustainable way, and that the project has adopted a high standard of environmental norms that minimizes environment impacts. It is further envisaged that with NOPP, both social and environment officers will be hired to improve the social and environmental aspects of the project. VODP supervision reports tend to mention environment aspects in short paragraphs, while climate change has been reflected as affecting oil seed areas in northern Uganda.

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“The problem we have in this country is that the politicians only focus on economic benefits of the project, forgetting that replacing natural trees with oil palm ‘trees’ will have fundamental environment implications.”

David Kureeba, Programmes Officer, National Association of Professional Environmentalists (NAPE), (Daily Monitor, 7 August 2017).

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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 8231 ha, while fully stocked tropical high forest decreased by 15,215 ha. In Buvuma, fully stocked tropical high forest had been reduced from 45% to 6% between 2000 and 2005 (Nangendo, 2018). Prior to oil palm development aspirations in Buvuma, upland rice coupled with charcoal burning were key drivers of rapid forest degradation. However, with the start of land acquisition in the 2000s, this degradation was accelerated on pretext that after all, BIDCO will have to clear the forests anyway.

The impact of oil palm development on the environment and specifically on biodiversity was already described by Wambi (2009) as destroying rich habitats and as a threat to biological diversity in Bugala island. The pressure on forests and key ecosystem services and the loss of forest resources can either be direct, through clearance

by the project or associated outgrowers, or indirect where communities lose immediate forest resources through land acquisition and then have to turn to remaining protected reserves for provisioning, regulating, supporting and cultural services. At the extreme, encroachment is visible, e.g. Towa forest in Bugala island, or complete takeover of gazetted reserves by communities. A classic case in Buvuma is where several forest reserves are only 'land reserved for forest' but are completely occupied by subsistence farming and homesteads. This land pressure exerted by the project without due consideration of community mobility and migration, extending pressure to other fragile ecosystems such as wetlands, watercourses and rangelands. For example, subsistence farmland already occupies 1936 ha in the lake buffer zone, representing 54% of Buvuma island (Nangendo et al., 2019).

Buvuma has considerable grassland on thin or very thin soils over rock beds that is not suitable for agriculture, but only for low quality grazing land. This covers 19% of the district and 9% of Buvuma island (Nangendo et al., 2019). The VODP land acquisition map in Buvuma excludes such areas as they are not productive even for oil palm. However, when trying to fit the projected 10,000 ha oil palm planting capacity on Buvuma island (Nangendo et al., 2018; 2019), only these rocky grasslands, protected areas and fragile ecosystems will be left for the project beneficiaries (indigenous communities) to occupy, and which are entirely unsuitable for subsistence farming. So where are inhabitants expected to grow their food crops?

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"BIDCO has been allowed to devastate the district. It has destroyed 40% of the natural forest cover on Bugala, the main island."

Harriet Saawo, Kalangala district natural resources officer (International Press Service, 2 November 2009)

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## Assessment of implementation of ESIA recommendations

In undertaking oil palm development under VODP I and II, environment and social impact assessments were undertaken and the following is an analysis of the implementation of their recommendations. The project successfully achieved the planned 10,000 ha as projected with a complete nucleus estate of 6500 ha and smallholder estate of 3500 ha, even after delays in starting the project. This has helped grow project implementation experience in partnership management. It must also be taken into account when considering the costs and benefits on a broader scale, that only 250 km of the projected 310 km of road (81 %) was constructed during the project timeframe, and only 22,662 t of crude palm oil was produced against a projected 34,865 t (65%) (MAAIF 2016).

### Environmental impacts

The loss of existing natural forest was to be mitigated by setting up of woodlots, phasing of vegetation clearance, avoiding the clearing of gazetted forests and planting of cover crops. However, the phased clearance was negated due to time constraints while catching up with lost time of project implementation, and whereas gazetted forests were avoided, woodlots and cover crops have only recently been planted in some areas. The ESIA's ought to have emphasized the need for native cover crop and establishment of native woodlots or leaving patches of forest for biodiversity retention.

For sensitive ecosystems such as riverbanks and lake shores, the ESIA proposed avoiding them, and recommended suitable location of the mill and treatment of effluent to avoid pollution. However, direct and indirect impacts of the oil palm project have impacted sensitive areas as land for other community activities has gradually reduced. The disrespect for lake and river buffers has been noted more directly through the smallholder schemes coupled with the use of fertilizers that potentially find their way into the lake. The ESIA recommended project support to the district to enact desired ordinances, but their implementation is yet to be achieved. The ESIA ought to have recommended support to the district to enforce existing policy and regulations, and that project management undertakes regular audits following well described baselines on issues such as pollution.

Under disposal of wood debris from forest clearance and the decline in timber production, this would lead to reduced availability of forest products. Hardwood species would be converted to timber while other wood products would be converted into compost. It was further anticipated that gazetted forest reserves would continue to supply timber through production zones, while private forests would continue to supply other products. The ESIA also

encouraged retaining trees in farmland, agroforestry and afforestation programmes. However, illegal timber harvesting remained high, with some gazetted forests completely turned into community land as in Buvuma, while private forests continue to dwindle with the expanding network of smallholder plantations in Bugala. The ESIA should have guarded against complete clear felling of large forest areas, and retaining corridors of native forest along with the oil palm estate. With further expansion of oil palm, afforestation is a dream while agroforestry faces stiff competition from the small areas left for food production.

Regarding degradation of soil from erosion and removal of vegetation cover, the ESIA proposed erosion-prone areas to be planted with *Paspalum notatum* along tracks and roadsides, planting cover crop such as *Calliandra* or *Pueraria* also useful as mulch and fodder, while the closed canopy was expected to reduce erosion. Erosion continues to be a challenge in some areas however, with none of the recommended cover crops used, leading to the need for continued use of fertilizers to improve yields, increasing farmer expenses and contributing to pollution.

Key aspects under mammals and reptiles in the ESIA centered on loss of habitat, behavioral change (species turning into pests) and impacts of pesticides. The proposed mitigations included phased vegetation clearance to allow for adaption, preservation of lakeshore vegetation, integrated pest management and protection of key habitats from pesticides. All these have however been either completely negated, or as in the case of rapid vegetation clearance to catch up with lost project time, were only partially implemented. Major aspects by the ESIA included impacts on birds by loss of habitat, soil erosion and siltation. Mitigation was centered on avoiding 'important bird areas' and protection of the mandatory 200 m lake buffer. Although such areas were avoided, the pressure of the project on land and forests did not spare them from indirect encroachment.

It is essential to retain vegetation cover along streams, rivers and lake shores, and use of good mechanical and agronomic soil and water conservation systems. But in some cases, buffers have been grossly disrespected, sometimes by smallholder farmers because oil palm has occupied all other land. ESIA's must also recognize that climate change is not just a factor of changing vegetation cover and soil and water conservation. Other pollution control measures and protection of carbon sinks within fragile ecosystems among others are important climate change control factors. Climate variability and extremes, together with conflict and economic downturns, have been sighted as threatening to erode and reverse gains made in ending hunger and malnutrition (SOFI, 2018).

### Socio-economic factors

With increased pressure on food and energy, development of by-laws on food production and increasing agricultural extension services were proposed as remedial measures. Where land is an increasingly scarce resource with expanding oil palm, efforts geared towards food production and security seem not to match, and no by-laws on food production have been enacted as recommended. Although importation of food from the mainland to Bugala in particular was previously not an option for the people of Kalangala, currently, most food consumed on the island is imported from Masaka and beyond through the Bukakata landing site. For Buvuma, though land acquisition is still ongoing, it already has a low food security score and dietary diversity as compared to Kalangala (Masiga et.al., 2019).

Spring wells were lost during clear felling of forest, and lowering of water tables was noted as a potential impact. Provision of boreholes and use of lake water were proposed as remedial measures, but the average distance of communities to existing water sources has increased for many, with some walking up to 3 km to collect water. Where boreholes exist, maintenance is a problem with some broken and not in full use. Safety of lake water for home use should also be scrutinized as levels of pollution, sedimentation and eutrophication increase, with a need for continuous monitoring through periodic laboratory analyses needed as an element of the project.

Under the strain on social services, the ESIA proposed construction of a fully-fledged hospital to handle serious cases, a healthy facility within the nucleus estate, and provision of additional safe water sources. Temporary housing during start-up phases was also recommended. This was justified especially with an increasing population away from mobile fishing communities. The state of health services on islands where oil palm development is currently undertaken still requires a revisit of this recommendation and water sources need improving. However, housing at least has been adequately addressed especially within BIDCO estates for their staff.

With regards to HIV prevalence, programmes were to be initiated and existing ones improved. However, HIV prevalence on the islands continues to soar with the current prevalence in Kalangala district almost ten times the national average. This is partly as a result of migration, including prostitution in a quest for financial gains as the project expands.

### Cumulative project impacts

Overall, ESIA concentrate on immediate project impacts within the surrounding and immediate project sites and ecosystems, without a comprehensive mix of other development factors beyond the islands and on the waters of Lake Victoria. Issues of health and particularly HIV prevalence, pollution of lake waters, migration, climate and environmental stresses, energy and food insecurity among others all stretch beyond the project area and manifest differently over the project period especially in combination with other competing developments.

Examples include increasing pressure on forests and their resources as populations grow while private forests disappear, leaving added burden to the protected forests. Lake Victoria is already under pollution stress from surrounding fish factories, processing industries, and urban area. This cumulative pollution has far reaching impacts and should be acknowledged, with remedial measures that go beyond project areas and timeframes into integrated water management and protection of catchment area plans. Another example is the spillover effects of HIV/AIDS as migrations between the islands and the mainland continue. This has a tendency of eroding and undermining affective programmes to manage the epidemic beyond the project area, which will have overreaching impacts on general health services.

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“How sure are we that we shall gain from this financially? Won't it become a failure like so many other agricultural projects the government has come up with? Won't it take us to total poverty since we shall have already sold off our land?”

Bukaayo village member, Busamuzi sub-county; Kanyerera-Namuziru, Buvuma (NOPP ESIA, 2015)

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### Addressing of VODP ESIA issues in NOPP

The NOPP ESIA (2015) is a comprehensive document addressing most of the missing links within the earlier VODP ESIA, and includes mitigation measures, which if followed meticulously, may yield positive results. It included a wide range of stakeholders from line ministries, departments, fisheries organizations and district technical staff, but with almost no engagement of civil society. Cumulative and residual impact issues are now well captured and they emphasize the severity of land conflict and the shift in community structure due to increased pressure on remnant forest. But the cumulative impact assessment (CIA) is only focused on Buvuma, and does not extend to the broader Lake Victoria area that surrounds the project area.

The ESIA highlights the possible dangers of the current development of oil palm to the loss of species diversity, and focuses on the need to use biodegradable agrochemicals and to allocate only 10 acres (2.5 ha) per smallholder to allow for crop diversity and food security. The Buvuma scenario is premised on the potential unreliability for smallholder farmers to produce fresh fruit bunches, hence the larger size of the nucleus estate. The following points are considered crucial to supplement the ESIA.

- Clear and concrete plans for alternative livelihoods, with by-laws, types of needed food crops and gazetted land for food production, as stipulated for oil palm, to respond to anticipated food insecurity and malnutrition.
- Oil palm being a labour intensive crop and generally a male activity, means that there is a need to strengthen gender balances in the oil palm production chain.
- Use of local labour should be acknowledged, to benefit intended beneficiaries in Buvuma, rather than to import more than 75% of the labour needs as it has happened in Kalangala.
- Government development of social structures and infrastructure should occur in tandem with the speed of oil palm development, to prevent scenarios of high populations with very low social services.

In moving forward, such positive criticism of the project is intended to streamline future activities for improved inclusivity, sustainability and success, and should be a welcome move in a bid to build partnerships to provide linear support or auxiliary and alternative positions.

## Overreaching factors in oil palm development

The development of NOPP for import substitution because of the high dependency of Uganda on edible oil imports is an applaudable venture, and VODP has contributed to an increase in national vegetable oil self-sufficiency from 30% in 2008 to 60% in 2018 (NOPP, 2018). The adopted nucleus estate and smallholder farmer model aimed at inclusiveness and the balancing of socioeconomic development and was a key component in the initiation and establishment of the oil palm industry in Uganda. However, a more desirable model must include more land for smallholder farmers than for the nucleus estate, and that smallholders are well facilitated and trained in sustainable oil palm growing. Expansive nucleus estates come with the need for land acquisition, but this does not improve rural incomes as people meant to benefit from oil palm have to leave the land for nucleus estate establishment.

Land acquisitions have been a source of delay and conflict, in as much as it was envisaged that by December 2018, phase II of the project would have established 2500 ha of oil palm in Buvuma, but this has not been achieved. Rather, the government has so far purchased 7591 hectares of land, of which 5114 ha are free of encumbrances and have been offered to BIDCO while clearing of encumbrances continues on 2477 ha and was to be offered to BIDCO by end of March 2019. Although expansion is expected under NOPP, it is advisable to put more emphasis in resolving existing challenges before thinking of expansion. Exploring the organization of smallholder farmers without displacement of communities in the process of expansion of oil palm growing to new hubs should be the focus as noted in the NOPP final project design.

Benchmarking of project targets and successes has been well done in terms of land acquisition, targeted planting and development of both nucleus and smallholder estates, infrastructure such as roads, ferries and docking sites with clear figures along project and supervision reporting. The monitoring, verification and reporting framework being implemented by the project is however, silent or usually makes only passing mention of other socioeconomic issues such as water scarcity, protection of water catchments, pollution, health (including HIV/AIDS), food insecurity, areas of tree planting, and expectation management, of which no data is presented. These along with the lack of clear benchmarks, hamper the socioeconomic welfare of the communities that are the intended project beneficiaries. NOPP, if well implemented, proposes to hire and equip a social and environmental team to empower community members to seize the emerging economic opportunities, by developing both non-oil palm farming and non-farming livelihood activities, and mitigate the potentially negative effects of oil palm investments in areas such as land tenure security, food security, social and HIV/AIDS issues, environmental protection, and management of natural resources (NOPP, 2018).

Within the monitoring plan outlining potential impacts and proposed mitigation measures, there are anomalies in defining some mitigation measures. One example is under loss of existing natural vegetation, where it was misconceived that establishment of oil palm will add to forest cover. However, plantations like oil palm are low biodiversity areas and cannot compare with natural forest. As much as 50% of all deforestation with related loss of biodiversity on Borneo between 2005 and 2015, for example, was driven by oil palm development (Meijaard et al., 2018). While focusing on oil palm establishment and development, there is need to develop land use plans to harmonize development and conservation, promote enrichment planting in forests and other degraded habitats, and promote natural ground cover rather than introducing alien cover crops (Namaganda, 2018).

Policy is an integral part of sustainable development. Conflicting policies can be used as a conduit to undermine the success and sustainability of projects. The Uganda agriculture modernization policy implicitly encourages monocultures and agrochemical-intensive farming systems that contribute to loss of genetic diversity through over-specialization and pollution of subsoil ecosystems (NEMA, 2016). The National Biodiversity Strategy and Action Plan II (NBSAP II) (2015-2025) recognizes the implied negative impacts of encouraging such farming systems, and recommends integrating environmental concerns in all development-oriented policies, planning and activities at national, district and local government levels, with full participation of the people (NEMA, 2016). In order for line ministries, project management and intended beneficiaries to achieve the goals together, harmonizing of such policies will be crucial.

## Current status of NOPP and IFAD proposals

The National Oil Palm Project (NOPP) was proposed to start in the financial year 2018/19. NOPP will draw on the experiences from the oil palm investment in Kalangala under VODP and VODP II and is to build on the opportunities generated by a growing domestic palm oil industry. It is focused on transformation of the economy by developing areas suitable for oil palm production to sustainably improve the incomes and livelihoods of rural communities. The project targets to establish 15,000 ha of oil palm, of which 12,000 ha are to be planted on individual smallholder plantations in areas of 2ha or less, supported by NOPP development loans that will be rolled out over a maximum of 2 years. The ten-year project will start with smallholder development on Buvuma Island in 2019/20 followed by the Mayuge Hub in 2020/21, Masaka Hub in 2021/22, and the fourth hub in 2023/24. The project's due end is 2027/28. (IFAD, 2017; NOPP, 2018).

The total cost of the pending oil palm programme is US\$210 million, one third paid from global aid (the International Fund for International Development, IFAD), part of the World Bank Group, i.e. from public (tax payers) funds/pockets. The total cost of NOPP inclusive of taxes and duties is estimated at US\$210 million (UGX 815 billion), with US\$76 million (or 36%) financed by an IFAD loan and grant, US\$91 (43%) from the private sector, US\$ 14 million from reflows of development loans disbursed under VODPII, and US\$17 million (8%) by the farmers themselves in various forms, and US\$ 11 million (5% from the government).

The Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) is the lead implementing agency for the NOPP and works with other government agencies as needed to ensure effective programme implementation. A multi-agency Project Steering Committee (PSC) chaired by MAAIF, and meeting twice every year, will provide strategic guidance to programme implementation, review the Annual Work Plans and Budgets, and review implementation progress and impact. It will also provide high level advice on key issues raised by programme management on which it requires guidance.

The NOPP has three components namely; scaling-up smallholder oil palm development, livelihoods diversification and resilience and oil Palm Sector Development Framework that will establish the enabling conditions for the sustainable scaling-up and long-term development of the sector. The NOPP design is characterized by key features encompassing scaling up and replicating the successful elements of the Kalangala experience, increasing total area under smallholder production from the current 40% to around 67%, mitigate the risks associated with rapid economic development, ensuring compliance with social and environmental safeguards for GoU, IFAD and the Roundtable on Sustainable Palm Oil (RSPO) and supporting the development of national policy framework to guide the long-term development of the sector. The NOPP approach revolves on individual smallholder engagements (80%) than nucleus estate establishments (20%) with an estimated 30,800 households (154,000 individuals) directly benefiting from the NOPP activities. Of these, 11,000 households will benefit as smallholder oil palm growers and 19,800 from the alternative economic livelihoods (IFAD, 2017; NOPP, 2018).

The NOPP will strengthen existing VODP Project Management Unit Monitoring and Evaluation (M&E) team by including a Monitoring and Evaluation and Learning Manager supported by a Knowledge Management and Communication Officer. The national office will have a Monitoring and Evaluation Officer and assistant for each oil palm development hub in addition to Social and Environment officers. NOPP will further undertake ESIA's and related studies for NEMA and IFAD approval with additional High Conservation Value (HCV) assessments for smallholder areas done by the private sector partner. To address increased pressure on the environment caused by the increased economic activity associated with oil palm cultivation, the NOPP plans to support Environmental Management Campaigns in each hub.

Uganda has good and well-thought out policies and plans but these fail at the implementation stage. The NOPP has a wealth of good ideas that could uplift community livelihoods as well as sustain the environment. However, there are gaps in assessing cumulative impacts of the project that will pile over other existing impacts from both social and economic perspectives. The pressure caused by the project on existing health facilities, economic dynamism, environment and ecosystem services and the plight of indigenous communities require in-depth analyses. Focus should therefore go beyond campaigns to include rehabilitation of the degraded habitats as a result of project implementation (extended pressure) and in addition, compliance to national environmental policy instruments,

including the implementation of mitigation measures outlined in the project monitoring and evaluation frameworks or further extend to IFC compliance given the origin of funding from IFAD.

## Assessment framework to appraise NOPP implementation

Sustainable management, ecosystem conservation or restoration is key to adaptation strategies that take into account the multiple social, economic and cultural co-benefits for local communities. Local livelihoods and food security depend on equitable, continuous and environmentally sound access to the benefits that sustainable agricultural lands, forests, savannas, wetlands and waters provide. An assessment framework for NOPP would contribute to the benefits to be accrued from oil palm development if there is a real interest in deploying cost-effective adaptation approaches, and is presented below.

Objective	Actions	Goal outcomes
Characterization of target populations in scaling out oil palm development	<ul style="list-style-type: none"> <li>Analysis of demographic characteristics of the target communities</li> </ul>	Understand population dynamics in target landscapes for effective engagement in oil palm development
Assess vulnerability to land use changes in target oil palm development landscapes	<ul style="list-style-type: none"> <li>Assess land tenure and availability for oil palm development without compromising food security</li> <li>Assess current livelihood options and how these have changed over time</li> <li>Assess community perceptions towards the nucleus model approach in oil palm</li> </ul>	Understand prospects of livelihood improvement and resilience in target oil palm development landscapes, and the vulnerability profile of target communities
Determine enabling conditions for sustainable scaling up of oil palm developments	<ul style="list-style-type: none"> <li>Assess level of consultation in design of NOPP</li> <li>Assess the different probable opportunities and approaches in upscaling NOPP</li> <li>Assess NOPP governance arrangements that ensure transparency, efficiency, and responsibility</li> </ul>	Enabling conditions established for sustainable scaling-up and long-term oil palm development sector
Define adaptation priorities for oil palm, considering analysis of the context, vulnerability profile and ecosystem services	<ul style="list-style-type: none"> <li>Assess essential landscape and ecosystem components to increase adaptive capacity in the face of oil palm development</li> <li>Map the most vulnerable ecosystem components and hot spots in target landscapes for current and future climate/livelihood impacts</li> <li>Increase future adaptive capacity according to trends under different scenarios</li> <li>Perform a cost-benefit analysis of adaptive measures that best fit the socio-economic context</li> </ul>	Adaptive priorities assessed and measures put in place

## Recommendations

Oil palm has been produced in Kalangala for over 12 years, with many lessons learned. But to ensure mistakes are not repeated in Buvuma when planting begins, actions are needed by the government, donors and BIDCO.

1. IFAD and the government should establish socio-economic and environmental benchmarks to better assess future reporting, and they should also ensure reporting formats remain consistent.
2. IFAD and the government should support local governments to include environmental and social monitoring and evaluation indicators of oil palm projects in District evaluation frameworks.
3. The government should include instruments in NOPP that oblige BIDCO/OPUL to support smallholder inclusivity in oil palm production, e.g. Creating Shared Value (CSV), allowing OPUL to maximize revenues whilst offering benefits that add to the local community livelihoods.
4. BIDCO/OPUL should better support outgrowers to help in their compliance with environmental considerations such as respecting lake buffer zones and wetlands.
5. The national regulator (NEMA and MAAIF) should strengthen environmental and social compliance, including residual and cumulative impacts, through regular and publicly-available audits and monitoring reports.

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