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Quick Scan (Review) of the ESIA for the
EcoFarm Irrigation and Organic
Sugarcane Project, Chemba District,
Sofala Province, April 2016



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Advice of the Secretariat

To Netherlands Enterprise Agency (RVO.nl)

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From The Netherlands Commission for Environmental Assessment (the NCEA)

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Subject Quick Scan (Review) of the Environmental and Social Impact Assessment (ESIA) for the EcoFarm Irrigation and Organic Sugarcane Project
Chemba District, Sofala Province, Mozambique, April 2016

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1. Introduction

An Environmental and Social Impact Assessment (ESIA) report has been prepared for the ecofarm irrigation and organic sugarcane project in Chemba district, Sofala province, Mozambique. The project aims to establish, install, operate and maintain an irrigation infrastructure initiative designed to irrigate large-scale sugarcane plantations which will produce organic sugar for the European markets.

The project will include an irrigation scheme comprising both centre-pivot and dragline irrigation systems to serve approximately 2 800 hectares of organic sugar cane and 100 hectares of vegetables and other food crops; the progressive establishment of a herd of up to 5 000 local Nguni-type cattle, whose manure will be used as organic fertilizer for the sugarcane; and a sugar mill with capacity to process 2 000 tonnes of sugar cane a day. The sugar mill complex will include a cogeneration plant that will produce sufficient electrical power to service the mill equipment, and the electrically powered irrigation equipment.

The project will involve the following productive entities;

- A utility company that will own, operate, maintain and in some areas lease out the irrigation infrastructure.
- Two agricultural cooperatives (Lambane and Chapo), comprised of smallholder farmers from the local communities.
- A third cooperative comprising about 15 well-trained agriculturally qualified and committed re-migrating youths.
- A commercial sugar cane production company, EcoFarm Moçambique Lda (EcoFarm), who will assist the cooperative farmers with technical expertise and equipment and will buy their produce. The project will be led by EcoFarm.

Since the start, the project scope has changed several times, and the project will now be implemented in two phases. That is why the number of hectares mentioned above, will now be less in this phased approach. According to the the ORIO project plan of December 2015, the sub objectives relating to the project are to:

- Install, operate and maintain agricultural infrastructure relating to this project
- Develop an irrigation system to irrigate 1,130 hectares of organic sugarcane, 250 ha of fodder crops and 100 hectares of food crops during phase 1
- Develop an Energy Island
- Develop the institutional and technical capacity of the 2 established co-operatives of Coco Lambane and Coco Chapo
- Deliver high quality organic sugarcane to EcoFarm Mill
- Increase small-scale farmer's income levels
- Drive continuous improvement through the Project's Environment and Social Management Programme

In a document called 'Excerpts from submission to ORIO' of May 2016, the numbers of hectares are slightly different again (400 ha. Sugarcane and 100 ha. food crops to the Coops and 240 ha (expandable to 500 ha) sugarcane for Ecofarm).

1.1 Approach to this Quick Scan

The project is benefitting from ORIO funding from the Government of the Netherlands. The RVO, who manages the ORIO fund, has requested that the Netherlands Commission for Environmental Assessment (NCEA) review the final ESIA report, with the aim to provide observations and comments on the quality of the report, preferably before June 25, 2016. This input will subsequently be used to inform the ACORIO meeting planned for July 8, 2016.

This advice is a so-called NCEA 'Advice of the secretariat'. As the available time for review of the voluminous ESIA (and related documents) was rather limited, this review has been prepared based on a desk review only, and therefore does not constitute an in-depth technical review of the ESIA report contents based on a verification 'on the ground' in Mozambique. To remedy this handicap, it was decided to engage external expertise (an expert that recently performed a mid term review of another sugarcane project in Mozambique, focusing mainly on socio-economic impacts), to complete the knowledge available at NCEA's secretariat on the nature and scale of the proposed interventions and potential impacts, general knowledge of the area where the interventions will take place and experience from similar projects in Mozambique.

Due to late arrival of the final ESIA however, the external expert was no longer available at short notice. It was therefore agreed with RVO that this ESIA review would be done in 2 stages:

1. A 'quick scan' done by the NCEA secretariat, leading to some main observations/pointers to be used in the ACORIO meeting;
2. A bit more detailed review performed by the external expert at a later stage in July. This more detailed review can then be used by RVO for their site visit they intend to plan in July. Aside from informing RVO decision-making, this ESIA review advice can also be used in decision-making by the local authorities. The final translated reports still have to be submitted to MITADER in Maputo as well as to local authorities in Beira/Chemba. Upon submission there is a 45 day period prior to environmental license issuance by MITADER.

The NCEA does not express an opinion on the project itself, but focuses on the quality and completeness of the ESIA. In this quick scan review, the NCEA has also checked against:

- the Approved Terms of Reference (ToR) for the ESIA report, dd. 29-01-2014 (MICOA, including a 2 page annex to the approval letter with conclusions and recommendations);
- the NCEA Advice on quality of the Draft Environmental Pre-Feasibility Scoping Study (EPDA) and Terms of Reference by Eco-Farm Sugar Plantation July 2013, issued in August 2013.

The NCEA also received copies of the reviews done by AGRI-IQ and by GCS Water and Environmental Consultants (7 p. Nov. 2015, 1 p. June 2016) of the ESIA and Special Studies.

Usually, the NCEA reviews an ESIA report as a stand-alone document, meaning that all information necessary for decision making should be contained in the ESIA report, without requiring the reader to consult other documentation to complement gaps in information in the ESIA itself. However, in this particular case, the available information consisted of other information in addition to the Volume 2 ESIA report of April 2016, namely:

Volume 3: Specialist Reports (more than 500 p.)

Volume 4: Environmental and Social Management Program, April 2016 (about 80 p.)

Volume 5: Resettlement Plan (Livelihood Restoration and Improvement Plan, LRIP), July 2014 (about 100 p.)

Report on Public Participation carried out as part of the ESIA (around 25 p.) of February 2016.

Given the limited time available, this NCEA review has focused on the 2016 ESIA, ESMP and Public Participation report only. The specialist reports (too bulky) and LRIP (outdated) have not been considered.

In the following chapters, the NCEA first presents key observations in relation to the national ESIA requirements and the technical contents of the ESIA report (chapter 2). In chapter 3, the NCEA elaborates in more detail how conclusions have been reached, by providing observations on each chapter of the ESIA report.

2. Key observations

2.1 Conformity with national EIA procedure

Recently, the EIA regulations in Mozambique have been up-dated. The new EIA decree (2015–54) has been approved on December 31, 2015. These new regulations are not reflected in the ESIA report of April 2016. The requirements as to review by MITADER however have not been changed. This means that upon submission of the ESIA report, MITADER has a time frame of 45 days for review (Article 17 and 19). In this timeframe, MITADER can ask for supplementary information. In that case, the 45 days timeframe will be prolonged with the time required to submit the complementary information. Upon approval of the ESIA report, the environmental license can be issued (Article 20 and 21).

- The NCEA advises to make mention of the new Mozambican EIA requirements in an update of the the Preamble of the ESIA study (see also 3.4 and 3.5 of this NCEA advice).

2.2 Quality of Technical content

Overall, the ESIA report provides a very comprehensive description of relevant information concerning the legal framework, environmental and social baseline, impact assessment and contains some clear management recommendations. Public participation results and the Environmental and Social Management Program have been documented in separate reports.

However, since the first version of the ESIA report in 2014, the project has undergone several changes (e.g. the two phased approach and change of scope/number of hectares). These changes are not reflected in the last version of the ESIA report of April 2016. The reader thus does not get a clear picture on how many hectares each cooperation member will finally receive, and how many of these hectares are meant for irrigated sugarcane and how many for fodder crops. The project description in the ESIA therefore is not reflecting the latest state of affairs.

The NCEA expects however that the information in the ESIA report will still be sufficient, as the kind of impacts will be similar, regardless of the scope of the project. Nevertheless, it would be helpful to provide an update of the ESIA once the exact locations of the works (e.g.

lay out of pivots, irrigation canal, roads etc.) are known, including the related footprint and affected population. Also only then a final version of the Livelihood Restoration and Improved Plan can be drafted (current one of 2014).

- The NCEA is of the opinion that a complete updated version of the ESIA is not necessary but recommends to provide an update in the Preamble and Non Technical Summary (see also 3.1, 3.2 3.7 and 3.8 of this NCEA advice).

Regarding the report on Public Participation the NCEA has the following observations:

- The NCEA is of the opinion that although the stakeholder participation meetings have been held according to what was planned, there is no real evidence of what has been done with the observations made and whether and how they have been incorporated in the final ESIA of April 2016. NCEA suggests to incorporate in Chapter 4 of the ESIA report but also in the Non Technical Summary a summary of the observations made including how these observations were considered. The report also seems to be in draft form still and contains quite some errors regarding dates for instance. An update is therefore advised (see also 3.6 of this NCEA advice).

The ESMP report is very comprehensive and includes all the relevant components. What is lacking however is an implementation schedule for measures that must be carried out as part of the project, and the capital and recurrent cost estimates and sources of funds for implementing the ESMP.

- The NCEA advises the further elaboration and detailing of the ESMP, including designation of the organisations executing each measure and the necessary budget and budget coverage (see also Chapter 4 of this NCEA advice).

2.3 Additional comment

In its review of the scoping document in 2013, the NCEA suggested to pay special attention in the ESIA to the social impacts like:

- How will the project guarantee equitable access to irrigated lands and equitable shared benefits from production to avoid social disruption? How is legal certainty arranged for male and female farmers through the cooperatives?
 - Are there differences in men's and women's roles that may affect the long term future of the project and the environment?
 - Is there any risk of soil salinization or other long term cumulative effects?
 - Is the potable water supply (now groundwater boreholes) somehow affected by the project?
 - What are long term prospects for maintenance of the irrigation infrastructure and what may realistically happen when the project ends? What will the project area look like? How will members of the cooperatives be assured of a reasonable income in the long term taking into consideration potential high costs for maintenance?
- These topics have not yet been clearly addressed in the ESIA report, and the NCEA suggests to have the NCEA external expert have a closer look at these issues in the more detailed review will is still to come.

3. Detailed observations per chapter

The structure of this chapter in the NCEA advice will follow the structure of the ESIA report

3.1 Preamble

The preamble explains that the Draft ESIA was ready in September 2014. Subsequently, EcoFarm requested that the submission of draft reports and public disclosure be delayed while consideration was given to the inclusion of a sugar mill and captive power plant on the site, to optimise the production of sugar from the sugar cane. The mill and power plant were not included in the previously approved Environmental Pre-Feasibility Scoping Study, and the Ministry (MITADER) was approached for permission to expand the scope of the environmental and social assessment for the project to include the sugar mill and power plant. Permission was also requested to increase the proposed irrigated area from 2 100 ha to 2 860 ha, and also to increase the proposed size of the cattle herd from 3 000 to a maximum of 5 000 head. Permission was granted by MITADER in a letter dated 8th September 2015. Accordingly all reports have been reviewed and revised to include the sugar mill and power plant, and to report on additional impacts that may arise because of the new infrastructure.

As explained in Par. 1.1 of this NCEA advice, the project is still subject to changes (e.g. the two phased approach). These changes are not reflected in the last version of the ESIA report of April 2016. Throughout the ESIA report there are also some inconsistencies regarding the number of hectares (e.g. '2860 for organic sugar cane and 100 for vegetables and food crops' on p. vii and '2100 and 50' on p. 1 of the Introduction).

The reader thus does not get a clear picture on how many hectares each cooperation member will finally receive, and how many of these hectares are meant for irrigated sugarcane and how many for fodder crops. This poses some doubts regarding the questions whether the allocated hectares will be sufficient for the individual cooperation member to build a sustainable livelihood (see also observation by MICOA on Jan. 29, 2014, sub-item 11: '*clarification of areas for communities, for growing vegetables and other crops given that 0,1 ha will not help to alleviate poverty*').

- The NCEA recommends to rewrite the Preamble, clearly explaining what the latest project scope is and whether and how this might have implications (or not) for the information in the ESIA report. Otherwise a reader of the ESIA report will have a limited understanding of the activity (the information is now scattered amongst different documents such as the ACORIO Go-no Go decision document of July 2015, the ORIO project plan of December 2015 and the latest changes of 2016). It is also recommended to include maps or drawings of the latest designs of the activities (e.g. the maps in the ESMP of April 2016 provided in Fig. 3.1 and 3.2 show a different set-up).

The NCEA expects that the information in the ESIA report will still be useful, as the kind of impacts will be similar, regardless of the scope of the project (the ESIA has been prepared for 2860 ha and even speaks of a future expansion, Goba area). The issue of the number of ha available to each cooperation member however remains of point of attention.

3.2 Non-technical summary

The Non technical summary lacks information about the Stakeholder engagement process (see also observations in par. 3.6 of this NCEA advice), and on alternatives being considered (see also observations in par. 3.9 of this NCEA advice). Furthermore, regarding the assessment of impacts, the summary indicates that a total of 53 impacts were identified during the establishment / construction phase of the project, and a total of 60 impacts for the operational phase. Also it is indicated that the large majority of negative impacts can be mitigated to Moderate or Low negative by the implementation of proposed mitigation and management measures. The only post-mitigation high negative impact relates to the loss of Mopane Woodland, which has already been extensively cleared on the project site. It will be necessary to remove remaining trees to establish the irrigated areas, and even the loss of a small number of the few remaining trees is considered to be a high negative impact. However, in a Non technical summary the reader would be interested to read about the kind of impacts and not the number only. Chapter 14.2 of the ESIA report identifies 2 key issues and gives management recommendations for each of them. This would be the kind of information that decision makers and the project affected people would like to read in a Non Technical summary.

A 'detailed summary of impacts' is also part of the Non Technical Summary. P. xiii and xiv can be removed, because these are overlapping with the information provided already in the previous text. Moreover, they only give numbers, which is not very informative information. The tables on p. xv to xii give an overview of the impacts' significance rating without, and with mitigation for the different project phases (pre-project, establishment/construction and operation). One would expect at the end of these tables a kind a summary to identify the main environmental and social issues/risks/concerns and what can be done about them (as in Chapter 14 of the ESIA report).

- The NCEA recommends to include/adjust the above information in an up-dated summary of the final ESIA.

3.3 Introduction (Chapter 1)

No observations, other than the ones already made for the Preamble (project information is not according to the latest set-up/design). Therefore it is recommended to include the most recent information or explain the differences in numbers.

3.4 Legal framework (Chapter 2)

Table 2.1. listing the applicable Mozambican legislation still refers to the old EIA regulations. The latest one has been published in the Boletim da Republica on December 31, 2015 (Decreto 54-2015).

On p. 10 it is mentioned that *'a water use licence will be required for this project and will be applied for from the Regional Water Administration (ARA-Zambeze) once an environmental licence has been issued. In addition, it will be necessary to develop all water-related plans for the project (Riparian Zone Management Plan, Stormwater Management Plan and Surface and Groundwater Monitoring Plan) in close cooperation with ARA-Zambeze'*.

This is especially important also seen the importance posed to this issue also by MICOA on Jan. 29, 2014, sub-item 12 and 14 regarding concerns on groundwater).

The NCEA observes that this chapter gives a quite extensive description of not only all applicable legislation in Mozambique, but also of the IFC performance standards, and Equator principles and some other international policies and guidelines applicable to the project. However, this is limited to a description of relevant provisions in each of these laws or regulations, but gives no further detail what conditions or restrictions these pose to this specific project on this specific location.

MICOA's suggestion of Jan. 29, 2014 to include a number of relevant pieces of regulation (as mentioned under items 1–4 and 17) has been followed.

- The NCEA recommends to put more effort in demonstrating how the project meets or contributes to the legislative and regulatory requirements. However, as it is unlikely that this ESIA will be re-written, the NCEA recommends to at least include the new 2015 EIA requirements and pay due attention to the water license as required by ARA Zambezi.

3.5 ESIA process (Chapter 3)

See observations above: paragraph 3.2 should in fact be re-written to according to the new 2015 EIA requirements.

- The NCEA expects that this can also be done as part of the Preamble, explaining briefly about these recent changes in the EIA regulations.

3.6 Stakeholder engagement (Chapter 4)

Par. 4.7 explains about the public disclosure and review period and procedure following the release of the Draft ESIA Report:

- The release of the Draft ESIA Report will be advertised in a national newspaper and on a radio station.
- The villages affected will be informed at least 15 days prior to the meeting
- The Specialist Reports, the Draft ESIA Report, including an Executive Summary and the framework ESMP will be presented at meetings with Interested & Affected Parties in the period. All stakeholders identified to date will be invited to the meetings.
- In terms of the primary stakeholders, meetings will be held in each of the four villages and those further interested will be invited to the meetings in Chemba and Beira. Meetings will be held in Portuguese and translated into Sena. Posters will be used to clarify the presentation. Time will be allocated to questions and answers and to small group discussions to enable community members to consult amongst themselves before asking their questions or expressing their comments. All meetings will be voice recorded, minuted and photographs taken.
- A full set of reports (in Portuguese) will be deposited in: two places of public access – one in Chemba and another in Beira, as well as in the EcoFarm offices in Chemba and Beira, the CES office in Maputo, and on the CES Website.

- Executive Summaries of the ESIA Report (in Portuguese) will be distributed to all section chiefs and village chiefs and all secondary stakeholders attending the meeting. NGOs are invited to the meetings.

A separate report has been made on the Public Participation events held in February 2016 on the draft ESIA report. This report (Feb. 2016, 27 p. in Portuguese) however still seems to be a draft (contains yellow marked texts, still has the heading 'EPDA Sept. 2012' and has some errors in the dates, e.g. September 2013 in stead of February 2016).

Chapter 5 of this report gives a summary of main concerns of the consulted people (socio-economic benefits and great expectations, employment opportunities but also conflicts, concern about land rights, water use and resettlement and compensation. However, the PP report only highlights these concerns, but does not provide information how these concerns would be addressed. Appendix 5 to the Public participation report lists questions posed by several people (both from 2013 and 2016), but only a very limited number of these questions/concerns comes with an answer.

- The NCEA is of the opinion that although the stakeholder participation meetings have been held according to what was planned, there is no real evidence of what has been done with the observations made and whether and how they have been incorporated in the final ESIA of April 2016. NCEA suggests to incorporate a summary of the observations made in Chapter 4 of the ESIA report, but also in the Non Technical Summary, including evidence of whether and how these observations were considered.

3.7 Project description –irrigation and cattle farm (Chapter 5)

Now the project set-up will be phased and the scope has changed, the description of the project activity in this Chapter is not up-to-date anymore. E.g. Figure 5.2 still represents the 'old' situation. In addition, from this figure it is very difficult to see where the main irrigation channel will be positioned, how long/deep it will be, how the roads network will be designed (10–15 km. of new mayor roads will be developed, in addition to minor roads etc.).

Par. 5.5.9 regarding water supply and irrigation would require some further elaboration as this is one of the main components that falls within the ORIO funding.

Par. 5.5.10 is about the Tsoni farm, and speaks about approximately 3 000 cattle a year that will be slaughtered to provide organic beef for the European market. Will some of this meat also be available to the cooperation members?

- The NCEA recommends to provide more details about the irrigation infrastructure, lay-out/dimensions etc. and to explain whether there will be any negative implications of a phased approach (stage 1 and 2). Also some clarification could be asked about the availability of meat to the cooperation members.

3.8 Project description – sugar mill and power plant (Chapter 6)

The description of these two project elements is rather technical and very much a description of process technology for which at the NCEA secretariat the technological knowledge is not available to judge the quality of the descriptions.

- The NCEA can contract an expert in the matter to have a closer look at these components of the ESIA if RVO would so require. Especially for the co-generation power plant it would be interesting to assess the contribution of this plant to the climate change goals of Mozambique.

3.9 Alternatives (Chapter 7)

The NCEA recommendations (August 2013) on the EPDA/Scoping document regarding alternatives seem to have been followed when it comes to the fundamental alternatives (different type of development, different location).

The design and lay-out alternatives, technology alternatives and scheduling alternatives have also been briefly described. Especially the design and lay-out alternatives might require some further elaboration taking into consideration the two-stage approach chosen.

3.10 Description of the biophysical environment (Chapter 8)

The descriptions in general seem to be rather complete. The chapter on hydrogeology and water use is somewhat limited, it does not describe groundwater availability and use (e.g. number of boreholes etc.). This was also a remark made by MICOA (Jan. 2014, observation number g) and 12 and 14). However, this information is made available in Paragraph 9.2: social amenities and basic village infrastructure.

3.11 Description of the socio-economic environment (Chapter 9)

No observations, very elaborate description. It becomes clear that local people currently very much depend on their immediate surroundings. E.g. land is used for agriculture, cattle, energy production = wood, groundwater boreholes, and other ecosystem services). But they also suffer from droughts and floods.

3.12 Assessment of impacts (Chapter 10 to 13)

These 4 chapters (10: biophysical impacts, 11: social and economic impacts, 12: waste, transport and by-products impacts and 13: cumulative impacts) provide thorough assessments including extensive listings of mitigation measures. There are quite some mitigation measures that show overlap (same mitigation measure for different kind of impact, but this is perhaps inevitable in the methodology/structure of reporting chosen by the ESIA consultant). Also one sometimes loses oversight in the large number of mitigation measures that will be needed/are proposed.

3.13 Management recommendations (Chapter 14)

As already noted before, this Chapter is in fact a summary of the main issues, and should also feature in the Non Technical Summary

3.14 Preliminary sustainability appraisal (Chapter 15)

This chapter has been added, but is not normally part of an ESIA. It provides a checklist based largely on the Principles of the Roundtable on Sustainable Biomaterials. It is not really clear why this chapter has been included. Moreover it seems to be an old version still (some text in red and there is still mention of 'Maat van verk Montford', the previous co-initiator).

3.15 Conclusions (Chapter 16) and appendices

No observations

4. Environmental and social management plan

The ESMP of April 2016 (although the title page still refers to 2014) is largely a repetition of the mitigation measures that are also mentioned in the ESIA report.

The EcoFarm ESMP has identified the need for a number of individual management plans that will be required to manage the range of environmental and social impacts identified in the ESIA process (Table 8.1). These management plans have been aligned with project components and phases, to ease development, implementation and monitoring. The management plans identified for specific project phases include 2 plantation establishment (pre-construction and construction/planting) management plans, 4 operational phase management plans and 1 closure and decommissioning phase management plan. In addition, 15 cross cutting management plans that deal with important management themes, such as waste and biodiversity, rather than project components, were identified. All these plans must be developed prior to commencement of the identified phase.

Table 8.2 lists the environmental and social Impacts and mitigation measures including management plans required (25 p.). This is exactly the same information as already presented in the ESIA report.

The ESMP is very comprehensive and includes all the relevant components. What is lacking however is an implementation schedule for measures that must be carried out as part of the project, and the capital and recurrent cost estimates and sources of funds for implementing the ESMP.

- The NCEA advises the further elaboration and detailing of the ESMP, including designation of the organisations executing each measure and the necessary budget.