

## **H. Questionnaires received from stakeholders**

QUESTIONNAIRE TO BE ADMINISTERED TO THE INTERESTED AND AFFECTED PARTIES DURING ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF THE PROPOSED SEVEN FOLKS 40 MEGAWATT SOLAR POWER PLANTS - EMBU COUNTY.

Name of the respondent... NEPHAS NJERU Date... 13/9/17

Location of respondent... Embu County

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?

Positive since is to tap a natural resource

b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes... ☒ No... ☐

Briefly give an account of such effects?

- Reduction of grazing area
- Restricted movement to the affected area
- Water source
- 

c) What do you think should be done to alleviate the negative effects arising from this type of development?

Public Participation during and before implementing the project to create awareness in order to mitigate the negative effects

2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-

a) Effects on neighbours? Restricted to open areas of grazing thus reduction on feeds

b) Effects on water resources? distance to water source might may increase

c) Effects on traffic? Short cuts and movements restriction

d) Effects on recreation sites? Sites might be affected

e) Effects on animals (birds, mammals, reptiles e.t.c)? eco-systems are affected thus human animal conflict may increase

f) Effects on soil? Not sure

g) Effects on agriculture? Not sure

h) Effects on Housing? demand for housing may increase do to workers on site

i) Effects on area infrastructure? the infrastructure improvement due to lighting and roads to ease movement

j) Effects on area Security? Lighting if any may reduce crime - increased security

COUNTY EXECUTIVE COMMITTEE  
GENDER, CULTURE, CHILDREN & SOCIAL SERVICES  
EMBU COUNTY

2017



Effect on Aviation..... No. sure.

Effects on Vegetation (Flora)..... destruction.

What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?

Minimize excavation on the land and enhance to utilize same power to improve environment eg. Pump water for small irrigation in the area.

What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?

Increase stakeholder forum and public participation.

Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?

Yes..... No.....

If yes give an account of such sites.....

What should the proponent do to protect the sites or identify alternative sites?

Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. ....
- b. ....
- c. ....

How will each be affected?

- a) ....
- b) ....
- c) ....

What benefits do you think the proposed development will bring?

Increase the power to the national grid.  
Improve lighting to community.  
Increase industrialization.

Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes..... No.....

Give your reason(s). It is a national project on gazetted land where Ouka community involvement is done, the project will surely succeed.

Other additional remarks/ comments: It is important to look on the direct benefit of the neighbors from the project in order to increase ownership.  
of the respondent. Nephat Njeru

Signature.....

Number of the respondent..... 4685 359  
070 266 266..... P. O. Box: 36 Embu

return your completed questionnaire to:

Management Limited

Office Suites, Jabavu Lane

45897, Nairobi, 00400, Kenya. Tel: +254 020 2354592, Mobile: +254 727220790, +254 726 935 760





**QUESTIONNAIRE TO BE ADMINISTERED TO THE INTERESTED AND AFFECTED PARTIES DURING ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF THE PROPOSED SEVEN FOLKS 40 MEGAWATT SOLAR POWER PLANTS –EMBU COUNTY.**

Name of the respondent.....Date.....

Location of respondent.....

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?

Highly Recommended

b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes ☒ No ☐

Briefly give an account of such effects?

i) the issue of access to fishing sites

ii) .....

iii) .....

iv) .....

c) What do you think should be done to alleviate the negative effects arising from this type of development?

increase the co-operate social responsibility by the kengen Company towards the surrounding communities eg provide and develop a fish landing site and an access road to the site

2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-

a) Effects on neighbours? it is good for the community if some benefits are shared and also if the negative effects are mitigated upon

b) Effects on water resources? minimal

c) Effects on traffic? None

d) Effects on recreation sites? None

e) Effects on animals (birds, mammals, reptiles e.t.c)? don't know

f) Effects on soil? don't know

g) Effects on agriculture? minimal

h) Effects on Housing? minimal

i) Effects on area infrastructure? None

j) Effects on area Security? .....



✓

- K) Effect on Aviation.....
- i) Effects on Vegetation (Flora).....
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?  
Yes.....No.....

If yes give an account of such sites.....

What should the proponent do to protect the sites or identify alternative sites?

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?
- a. ....
- b. ....
- c. ....
- How will each be affected?
- a) ....
- b) ....
- c) ....

- 8) What benefits do you think the proposed development will bring?
- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes.....No.....  
Give your reason(s).....

- 40) Other additional remarks/ comments

Name of the respondent.....*Daniel K. Wambui*.....Signature.....*[Signature]*.....

ID Number of the respondent.....*10968412*.....

Tel: .....*0724 100038*.....P. O. Box: .....*danielkypalaw@yahoo.com*.....

Please return your completed questionnaire to:

Eco Plan Management Limited

Silverpool Office Suites, Jabavu Lane

P.O. Box 45897, Nairobi, 00400, Kenya. Tel: +254 020 2354592, Mobile: +254 727220790, +254 726 935 760



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Name of the respondent MICHAEL MUTO NITWA Date 13/9/2017

Location of respondent MAUNGA

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?

OK

b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes ☒ No ☐

Briefly give an account of such effects?

- i) WATER (Lack)
- ii) No area for grazing
- iii) fire wood
- iv) access road to Dam

c) What do you think should be done to alleviate the negative effects arising from this type of development?

giving piped water  
giving electricity to members  
of public health improvement of school

2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-

a) Effects on neighbours? No- water from the dam,  
No area for grazing

b) Effects on water resources? No- water for animal  
people

c) Effects on traffic? No- access road no  
water area

d) Effects on recreation sites? People go to fetch  
water and for their animals

e) Effects on animals (birds, mammals, reptiles e.t.c)? No- water for the animals (birds)

f) Effects on soil? Cut to waste for the  
recreation for the projects

g) Effects on agriculture? Any one who may have access for  
farm

h) Effects on Housing? No

i) Effects on area infrastructure? Yes

j) Effects on area Security? No



- 20
- k) Effect on Aviation..... yes
- i) Effects on Vegetation (Flora)..... yes
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?  
by giving the use of public access road  
by giving water for people  
by giving electricity
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
giving awareness of the proposed project to members of
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?  
 Yes..... No. ☒

If yes give an account of such sites.....

What should the proponent do to protect the sites or identify alternative sites?  
NO

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. NO
- b. NO
- c. NO

How will each be affected?

- a) NO
- b) NO
- c) NO

- 8) What benefits do you think the proposed development will bring?  
electricity, job opportunity, poverty reduction,  
infrastructure for the access road.

- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes..... No. ☒

Give your reason(s). It will improve the standards of living & environment

- 40) Other additional remarks/ comments

The project should be started

Name of the respondent. Michael Mutho Signature. [Signature]

ID Number of the respondent. 10329240

Tel: 0725 35 2432 P. O. Box: 213 - Kariakoo

Please return your completed questionnaire to:

**Eco Plan Management Limited**

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Name of the respondent... ~~S. M. N. M. N.~~ MUNENE Date: 13/9/2017

Location of respondent.....Malina

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?  
 OK, Though little has been achieved since the intervention of power and lightening company  
 - Coverage of <sup>power</sup> supply very poor to the community of Mkuungu hoc -
- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?  
 Yes ☒ No ☐  
 Briefly give an account of such effects?  
 i) - Community members graze their animals on the land  
 ii) - Fishing is part of livelihood to community  
 iii) - Beekeepers  
 iv) - Wildlife (small)
- c) What do you think should be done to alleviate the negative effects arising from this type of development?  
 - Translocate all the activities affecting the above
2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-
- a) Effects on neighbours? - fuel shortages i.e. firewoods, - Pastures for the livestock.
- b) Effects on water resources? - Long distance of H<sub>2</sub>O source
- c) Effects on traffic? - Long routes to the river, firewoods
- d) Effects on recreation sites? - Cut off, recreation areas like fishing point, swimming, game picnic sites.
- e) Effects on animals (birds, mammals, reptiles e.t.c)? - Immigration of birds mammals, Extinct of reptiles and the same conflicts.
- f) Effects on soil? - degradation of soil
- g) Effects on agriculture? - NO ~~sub~~ subsistence farming
- h) Effects on Housing? - Raw materials on Temporarily Housing will be cut off.
- i) Effects on area infrastructure? - Access roads will be limited.
- j) Effects on area Security? - upgrading of security will be realised.



2  
C/L

- k) Effect on Aviation. — NIL
- i) Effects on Vegetation (Flora). — deforestation will be observed
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?
- Afforestation, Power supply to the community  
— improve water supply, upgrade access roads
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?
- Enhance security, educate community on importance of the project.
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?
- Yes..... No ☒

If yes give an account of such sites.

What should the proponent do to protect the sites or identify alternative sites?

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. Keruki P. school
- b. Mixed Machanga Sec.
- c. A.M.S. Machanga

How will each be affected?

- a) power supply will be required easily
- b) .....
- c) .....

- 8) What benefits do you think the proposed development will bring?

— Employment to the youth

- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes..... No ☒

Give your reason(s).

N/A

- 40) Other additional remarks/ comments

Provide Pipe H<sub>2</sub> - to Maun's Market

Name of the respondent.

Munere group

Signature.

[Signature]

ID Number of the respondent.

Tel: 0720-917 939

P. O. Box: 18 km<sup>2</sup>

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Name of the respondent... NJUE JENNIFER Date... 13/9/2017

Location of respondent... MAVURIA

1. a) What is your opinion regarding the **Proposed Seven Folks 40 MW Solar Power Plant** project development on the above named area?

It is a very good idea.

- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes ☒ No ☐

Briefly give an account of such effects?

- i) Fishermen of the area may not have access to their fishing grounds.
- ii) The community members who fetch water in the river may not have access to the river.
- iii)
- iv)

- c) What do you think should be done to alleviate the negative effects arising from this type of development?

The community should be educated on the importance of the project.  
Provide water for the community and electricity.

2. What do you feel are the likely effects of the **Proposed Seven Folks 40 MW Solar Power Plant** on the following:-

- a) Effects on neighbours? Grazing area will be reduced. No area for cutting firewood and fishing.
- b) Effects on water resources? Water fetching points will be affected and getting to the river is a long distance.
- c) Effects on traffic? Access road need to be improved.
- d) Effects on recreation sites? Recreation area will be reduced.
- e) Effects on animals (birds, mammals, reptiles e.t.c)? Habitat for wild animals will be reduced.
- f) Effects on soil? There is a possibility of soil pollution.
- g) Effects on agriculture? People who cultivate in that land will be displaced.
- h) Effects on Housing? People get building materials like poles from this area and so they will be affected.
- i) Effects on area infrastructure?
- j) Effects on area Security? Security will improve.



- 7k) Effect on Aviation. The soil will be treated in the name of Aviation.
- i) Effects on Vegetation (Flora). A lot of trees will be cleared.
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?
- They should bring the water nearer to the community.
- They should improve security, infrastructure etc.
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?
- Hold barazas for sensitization of the society.
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?
- Yes..... No ☒

If yes give an account of such sites. N/A

What should the proponent do to protect the sites or identify alternative sites?

N/A

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. N/A
- b. ....
- c. ....

How will each be affected?

- a) N/A
- b) ....
- c) ....

- 8) What benefits do you think the proposed development will bring?

1. Job opportunities
2. power availability at cheaper rates

- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes..... No ☒

Give your reason(s).....

- 40) Other additional remarks/ comments

It is a very good and beneficial project.

Name of the respondent Edith, Jennifer, Tabitha, Recheal. Signature [Signature]

ID Number of the respondent 3764122, 20750915, 7726792, 7035731

Tel: 0120619845 P. O. Box: 202 KIRITIRI

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Name of the respondent Njuli, Njiru, Mutini, Muthira Date 13/09/2017

Location of respondent Mau Mau

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?

It a good project and we allow it to continue

b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes ☒ No ☐

Briefly give an account of such effects?

- i) destruction of medicinal plants
- ii) No grazing area for our cattle
- iii) Closure of routes to fishing
- iv) destruction of lifely weed for animals

c) What do you think should be done to alleviate the negative effects arising from this type of development?

to educate community

2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-

a) Effects on neighbours? No trespassing

b) Effects on water resources? water points will be very far

c) Effects on traffic? No

d) Effects on recreation sites? No

e) Effects on animals (birds, mammals, reptiles e.t.c)? they will die

f) Effects on soil? will require require soil conservation

g) Effects on agriculture? No

h) Effects on Housing? No

i) Effects on area infrastructure? No

j) Effects on area Security? require police force



- 3) Effect on Aviation..... N/A
- i) Effects on Vegetation (Flora).....
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?  
N/A
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
use advocacy skills
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?  
Yes..... No..... ☒ N/A
- If yes give an account of such sites..... N/A
- What should the proponent do to protect the sites or identify alternative sites?  
N/A
- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?  
a. N/A  
b. ....  
c. ....  
How will each be affected?  
a) N/A  
b) ....  
c) ....
- 8) What benefits do you think the proposed development will bring?  
- Create employment  
- Bring development
- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes..... No..... ☒  
Give your reason(s)..... N/A
- 40) Other additional remarks/ comments  
N/A
- Name of the respondent..... Njuki, Muthoni Njirir Nyaga Signature..... [Signature]
- ID Number of the respondent..... 0269487
- Tel: 0720445556 P. O. Box: 213 Kikilili

Please return your completed questionnaire to:

Eco Plan Management Limited

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Name of the respondent Francis N. Musitho Date 14/9/2017

Location of respondent KIRITIRO TOWN STIP

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?  
Income generating to the area /  
Energy Generating to the  
community.
- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?  
 Yes YES No No  
 Briefly give an account of such effects?
  - i) Traffic Congestion
  - ii) Road being used by the traffic
  - iii) Dust Emission during implementation
  - iv) Destruction of vegetation
- c) What do you think should be done to alleviate the negative effects arising from this type of development?  
Community to be sensitized on  
the workers and money landing  
to the area. Because of social Behaviour.
2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-
  - a) Effects on neighbours? Social Behaviour to change  
and Income to increase.
  - b) Effects on water resources? Increase water resource  
as the power will not require water.
  - c) Effects on traffic? Increase in traffic filling  
material and wearing of roads.
  - d) Effects on recreation sites? pollution of the air.
  - e) Effects on animals (birds, mammals, reptiles e.t.c)? Ref Eviction of  
animals residing in the affected area.
  - f) Effects on soil? protect soil erosion on  
the affect area.
  - g) Effects on agriculture? no
  - h) Effects on Housing? lighting in the affect area  
to be milder from the project.
  - i) Effects on area infrastructure? wearing of roads
  - j) Effects on area Security? security to be improved



- k) Effect on Aviation..... *No*
- i) Effects on Vegetation (Flora).... *planting of trees to be done*
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?  
*Sensitize the community that the project is to be implemented*
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development? *Inform area residents to be through meeting by local administration*
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?  
 Yes..... No..... *No*

If yes give an account of such sites.....

What should the proponent do to protect the sites or identify alternative sites?

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. *No*
- b. ....
- c. ....

How will each be affected?

- a) .....
- b) .....
- c) .....

- 8) What benefits do you think the proposed development will bring?

*Income to the community*

- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes..... No..... *No*

Give your reason(s).... *It doesn't affect the environment and reduction of carbon emission*

- 40) Other additional remarks/ comments

*Social behaviour to be addressed on HIV prevention*

Name of the respondent... *Francis N. Mutitu* ..... Signature... *FM*

ID Number of the respondent... *16028398*

Tel: ... *0702706360* ..... P. O. Box: *73 Kiritiri*

Please return your completed questionnaire to:

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Name of the respondent..... James N. Nyoro ..... Date..... 14/9/2017 .....

Location of respondent..... Kirititi Town .....

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?

A very good idea.

b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes..... ☒ ..... No..... ☐ .....

Briefly give an account of such effects?

- i) Forest cover
- ii) Livelihood aspiration for neighbours
- iii) Increase distance to Kanburu dam for water
- iv) Free movement of wild animals to be affected

c) What do you think should be done to alleviate the negative effects arising from this type of development?

Make sure a most minimum 10% forest cover is retained community aspiration to be addressed (livestock herders to be considered, water pump from Kanburu dam required to be considered to neighbours).

2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-

a) Effects on neighbours? Herders, bee keepers, distance to water source (Kanburu dam) to be affected.

b) Effects on water resources? Water resources would be sealed off or distance increased.

c) Effects on traffic? No effect.

d) Effects on recreation sites? To be sealed off or distance increased.

e) Effects on animals (birds, mammals, reptiles e.t.c)? Will be affected - Good environment for all animals.

f) Effects on soil? Is not checked will be affected adversely (erosion - by water and / or by wind)

g) Effects on agriculture? Adversely affected as some people were depending on grazing in the land (though illegally).

h) Effects on Housing? No negative effect on housing.

i) Effects on area infrastructure? NONE

j) Effects on area Security? Adversely affect the security as solar panels etc. can be stolen as they attract people of all characters.



- 6
- k) Effect on Aviation..... *N/A*
- i) Effects on Vegetation (Flora)..... *destruction would take place.*
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?  
*Have treated water in the area, local community be given employment (unskilled) even skilled where applicable.*
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
*be involved in their area of undertakings so that work quality may not be compromised.*
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?  
 Yes..... No..... ☒

If yes give an account of such sites..... *N/A*

What should the proponent do to protect the sites or identify alternative sites?  
*N/A*

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a) .....  
 b) ..... *N/A* .....  
 c) .....

How will each be affected?

- a) .....  
 b) ..... *N/A* .....  
 c) .....

- 8) What benefits do you think the proposed development will bring?  
*Employment, addition of power to the national grid*

- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes..... No..... ☒

Give your reason(s).....

- 40) Other additional remarks/ comments

*None*

Name of the respondent..... *James N. Njoroge* ..... Signature..... *James Njoroge*

ID Number of the respondent..... *0618893*

Tel: ..... *0728645847* ..... P. O. Box: ..... *73 - 6043 KIRITIRI*

Please return your completed questionnaire to:

**Eco Plan Management Limited**

Silverpool Office Suites, Jabavu Lane

P.O. Box 45897, Nairobi, 00400, Kenya. Tel: +254 020 2354592, Mobile: +254 727220790, +254 726 935 760



# QUESTIONNAIRE TO BE ADMINISTERED TO THE INTERESTED AND AFFECTED PARTIES DURING ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF THE PROPOSED SEVEN FOLKS 40 MEGAWATT SOLAR POWER PLANTS - EMBU COUNTY.

Name of the respondent..... Totire Muto ..... Date..... 14/9/2017 .....

Location of respondent..... Embu .....

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?

It is a good project that will help to reduce the emissions in the atmosphere from the fossil fuel.

- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes..... ☒ ..... No..... ☐ .....

Briefly give an account of such effects?

- i) Those that depended on charcoal business will be affected
- ii) Forest cover will be affected
- iii) Grazing area for the community will be reduced
- iv) Hazardous materials as in manufacturing

- c) What do you think should be done to alleviate the negative effects arising from this type of development?

To work with surrounding communities and address the same issues and transfer the trees to the surrounding areas.

2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-

- a) Effects on neighbours? Cheap means of power, however there might be micro climate effect
- b) Effects on water resources? More water available that was used for hydro power generation
- c) Effects on traffic? Might take long route due to penching of the project area
- d) Effects on recreation sites? Many visitors wishing to see the project that are not many within the country
- e) Effects on animals (birds, mammals, reptiles e.t.c)? Those dwelling might be affected hence disturbed
- f) Effects on soil? Soil erosion might take place due to reduced coverage hence the wide stoppage
- g) Effects on agriculture? Reduced vegetation will affect wind and water runoff which might affect agriculture. No measures put on place
- h) Effects on Housing? No residence living in the project area hence no effect
- i) Effects on area infrastructure? Improved infrastructure expected due to the project who would make roads within
- j) Effects on area Security? Security will be ok depending on how the community accepts the project as it benefits them.



- 9
- k) Effect on Aviation..... *no effect*
- i) Effects on Vegetation (Flora)..... *Reduced Vegetation*
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?  
*Transfer Vegetation to an alternative area within and build infrastructures for the community within.*
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
*Advise the Community on the importance of the area and ~~the~~ agree on alternatives.*
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?  
 Yes..... No..... ☒

If yes give an account of such sites..... *N/A*

What should the proponent do to protect the sites or identify alternative sites?  
*N/A*

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. ....  
 b. .... *N/A*  
 c. ....

How will each be affected?

- a) .....  
 b) .... *N/A*  
 c) .....

- 8) What benefits do you think the proposed development will bring?

*Infrastructures will be improved*

- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes..... No..... ☒

Give your reason(s)..... *Climate friendly*

- 40) Other additional remarks/ comments

*The project is well decided for since that area have many sun days with many sun hours.*

Name of the respondent..... *Jatani Muto* Signature..... *[Signature]*

ID Number of the respondent..... *9810993*

Tel: ..... *0712 375127* P. O. Box: *171-60100 Embu*

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Name of the respondent... MAUREEN GLEGWA ..... Date 13.9.2017 .....

Location of respondent... MWEA NATIONAL RESERVE .....

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?

It is a noble idea which is likely to have an overall positive impact on the environment and the livelihoods of the surrounding community.

- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes ☒ No ☐

Briefly give an account of such effects?

- i) It may lead to habitat degradation which will affect the crop ecosystem
- ii) It may lead to loss of wildlife especially birds due to the solar mirrors.
- iii) Improved livelihoods and economic empowerment
- iv) Possible exposure of workers to occupational diseases.

- c) What do you think should be done to alleviate the negative effects arising from this type of development?

- i) Capacity building of the local communities.
- ii) Proper mitigation measures to reduce incidences of wildlife deaths.
- iii) Rehabilitation of the project site upon completion of installation.

2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-

- a) Effects on neighbours? Job creation for the local communities will lead to improved livelihoods.
- b) Effects on water resources? There is likely to be less reliance on water for electricity production which will result in increased water being available for wildlife and local communities.
- c) Effects on traffic? There is likely to be increased traffic in the project area due to large number of people attending the project site.
- d) Effects on recreation sites? .....
- e) Effects on animals (birds, mammals, reptiles e.t.c)? Birds deaths may occur due to their being burned by the solar plants mirrors.
- f) Effects on soil? Soil toxicity due to seepage of waste construction materials into the ground.
- g) Effects on agriculture? Reduced agricultural output due to land being taken up by the project site.
- h) Effects on Housing? There will be increased demand for housing in the project area and consequently a rise in value of real estate in the surrounding area.
- i) Effects on area infrastructure? There will be pressure on existing infrastructure due to increased human activity and human population.
- j) Effects on area Security? There is possibility of increased insecurity due to presence of outsiders during construction as well as availability of project money.



- k) Effect on Aviation. *The large concentration of solar panels may affect pilots flying in the area due to the glare they will emit.*
- i) Effects on Vegetation (Flora) *Depletion of vegetation cover on the project site.*
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?
- *Implement all mitigation measures proposed by the EIA experts.*
  - *Involve the local communities and tap their knowledge in project implementation.*
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?
- Enforce strict adherence to all related Government environmental, social, and health legislations.*
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?
- Yes.....No. ☒
- If yes give an account of such sites..... *N/A*
- What should the proponent do to protect the sites or identify alternative sites?
- N/A*
- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?
- a. *Musa Natural Reserve*
  - b. *Local dispensaries*
  - c. *Local schools*
- How will each be affected?
- a) *Musa Natural Reserve - wildlife deaths*
  - b) *Local dispensaries - increased number of people seeking medical services*
  - c) *Local schools - may benefit from CSR projects*
- 8) What benefits do you think the proposed development will bring?
- 1) *It will improve the area economically as a result of job creation.*
  - 2) *It will help reduce reliance on hydro generation of power.*
  - 3) *It will modernize the project area due to influx of outside visitors and industries.*
- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes.....No. ☒
- Give your reason(s) *The benefits far outweigh the disadvantages.*
- 40) Other additional remarks/ comments
- N/A*

Name of the respondent. *MAUREEN FLEGWA* Signature. *Maureen*

ID Number of the respondent. *24755886*

Tel: *0727 857 640* P. O. Box: *8 KIRITIDI*

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Name of the respondent Paul Kille Date 14/09/2017

Location of respondent Inbeere south-

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?

It is a positive way to go to increase the power in our country

- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes ☒ No ☐

Briefly give an account of such effects?

- i) destruction of vegetation
- ii) change in rainfall pattern
- iii) livelihood changes for nearby communities
- iv)

- c) What do you think should be done to alleviate the negative effects arising from this type of development?

positive mitigation to each effect and develop memorandum of understanding with the nearby community to offset conflicts arising

2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-

- a) Effects on neighbours? Conflicts of interests especially grazing areas
- b) Effects on water resources? None
- c) Effects on traffic? Closure of main route used by community
- d) Effects on recreation sites? Displacement of natural recreation sites with community prevalences
- e) Effects on animals (birds, mammals, reptiles e.t.c)? Interference with the animals habitation (displacement)
- f) Effects on soil? Change of soil fauna by destruction of microorganisms
- g) Effects on agriculture? Reduction of alternative sites for grazing areas, cutting of indigenous trees and lowering rainfall patterns
- h) Effects on Housing? None
- i) Effects on area infrastructure? -
- j) Effects on area Security? Enhanced positively



- k) Effect on Aviation... *Interference with routes*
- i) Effects on Vegetation (Flora)... *Reduction of Vegetation*
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?  
*Develop a mitigation plan with the nearby Community*
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
*To develop Capacity building mechanism to the Community and provide alternatives to reduce conflict-*
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?  
 Yes... ☒ No... ☒

If yes give an account of such sites.....

*N/A*

What should the proponent do to protect the sites or identify alternative sites?

*N/A*

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a) .....  
 b) *N/A* .....  
 c) .....

How will each be affected?

- a) .....  
 b) *N/A* .....  
 c) .....

- 8) What benefits do you think the proposed development will bring?

*- Creation of employment (Casuals/Laborers).  
 - Lower Cost of electricity*

- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes..... No... ☒

Give your reason(s).....

*N/A*

- 40) Other additional remarks/ comments

*The project to increase providing alternative livelihoods that will increase participation by Communities -*

Name of the respondent... *PAUL KIRIAE* Signature... *Paul Kiria*

ID Number of the respondent... *8720019*

Tel: *0721313353* P. O. Box: *73 KIRITIRI*

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Name of the respondent... SIGENSO HODSON Date... 14/9/2017

Location of respondent... KINTIRI CENTRE

1. a) What is your opinion regarding the Proposed Seven Folks 40 MW Solar Power Plant project development on the above named area?

The area is suitable and the proposed project can boost the area economically

- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes..... No.....

Briefly give an account of such effects?

- i) Destruction of vegetation and forest cover.
- ii) Reducing of grazing grounds
- iii) Affect activities like hunting, Bee keeping etc
- iv) .....

- c) What do you think should be done to alleviate the negative effects arising from this type of development?

Provide alternative sources of livelihoods.

2. What do you feel are the likely effects of the Proposed Seven Folks 40 MW Solar Power Plant on the following:-

- a) Effects on neighbours? (see 1.(b) above)

- b) Effects on water resources? None

- c) Effects on traffic? No effects

- d) Effects on recreation sites? Destruction of tree cover

- e) Effects on animals (birds, mammals, reptiles e.t.c)? Destroying forest cover is interfering with the ecosystem.

- f) Effects on soil? Clearing forests exposes land to direct sun heat, loss of moisture & possibly soil erosion.

- g) Effects on agriculture? none

- h) Effects on Housing? None

- i) Effects on area infrastructure? Help in building up area by facilitating construction of roads, school, Health facilities.

- j) Effects on area Security? None



- 4
- k) Effect on Aviation..... *None*
- i) Effects on Vegetation (Flora)..... *There will be great de-afforestation*
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?  
*Need for community and expert input in implementation of the project*
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
*Be consulted on issues and always seek expert advice*
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?  
 Yes..... ☒ ..... No.....  
 If yes give an account of such sites..... *Hunting grounds, Bee keeping sites affected*  
 What should the proponent do to protect the sites or identify alternative sites?  
 .....
- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?  
 a. ....  
 b. *No negative effects*  
 c. ....  
 How will each be affected?  
 a) .....  
 b) *N/A*  
 c) .....
- 8) What benefits do you think the proposed development will bring?  
*- Employment*  
*- Provision of cheap power*
- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes..... No ☒ .....  
 Give your reason(s).....  
 .....
- 40) Other additional remarks/ comments  
*It is a worth while Project*

Name of the respondent..... *S. R. N. N. Hobson*..... Signature.....

ID Number of the respondent..... *10431578*.....

Tel:..... *0714540054*..... P. O. Box:..... *226 Kintini*.....

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Name of the respondent Stephen M. Ndungu Date 14/9/2017

Location of respondent Nberez South

1. a) What is your opinion regarding the **Proposed Seven Folks 40 MW Solar Power Plant** project development on the above named area?

Well proposed site

- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes ☒ No ☒

Briefly give an account of such effects?

i) Forest cover

ii) Think of Government crossing 10% cover

iii) In the area and forest

iv) In the area and forest

- c) What do you think should be done to alleviate the negative effects arising from this type of development?

2. What do you feel are the likely effects of the **Proposed Seven Folks 40 MW Solar Power Plant** on the following:-

- a) Effects on neighbours?

- b) Effects on water resources? low to grow the tree nursery

- c) Effects on traffic?

- d) Effects on recreation sites? on Unless the neighbour would come within it their after

- e) Effects on animals (birds, mammals, reptiles e.t.c)? That one on my side I don't see the effects

- f) Effects on soil?

- g) Effects on agriculture?

- h) Effects on Housing? I

- i) Effects on area infrastructure?

- j) Effects on area Security? my be security lights



Effect on Aviation.....

Effects on Vegetation (Flora).....

- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Folks 40 MW Solar Power Plant** on the land under reference?

*The species of seedling that can do well in the area*

- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?

- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Folks 40 MW Solar Power Plant** development?

Yes.....No. *✓*

If yes give an account of such sites.....

What should the proponent do to protect the sites or identify alternative sites?

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. ....  
b. ....  
c. ....

How will each be affected?

- a) *NR* .....  
b) .....  
c) .....

- 8) What benefits do you think the proposed development will bring?

- 9) Are you in any way opposing the development of the **proposed Seven Folks 40 MW Solar Power Plant**? Yes.....No.....

Give your reason(s).....

- 40) Other additional remarks/ comments

Name of the respondent. *CPL S.M Ndungu*

Signature. *[Signature]*

ID Number of the respondent. *8207639 S.M Ndungu @com*

Tel: *0201634835* P. O. Box: *22 Siakaga*

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Name of the respondent: Samson M. Muiwaka Date: 5/10/2017

Location of respondent: Machakos / NEEL of Water

1. a) What is your opinion regarding the Proposed Seven Forks 40 MW Solar Power Plant project development on the above named area?

It will be helpful to the community

- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes: yes No: no

Briefly give an account of such effects?

- i) There could be some sociological effects
- ii) Some soil will get eroded after clearing the land
- iii) People grazing and collecting firewood will have to get other alternative sources of land to graze their cattle
- iv) alternative sources of land to graze their cattle

- c) What do you think should be done to alleviate the negative effects arising from this type of development?

You will have to consult the communities that are bordering the area

2. What do you feel are the likely effects of the Proposed Seven Forks 40 MW Solar Power Plant on the following:-

- a) Effects on neighbours?

They will benefit on the cheap source of power

- b) Effects on water resources?

Most water resources will be saved since

- c) Effects on traffic?

No effects

- d) Effects on recreation sites?

More revenue will be collected

- e) Effects on animals (birds, mammals, reptiles e.t.c)?

No effects

- f) Effects on soil?

After clearing the land, some soil will get eroded

- g) Effects on agriculture?

No effect

- h) Effects on Housing?

No effects

- i) Effects on area infrastructure?

No effects

- j) Effects on area Security?

Area security will improve since some guards will have to be employed

- k) Effect on Aviation?

No effects



- i) Effects on Vegetation (Flora).....  
3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Forks 40 Solar Power Plant** on the land under reference?

Should grow some vegetation to control soil erosion

- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?

Consult with relevant stakeholders

- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Forks 40 Solar Power Plant** development?

Yes.....No No

If yes give an account of such sites.....

What should the proponent do to protect the sites or identify alternative sites?

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. ....  
b. ....  
c. ....

How will each be affected?

- a) .....  
b) .....  
c) .....

- 8) What benefits do you think the proposed development will bring?

1. Cheap source of power.  
2. More revenue to be collected

- 9) Are you in any way opposing the development of the proposed **Seven Forks 40 Solar Power Plant**? Yes.....No No

Give your reason(s).....

It will benefit the entire community

- 10) Other additional remarks/ comments

Name of the respondent SAMSON MUSAHA Signature [Signature]

ID Number of the respondent 23777762

Tel: 0722473853 P. O. Box: .....

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Name of the respondent J. G. MUKANAZA Date 3/10/2017

Location of respondent National Land Commission County Coordinator

1. a) What is your opinion regarding the Proposed Seven Forks 40 MW Solar Power Plant project development on the above named area?

It's a good project

- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes ☒ No ☐

Briefly give an account of such effects?

- i) Restriction of movements of people  
 ii) Interference with social-cultural  
 iii) Security of the people  
 iv) Effect of people

- c) What do you think should be done to alleviate the negative effects arising from this type of development?

Wider consultation with relevant stakeholders

2. What do you feel are the likely effects of the Proposed Seven Forks 40 MW Solar Power Plant on the following:-

- a) Effects on neighbours? restrain movements  
 b) Effects on water resources?  
 c) Effects on traffic? Interference  
 d) Effects on recreation sites? Interference  
 e) Effects on animals (birds, mammals, reptiles e.t.c)? Interference on the movement  
 f) Effects on soil?  
 g) Effects on agriculture?  
 h) Effects on Housing? improvement  
 i) Effects on area infrastructure? improvement  
 j) Effects on area Security? Increase in security  
 k) Effect on Aviation? Diversification



- i) Effects on Vegetation (Flora).....
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Forks 40 Solar Power Plant** on the land under reference?  
*brood intervention*
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
*collaborate*
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Forks 40 Solar Power Plant** development?  
 Yes.....No.....
- If yes give an account of such sites.....
- What should the proponent do to protect the sites or identify alternative sites?  
 .....
- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?  
 a. *All the services*  
 b. ....  
 c. ....  
 How will each be affected?  
 a) .....  
 b) .....  
 c) .....
- 8) What benefits do you think the proposed development will bring?  
*increase in supply of energy*
- 9) Are you in any way opposing the development of the **proposed Seven Forks 40 Solar Power Plant**? Yes.....No.....  
 Give your reason(s).....  
*improvement and additional power is for better industrialization.*
- 10) Other additional remarks/ comments  
*let the project go ahead.*
- Name of the respondent.....*J. G. M. Kanata*.....Signature.....*[Signature]*

ID Number of the respondent.....

Tel: *7722 934592* P. O. Box: *772 - 6000 Embu*

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Name of the respondent.....JAPHET M. M. AGRI.....Date.....2/10/2017.....

Location of respondent.....WATER RESOURCES AUTHORITY (WRMA).....

1. a) What is your opinion regarding the Proposed Seven Forks 40 MW Solar Power Plant project development on the above named area?

.....A GOOD PROJECT FOR THE COUNTRY.....

- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes.....☒.....No.....

Briefly give an account of such effects?

- i) .....HIGH DEMAND FOR WATER DURING IMPLEMENTATION & AFTER.....  
 ii) .....E.L.E.M. OF NATURAL VEGETATION AND NEIGHBOURHOOD.....  
 iii) .....D.I.S.T. BY HOUSE POLLUTION DURING CONSTRUCTION.....  
 iv) .....

- c) What do you think should be done to alleviate the negative effects arising from this type of development?

.....CONSTRUCTION TO BE DONE DURING  
 .....FLOOD OR MONSOON FROM REMOTE DISTRICTS  
 .....A BONE HOLE.....

2. What do you feel are the likely effects of the Proposed Seven Forks 40 MW Solar Power Plant on the following:-

- a) Effects on neighbours? .....MOISE, DUST, POLLUTION, GOOD  
 .....CONNECTIONS.....  
 b) Effects on water resources? .....HIGH DEMAND, WATER POLLUTION,  
 .....REDUCING NEARBY FOR WATER USE.....  
 c) Effects on traffic? .....DEGRADATION OF NATURAL  
 .....VEGETATION, OIL POLLUTION.....  
 d) Effects on recreation sites? .....MOISE, POLLUTION, DISSENTS  
 .....I.M. BUSHES.....  
 e) Effects on animals (birds, mammals, reptiles e.t.c)? .....RESTRICTION OF  
 .....NATURAL HABITATS, MISKATON.....  
 f) Effects on soil? .....DEGRADATION, SOIL EROSION.....  
 g) Effects on agriculture? .....GRADING LAND RESOURCES.....  
 h) Effects on Housing? .....MORE DEMAND FOR  
 .....HOUSING.....  
 i) Effects on area infrastructure? .....MORE WILL BE TO BE  
 .....CONSTRUCTED HIGH MAINTENANCE DURING IMPLEMENTATION.....  
 j) Effects on area Security? .....DURING CONSTRUCTION  
 .....THE THREE WORK TO SECURE.....  
 k) Effect on Aviation? .....A.P.P.E.R.TION, A.P.P.E.R.TION.....







**QUESTIONNAIRE TO BE ADMINISTERED TO THE INTERESTED AND AFFECTED PARTIES DURING ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF THE PROPOSED SEVEN FORKS 40 MEGAWATT SOLAR POWER PLANTS -EMBU and MACHAKAS COUNTY.**

Embu / MAVURIA / 917

Name of the respondent Muchem Nanyasho Date 3/10/17

Location of respondent Embu Town / Physical Planning

1. a) What is your opinion regarding the Proposed Seven Forks 40 MW Solar Power Plant project development on the above named area?

It is an opportune and given project that is in line with Kenya Vision 2030.

b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes ☒ No ☐

Briefly give an account of such effects?

i) Loss of biota

ii) Cultural diffusion

iii) The public may feel their agricultural use is compromised

iv)

c) What do you think should be done to alleviate the negative effects arising from this type of development?

1. Conservation Programme in the Surrounding Community  
2. Provision of some Community facilities for the Community.

2. What do you feel are the likely effects of the Proposed Seven Forks 40 MW Solar Power Plant on the following:-

a) Effects on neighbours? They may get opportunities for profit creation in the construction period. They may also lose some economic activities.

b) Effects on water resources? Access to the dam (lake) will be reduced to some members.

c) Effects on traffic? Pedestrian movement (paths) will be affected negatively.

d) Effects on recreation sites? Recreation space (paths) will be reduced.

e) Effects on animals (birds, mammals, reptiles e.t.c)? Some animals will lose their natural habitat.

f) Effects on soil?

g) Effects on agriculture? Some agricultural activities will be affected - Beekeeping.

h) Effects on Housing? May improve standards of housing if well covered.

i) Effects on area infrastructure? Area infrastructure likely to improve.

j) Effects on area Security? Area security can improve with security installation - P/Post

k) Effect on Aviation



- i) Effects on Vegetation (Flora)..... Loss of Vegetation
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Forks 40 Solar Power Plant** on the land under reference?  
Involve the community and make some concessions in land to accommodate Saveny Community / Social Infrastructure such as police post, health centre, playground and commercial centre.
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
undertake a local area plan and also service the community.
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Forks 40 Solar Power Plant** development?  
 Yes..... No..... ☒

If yes give an account of such sites.....

What should the proponent do to protect the sites or identify alternative sites?  
 .....

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. not that I am aware of
- b. ....
- c. ....

How will each be affected?

- a) ....
- b) ....
- c) ....

- 8) What benefits do you think the proposed development will bring?

- (a) Increase revenue to local (employer x business)
- (b) likely improve land values in the area
- (c) Increase local tourism to the area

- 9) Are you in any way opposing the development of the **proposed Seven Forks 40 Solar Power Plant**? Yes..... No..... ☒

Give your reason(s).....

It is a Sustainable project if well executed with community.

- 10) Other additional remarks/ comments

Seriously consider having a skills development centre, health facility, Commercial Centre and recreational Centre as part of project.

Name of the respondent.....

Signature.....

ID Number of the respondent..... 24026394

Tel: ..... 0713 440 5640

P. O. Box: .....

331-6105 Email

Please return your completed questionnaire to:

**Eco Plan Management Limited**

Silverpool Office Suites, Jabavu Lane

P.O. Box 45897, Nairobi, 00100, Kenya. Tel: +254 020 2354592

Mobile: +254 726 935 760

Mobile: +254 726 935 760



**QUESTIONNAIRE TO BE ADMINISTERED TO THE INTERESTED AND AFFECTED PARTIES DURING ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF THE PROPOSED SEVEN FORKS 40 MEGAWATT SOLAR POWER PLANTS -EMBU and MACHAKAS COUNTY.**

Name of the respondent..... Agnes ..... Date..... 31/10/2017 .....

Location of respondent..... Embu / DASH .....

1. a) What is your opinion regarding the Proposed Seven Forks 40 MW Solar Power Plant project development on the above named area?

..... it will be a good source of energy to  
..... increase the existing one. .....

b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes..... ✓ ..... No.....

Briefly give an account of such effects?

i) land use .....

ii) Habitat Loss .....

iii) Loss of agricultural land .....

iv) Noise during installation & injuries during construction .....

c) What do you think should be done to alleviate the negative effects arising from this type of development?

..... Close monitoring of the project and  
..... address any negative impacts. .....

2. What do you feel are the likely effects of the Proposed Seven Forks 40 MW Solar Power Plant on the following:-

a) Effects on neighbours? creation of jobs .....

b) Effects on water resources? Not Much .....

c) Effects on traffic? None. .....

d) Effects on recreation sites? None .....

e) Effects on animals (birds, mammals, reptiles e.t.c)? colliding with the  
..... Solar Panels & transmission lines. .....

f) Effects on soil? .....

g) Effects on agriculture? In case the area is used for  
..... agriculture, there will be loss of the land. .....

h) Effects on Housing? None. .....

i) Effects on area infrastructure? None .....

j) Effects on area Security? None .....

k) Effect on Aviation? None .....



- i) Effects on Vegetation (Flora)..... *loss of vegetation*.....
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Forks 40 Solar Power Plant** on the land under reference?  
*Review, monitor and evaluate the negative impacts.*
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
*None closely with the proponent to address the effects.*
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Forks 40 Solar Power Plant** development?  
 Yes.....No.....  
*Not known.*  
 If yes give an account of such sites.....  
 What should the proponent do to protect the sites or identify alternative sites?.....
- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?  
 a. *Not known*.....  
 b. ....  
 c. ....  
 How will each be affected?  
 a) .....  
 b) .....  
 c) .....
- 8) What benefits do you think the proposed development will bring?  
*Increase in electricity generation.*
- 9) Are you in any way opposing the development of the **proposed Seven Forks 40 Solar Power Plant**? Yes.....No.....  
 Give your reason(s).....
- 10) Other additional remarks/ comments  
*None*

Name of the respondent..... *Agnes*..... Signature..... *[Signature]*.....

ID Number of the respondent..... *22471313*.....

Tel: ..... P. O. Box: *1382 Embu*.....

Please return your completed questionnaire to:

**Eco Plan Management Limited**

Silverpool Office Suites, Jabavu Lane

P.O. Box 45897, Nairobi, 00100, Kenya. Tel: +254 020 2354592

Mobile: +254 726 935 760

Mobile: +254 726 935 760

RECEIVED  
 13/08/2013  
 ECO PLAN MANAGEMENT LIMITED  
 OFFICE



**QUESTIONNAIRE TO BE ADMINISTERED TO THE INTERESTED AND AFFECTED PARTIES DURING ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF THE PROPOSED SEVEN FORKS 40 MEGAWATT SOLAR POWER PLANTS -EMBU and MACHAKAS COUNTY.**

Name of the respondent Erastus Kibuka Date 3/10/2017

Location of respondent Embu / District KFS

1. a) What is your opinion regarding the Proposed Seven Forks 40 MW Solar Power Plant project development on the above named area?

Okay

b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes.....No.....☒

Briefly give an account of such effects?

i) .....

ii) .....

iii) None

iv) .....

c) What do you think should be done to alleviate the negative effects arising from this type of development?

NA

2. What do you feel are the likely effects of the Proposed Seven Forks 40 MW Solar Power Plant on the following:-

a) Effects on neighbours? Livelihood improvement interventions  
of employment

b) Effects on water resources? None

c) Effects on traffic? ✓

d) Effects on recreation sites? ✓

e) Effects on animals (birds, mammals, reptiles e.t.c)? None

f) Effects on soil? None

g) Effects on agriculture? Irrigation can easily be  
introduced

h) Effects on Housing? Improved living premises  
for families

i) Effects on area infrastructure? Improved

j) Effects on area Security? Improved

k) Effect on Aviation? ✓



- i) Effects on Vegetation (Flora)..... *Improved after Collaboration*
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Forks 40 Solar Power Plant** on the land under reference?  
*All Stakeholders involved to network and come up with an action plan to conserve the area in reference*
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
*Partner with the developer and enforce the land down regulations*
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Forks 40 Solar Power Plant** development?  
 Yes..... No..... ☒

If yes give an account of such sites.....

What should the proponent do to protect the sites or identify alternative sites?  
 .....

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. ....  
 b. ....  
 c. ....

How will each be affected?

- a) .....  
 b) .....  
 c) .....

- 8) What benefits do you think the proposed development will bring?

*Social Amenity  
 Livelihood improvement  
 Business opportunities*

- 9) Are you in any way opposing the development of the **proposed Seven Forks 40 Solar Power Plant**? Yes..... No..... ☒

Give your reason(s).....

- 10) Other additional remarks/ comments

Name of the respondent.....

*David Kibuka*

Signature.....

*[Signature]*

ID Number of the respondent.....

Tel: *0711 310217*

P. O. Box: *2657*

Please return your completed questionnaire to:

**Eco Plan Management Limited**

Silverpool Office Suites, Jabavu Lane

P.O. Box 45897, Nairobi, 00100, Kenya. Tel: +254 020 2354592

Mobile: +254 726 935 760

Mobile: +254 726 935 760





**QUESTIONNAIRE TO BE ADMINISTERED TO THE INTERESTED AND AFFECTED PARTIES DURING ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF THE PROPOSED SEVEN FORKS 40 MEGAWATT SOLAR POWER PLANTS -EMBU and MACHAKAS COUNTY.**

Name of the respondent... MOSES KITHAKA NJAGI Date... 04/10/2017

Location of respondent... MACHAKAS, EMBU COUNTY / community stakeholder

1. a) What is your opinion regarding the Proposed Seven Forks 40 MW Solar Power Plant project development on the above named area?  
IT IS A GOOD PROJECT IF HANDLED WELL. INCREASE POWER TO THE NATIONAL GRID.
- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?  
 Yes... ☒ No... ☐  
 Briefly give an account of such effects?  
 i) BEE-KEEPING - PEOPLE WILL HAVE TO RELOCATE BEEHIVES.  
 ii) MICRO-CLIMATE - THE AREA WILL BE AFFECTED BY CLEARING THE BUSH.  
 iii) ACCESS TO WATER - THE COMMUNITY WILL FIND IT HARD TO ACCESS WATER  
 iv) FISHING - THE LANDING BEACH IS LOCATED AT THE PROPOSED SITE.
- c) What do you think should be done to alleviate the negative effects arising from this type of development?  
- COMMUNITY SENSITIZATION.  
- PROVIDE THE COMMUNITY WITH PIPED WATER.  
- REAFFORESTATION - GRANT COMMUNITY SEEDLINGS
2. What do you feel are the likely effects of the Proposed Seven Forks 40 MW Solar Power Plant on the following:-
  - a) Effects on neighbours? NEGATIVE EFFECT ON BEE-KEEPING, AGRICULTURE, ACCESS TO WATER ETC BUT CAN BE MITIGATED.
  - b) Effects on water resources? NO EFFECT.
  - c) Effects on traffic? NO EFFECT.
  - d) Effects on recreation sites? NO EFFECT.
  - e) Effects on animals (birds, mammals, reptiles e.t.c)? NEGATIVE EFFECT DUE TO CLEARING OF THEIR NATURAL HABITAT.
  - f) Effects on soil? NO EFFECT.
  - g) Effects on agriculture? THE MICRO-CLIMATE WILL BE AFFECTED NEGATIVELY DUE TO BUSH-CLEARING AND THIS AFFECTS AGRICULTURE
  - h) Effects on Housing? .....
  - i) Effects on area infrastructure? POSITIVE EFFECT ON INFRASTRUCTURE DUE TO COMPANY IMPROVING ROADS AND PROVISION OF WATER.
  - j) Effects on area Security? INCREASED INSECURITY DUE TO LOCATION OF PROJECT.
  - k) Effect on Aviation... NO EFFECT.



- i) Effects on Vegetation (Flora) NEGATIVE EFFECT BUT CAN BE MITIGATED
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Forks 40 Solar Power Plant** on the land under reference?  
- COMMUNITY SENSITIZATION  
- PROVISION OF PIPED WATER  
- RURAL ELECTRIFICATION
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
- COMMUNITY SENSITIZATION
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Forks 40 Solar Power Plant** development?  
 Yes..... No..... ☒

If yes give an account of such sites N/A

What should the proponent do to protect the sites or identify alternative sites?  
N/A

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. N/A  
 b. ....  
 c. ....

How will each be affected?

- a) N/A  
 b) ....  
 c) ....

- 8) What benefits do you think the proposed development will bring?

1. SOURCE OF EMPLOYMENT FOR LOCALS  
2. TRICKLE-DOWN EFFECT - LOCAL BUSINESSES FLOURISH

- 9) Are you in any way opposing the development of the **proposed Seven Forks 40 Solar Power Plant**? Yes..... No..... ☒

Give your reason(s) N/A

- 10) Other additional remarks/comments

A GOOD PROJECT ONCE IMPLEMENTED

Name of the respondent MOSES KITHAKA NJAGE Signature [Signature]

ID Number of the respondent 13573979

Tel: 0732969594 P. O. Box: 213, KIRITURI

Please return your completed questionnaire to:

**Eco Plan Management Limited**

Silverpool Office Suites, Jabavu Lane

P.O. Box 45897, Nairobi, 00100, Kenya. Tel: +254 020 2354592

Mobile: +254 726 935 760

Mobile: +254 726 935 760



**QUESTIONNAIRE TO BE ADMINISTERED TO THE INTERESTED AND AFFECTED PARTIES DURING ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF THE PROPOSED SEVEN FORKS 40 MEGAWATT SOLAR POWER PLANTS -EMBU and MACHAKAS COUNTY.**

Name of the respondent... Moses M. Kibwaho Date... 05/10/2017

Location of respondent... Embu County HEADQUARTERS  
Director Environment

1. a) What is your opinion regarding the Proposed Seven Forks 40 MW Solar Power Plant project development on the above named area?

No objection. Economic activities to improve.

b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes... Yes No...

Briefly give an account of such effects?

- i) public & social occupational safety & health.
- ii) Air pollution.
- iii) Solid waste generation
- iv) Biodiversity loss

c) What do you think should be done to alleviate the negative effects arising from this type of development?

proper mitigation measures.

2. What do you feel are the likely effects of the Proposed Seven Forks 40 MW Solar Power Plant on the following:-

a) Effects on neighbours? Noise pollution / Air pollution.

b) Effects on water resources? Use of the resource is evident. Conservation of the same is necessary.

c) Effects on traffic? Disturbance of traffic on nearby roads.

d) Effects on recreation sites? Improved business

e) Effects on animals (birds, mammals, reptiles e.t.c)? Disturbances expected.

f) Effects on soil? Soil and geology disturbance.

g) Effects on agriculture? Loss of vegetation / Soil erosion

h) Effects on Housing? Higher income and improvement due to increased population in the area.

i) Effects on area infrastructure? Imagined to improve.

j) Effects on area Security? Expected to improve.

k) Effect on Aviation... No foreseen effects. Aviation is a



- i) Effects on Vegetation (Flora).....  
3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Forks 40 Solar Power Plant** on the land under reference?

Should grow some vegetation to control soil erosion

- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?

Consult with relevant stakeholders

- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Forks 40 Solar Power Plant** development?

Yes.....No No

If yes give an account of such sites.....

What should the proponent do to protect the sites or identify alternative sites?

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?

- a. ....  
b. ....  
c. ....

How will each be affected?

- a) .....  
b) .....  
c) .....

- 8) What benefits do you think the proposed development will bring?

1. Cheap source of power.  
2. More revenue to be collected

- 9) Are you in any way opposing the development of the proposed **Seven Forks 40 Solar Power Plant**? Yes.....No No

Give your reason(s).....

It will benefit the entire community

- 10) Other additional remarks/ comments

Name of the respondent SAMSON MUSAHA Signature [Signature]

ID Number of the respondent 23777762

Tel: 0722473853 P. O. Box: .....

Please return your completed questionnaire to:

**Eco Plan Management Limited**

Silverpool Office Suites, Jabavu Lane

P.O. Box 45897, Nairobi, 00100, Kenya. Tel: +254 020 2354592

Mobile: +254 726 935 760

Mobile: +254 726 935 760



**QUESTIONNAIRE TO BE ADMINISTERED TO THE INTERESTED AND AFFECTED PARTIES DURING ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF THE PROPOSED SEVEN FORKS 40 MEGAWATT SOLAR POWER PLANTS –EMBU and MACHAKAS COUNTY.**

Name of the respondent Ndungu Ciationy Date 5/10/2017

Location of respondent Masinga Sub-County HQ / Department of Agriculture

1. a) What is your opinion regarding the Proposed Seven Forks 40 MW Solar Power Plant project development on the above named area?

Good idea - will generate more eco-friendly energy

- b) In your opinion are there some negative effects on public, sociological or ecological that may be brought about by this development?

Yes.....No.....

Briefly give an account of such effects?

i) Public bad faith if not involved along the way

ii) Ecological - mitigation measures if not in place

iii) Sociological - some cultural norms

iv) .....

- c) What do you think should be done to alleviate the negative effects arising from this type of development?

Public involvement during implementation  
mitigation against environmental degradation  
Awareness class creation

2. What do you feel are the likely effects of the Proposed Seven Forks 40 MW Solar Power Plant on the following:-

- a) Effects on neighbours? Reduced accessibility to resources in the

place the plants will be

- b) Effects on water resources? None

- c) Effects on traffic? None

- d) Effects on recreation sites? Increased - the plant itself can offer

some recreation

- e) Effects on animals (birds, mammals, reptiles e.t.c)? Less area for free

migration

- f) Effects on soil? can lead to soil erosion if land is

undiscriminately cleared

- g) Effects on agriculture? None

- h) Effects on Housing? Increased demand for housing

- i) Effects on area infrastructure? Improvement as access roads are

likely to be improved

- j) Effects on area Security? Improved

- k) Effect on Aviation? None



- i) Effects on Vegetation (Flora). *Can decrease if clearance is not controlled*
- 3) What should the proponent do to minimize negative effects attributable to the proposed **Seven Forks 40 Solar Power Plant** on the land under reference?  
*wind breaks*  
*soil erosion control measures*
- 4) What should the relevant Government Authority of the area do to alleviate any adverse effects on the locality taking into consideration this development?  
*Create awareness about probable negative effects and probable measures*
- 5) Are there any sites of significance such as shrines, places of worship, ceremonial sites etc. which will be affected by the proposed **Seven Forks 40 Solar Power Plant** development?  
 Yes.....No.....

If yes give an account of such sites.....

What should the proponent do to protect the sites or identify alternative sites?  
 .....

- 6) Which social amenities (e.g. School sites, health services sites, recreation services, game reserve area and communities' development sites) are likely to be affected?  
 a. ....  
 b. ....  
 c. ....  
 How will each be affected?  
 a) ....  
 b) ....  
 c) .....

- 8) What benefits do you think the proposed development will bring?

*improved roads*  
*more security*  
*more income*

- 9) Are you in any way opposing the development of the **proposed Seven Forks 40 Solar Power Plant**? Yes.....No.. ☒  
 Give your reason(s). *It will*

- 10) Other additional remarks/ comments

*Project is environmentally friendly*

Name of the respondent. *Ndunge Githinji*

Signature. *[Signature]*

ID Number of the respondent. *8576012*

Tel: *0720651425*

P. O. Box: *58 Masinga*

Please return your completed questionnaire to:

**Eco Plan Management Limited**

Silverpool Office Suites, Jabavu Lane

P.O. Box 45897, Nairobi, 00100, Kenya. Tel: +254 020 2354592

Mobile: +254 726 935 760

Mobile: +254 726 935 760



**QUESTIONNAIRE TO BE ADMINISTERED TO THE INTERESTED AND AFFECTED PARTIES DURING THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT STUDY FOR THE PROPOSED SEVEN FORKS 40 MEGAWATT SOLAR POWER PLANT –EMBU COUNTY (AND MACHAKAS COUNTY IF RELEVANT).**

One of the EIA guidelines is that the general public and major stakeholders are consulted. We have identified you as a possible source of information as an affected or interested person. Could you kindly favour us with the following information?

I) Name of the affected/interested party/person... NEDHAR NIEDU / culture Dept

II) Location Embu County

III) QUESTIONS	Yes	No	REMARKS / COMMENTS
Are you aware of Development seven forks 40 MW Solar Power Plants	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>A) Environmentally sensitive areas?</b>			
Is the proposed development area adjacent to or within any of the following			
• Aesthetic resource		<input checked="" type="checkbox"/>	
• Protected Area		<input checked="" type="checkbox"/>	
• Wetland Area		<input checked="" type="checkbox"/>	
• Special area for protecting biodiversity		<input checked="" type="checkbox"/>	
<b>B) Potential Environmental Impacts?</b>			
Will the proposed development activity cause ...			
(1) Environmental degradation e.g. erosion, soil and water contamination, habitat?			
(2) Eventual degradation of water bodies due to discharge of wastes and other effluents from the site?			
(3) Loss of precious ecological resources which could result in interruption of wetlands, disruption of hydrology of natural waterways or drainage hazards?	<input checked="" type="checkbox"/>		
(4) Short-term impacts e.g. deterioration of water and air quality, noise and vibration from development activity machinery?	<input checked="" type="checkbox"/>		
(5) Water depletion and/or degradation?		<input checked="" type="checkbox"/>	
<b>C) Potential social economic Impacts?</b>			
Will the proposed development activity cause ...			
(1) Degradation of the quality of life?		<input checked="" type="checkbox"/>	
(2) Social problems and conflicts related to resource use rights?	<input checked="" type="checkbox"/>		
(3) Social conflicts arising from the influx of those seeking employment and livelihood to the site and nearby settlements?	<input checked="" type="checkbox"/>		
(4) Impact on public health as a result of the development, impair air quality or cause noise pollution?		<input checked="" type="checkbox"/>	
(5) Positive impact in terms of economic empowerment to communities around?	<input checked="" type="checkbox"/>		
(6) Creation of community slums following the development?	<input checked="" type="checkbox"/>		

D) Do you have any other comments? It is important to look on alternative source of water since area has been an enroute to water source for community. Power harvested could solve the problem - Dumping water.

III) ID number 4685389 Signature [Signature]



## **I. Invitation letters for the final stakeholder meetings (disclose of the draft ESIA)**





# KenGen

**Kenya Electricity  
Generating Company Ltd.**

Stima Plaza, Kolobot Road, Parklands  
P.O. Box 47936 - 00100 Nairobi, Kenya  
Telephone: 254-20-3666000 Fax: 254-020-2248848  
Website: [www.kengen.co.ke](http://www.kengen.co.ke)

Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Coordinator,  
Association of International Christian Co-operation (ACCRI),  
Mbeere South Sub County  
Tel. 0722615640

Dear David,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

The Kenya Electricity Generating Company Ltd has contracted Mott MacDonald and Eco Plan Management to conduct an Environmental Impact Assessment (ESIA) for the proposed 7-Forks Solar Power Plant. The project site is about 3km North of Kamburu Hydro Power Station, along the Embu-Kangonde road (B7) on the Western side in Mavuria Location, Mbeere South Sub County of Embu County.

The ESIA has been done to meet the requirements of the EIA/EA regulations 2003 and the International Finance Corporation (IFC) Performance Standards (PSs) 2012. These standards require among other things, communication of the findings of the ESIA and obtaining feedback from Project stakeholders and the surrounding community.

The purpose of writing this letter is to invite you and other stakeholders to a meeting to communicate the findings of the ESIA and get feedback on the findings of the assessment. The meeting will be held in Kamburu Senior Staff Club on 7<sup>th</sup> December 2017 beginning 9.00 am.

We look forward to your participation and we would appreciate if you could confirm your attendance.

Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**JOSHUA WERE**  
**ENVIRONMENT AND CDM MANAGER**

*David Mwa Ngari  
received*





# KenGen

**Kenya Electricity  
Generating Company Ltd.**

Stima Plaza, Kolobot Road, Parklands  
P.O. Box 47936 - 00100 Nairobi, Kenya  
Telephone: 254-20-3666000 Fax: 254-020-2248848  
Website: [www.kengen.co.ke](http://www.kengen.co.ke)

Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Development Promotor,  
CARITAS Kenya,  
Mbeere South Sub County  
Tel. 0717328862

Dear James,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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We look forward to your participation and we would appreciate if you could confirm your attendance.

Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**JOSHUA WERE**  
**ENVIRONMENT AND CDM MANAGER**

*James Macharia Maki*  
*Kisumu*  
*Ketura*

*Received*  
*22/11/2017*

*James Macharia Maki*





# KenGen

**Kenya Electricity  
Generating Company Ltd.**

Stima Plaza, Kolobot Road, Parklands  
P.O. Box 47936 - 00100 Nairobi, Kenya  
Telephone: 254-20-3666000 Fax: 254-020-2248848  
Website: [www.kengen.co.ke](http://www.kengen.co.ke)

Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Member of County Assembly,  
Mavuria ward,  
Embu County  
Tel. 0721435882

Dear Dennis,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

The Kenya Electricity Generating Company Ltd has contracted Mott MacDonald and Eco Plan Management to conduct an Environmental Impact Assessment (ESIA) for the proposed 7-Forks Solar Power Plant. The project site is about 3km North of Kamburu Hydro Power Station, along the Embu-Kangonde road (B7) on the Western side in Mavuria Location, Mbeere South Sub County of Embu County.

The ESIA has been done to meet the requirements of the EIA/EA regulations 2003 and the International Finance Corporation (IFC) Performance Standards (PSs) 2012. These standards require among other things, communication of the findings of the ESIA and obtaining feedback from Project stakeholders and the surrounding community.

The purpose of writing this letter is to invite you and other stakeholders to a meeting to communicate the findings of the ESIA and get feedback on the findings of the assessment. The meeting will be held in Kamburu Senior Staff Club on 7<sup>th</sup> December 2017 beginning 9.00 am.

We look forward to your participation and we would appreciate if you could confirm your attendance.

Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**SIMON NGURE**  
**REGULATORY & CORPORATE AFFAIRS DIRECTOR**

*Received by on*

CHIEF  
MAVURIA LOCATION  
P.O. Box 226, KIRITIRI  
DATE: 22.11.17  
TEL: 0720 - 652779  
MICHAEL M. NJERI





# KenGen

**Kenya Electricity  
Generating Company Ltd.**

Stima Plaza, Kolobot Road, Parklands  
P.O. Box 47936 - 00100 Nairobi, Kenya  
Telephone: 254-20-3666000 Fax: 254-020-2248848  
Website: [www.kengen.co.ke](http://www.kengen.co.ke)

Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The County Commissioner,  
Embu County,  
Tel. 0722735789



Dear Esther,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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1. Deputy County Commissioner, Mbeere;
2. Area Chief, Mavuria Location;
3. Energy;
4. Water;
5. Agriculture, Livestock and Fisheries;
6. Forest;
7. Environment and Natural Resources;
8. Public Works;
9. Meteorological;
10. Lands and Physical Planning;
11. Gender and culture.



We also intend to have a public meeting (baraza) in Machang'a on 6<sup>th</sup> December 2017 to disclose the findings on the ESIA and obtain feedback from the surrounding community.

We look forward to your participation and we would appreciate if you could confirm your attendance.

Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED



**SIMON NGURE**  
**REGULATORY & CORPORATE AFFAIRS DIRECTOR**





# KenGen

**Kenya Electricity  
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Website: [www.kengen.co.ke](http://www.kengen.co.ke)

Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

Eng. Joseph Oketch,  
Director, Electricity,  
Energy Regulatory Commission,  
P. O. Box 42681-00100, Nairobi.  
Eagle Africa Centre, Longonot Road Upperhill



Dear Joseph,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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We look forward to your participation and we would appreciate if you could confirm your attendance.

Yours faithfully,  
For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**SIMON NGURE**  
**REGULATORY & CORPORATE AFFAIRS DIRECTOR**





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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Governor  
Embu County

Tel No.: +254 68 30686, +254 68 30656



Dear Martin,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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1. Lands , Water, Environment and Natural Resources;
2. Infrastructure, Energy and Housing;
3. Health;
4. Gender, Culture and Social Services; and
5. Agriculture, Livestock, Fisheries and Co-operative Development.
6. Ward Administrator, Mavuria Ward

We look forward to your participation and we would appreciate if you could confirm your attendance.

Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**SIMON NGURE**  
**REGULATORY & CORPORATE AFFAIRS DIRECTOR**





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Website: [www.kengen.co.ke](http://www.kengen.co.ke)

Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Director, KeNHA,  
Upper Eastern Region

Dear Sir/Madam,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

The Kenya Electricity Generating Company Ltd has contracted Mott MacDonald and Eco Plan Management to conduct an Environmental Impact Assessment (ESIA) for the proposed 7-Forks Solar Power Plant. The project site is about 3km North of Kamburu Hydro Power Station, along the Embu-Kangonde road (B7) on the Western side in Mavuria Location, Mbeere South Sub County of Embu County.

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We look forward to your participation and we would appreciate if you could confirm your attendance.

Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**JOSHUA WERE**  
**ENVIRONMENT AND CDM MANAGER**







Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

Dr. (Eng.) John M. Mativo,  
Senior Technical Advisor,  
Kenya Electricity Transmission Company,  
Block B Kawi House, Popo lane, Off, Red Cross Rd,  
Nairobi



**Kenya Electricity  
Generating Company Ltd.**

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Dear John,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**SIMON NGURE  
REGULATORY & CORPORATE AFFAIRS DIRECTOR**





# KenGen

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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

Director,  
Kenya Forest Service,  
Embu County  
Tel. 0711310217

Dear Erastus,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**SIMON NGURE  
REGULATORY & CORPORATE AFFAIRS DIRECTOR**





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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

Eng. Daniel Tare,  
General manager Network Management,  
Kenya Power & Lighting Company Ltd,  
Nairobi

Dear Daniel,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**SIMON NGURE**  
**REGULATORY & CORPORATE AFFAIRS DIRECTOR**





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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Director, KeRRA,  
Embu County

Dear Sir/Madam,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**JOSHUA WERE**  
**ENVIRONMENT AND CDM MANAGER**



22/11/17





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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Member of Parliament,  
Mbeere South Constituency,  
Embu County

Dear Sir,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

The Kenya Electricity Generating Company Ltd has contracted Mott MacDonald and Eco Plan Management to conduct an Environmental Impact Assessment (ESIA) for the proposed 7-Forks Solar Power Plant. The project site is about 3km North of Kamburu Hydro Power Station, along the Embu-Kangonde road (B7) on the Western side in Mavuria Location, Mbeere South Sub County of Embu County.

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Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**SIMON NGURE  
REGULATORY & CORPORATE AFFAIRS DIRECTOR**

*Benjamin Mera MAMU*

*TEL 071709008*





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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

Eng. Julius Mwathani,  
The Secretary, Electricity,  
Ministry of Energy & Petroleum,  
P. O. Box 30582 - 00100,  
Nyayo House  
Nairobi



Dear Julius,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

The Kenya Electricity Generating Company Ltd has contracted Mott MacDonald and Eco Plan Management to conduct an Environmental Impact Assessment (ESIA) for the proposed 7-Forks Solar Power Plant. The project site is about 3km North of Kamburu Hydro Power Station, along the Embu-Kangonde road (B7) on the Western side in Mavuria Location, Mbeere South Sub County of Embu County.

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For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**SIMON NGURE**  
**REGULATORY & CORPORATE AFFAIRS DIRECTOR**



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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Warden,  
Mwea National Reserve,  
Embu County

Dear Sir/Madam,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**JOSHUA WERE**  
**ENVIRONMENT AND CDM MANAGER**

*Received by on*

CHIEF  
MAVURIA LOCATION  
P.O. Box 226, KIRITIRI  
DATE: 22/11/17  
TEL: 0720 - 662779  
MICHAEL M. NJERI





# KenGen

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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Director, NEMA,  
Embu County  
0722313518

Dear Sophie,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**JOSHUA WERE**  
**ENVIRONMENT AND CDM MANAGER**





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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Senator  
Embu County,

Dear Sir/Madam,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

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Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**SIMON NGURE  
REGULATORY & CORPORATE AFFAIRS DIRECTOR**

22/11/2017

MAUREEN K NYAGA

0723871181





# KenGen

**Kenya Electricity  
Generating Company Ltd.**

Stima Plaza, Kolobot Road, Parklands  
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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

Julius Juma Ogesa,  
Senior Curator,  
National Museums of Kenya,  
P.O Box 40658-00100,  
Nairobi  
Tel. 0701 260 904

Dear Juma,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

The Kenya Electricity Generating Company Ltd has contracted Mott MacDonald and Eco Plan Management to conduct an Environmental Impact Assessment (ESIA) for the proposed 7-Forks Solar Power Plant. The project site is about 3km North of Kamburu Hydro Power Station, along the Embu-Kangonde road (B7) on the Western side in Mavuria Location, Mbeere South Sub County of Embu County.

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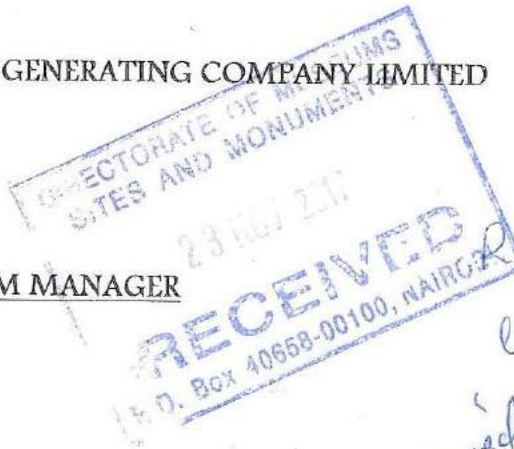
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Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**JOSHUA WERE**  
**ENVIRONMENT AND CDM MANAGER**



*Received by Path 23/11/17*



# KenGen

**Kenya Electricity  
Generating Company Ltd.**

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Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Deputy Technical Co-ordination Manager,  
Water Resources management Authority,  
Mt. Kenya region,  
Kerugoya

Tel. 0727055515

Dear Japheth,



**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

The Kenya Electricity Generating Company Ltd has contracted Mott MacDonald and Eco Plan Management to conduct an Environmental Impact Assessment (ESIA) for the proposed 7-Forks Solar Power Plant. The project site is about 3km North of Kamburu Hydro Power Station, along the Embu-Kangonde road (B7) on the Western side in Mavuria Location, Mbeere South Sub County of Embu County.

The ESIA has been done to meet the requirements of the EIA/EA regulations 2003 and the International Finance Corporation (IFC) Performance Standards (PSs) 2012. These standards require among other things, communication of the findings of the ESIA and obtaining feedback from Project stakeholders and the surrounding community.

The purpose of writing this letter is to invite you and other stakeholders to a meeting to communicate the findings of the ESIA and get feedback on the findings of the assessment. The meeting will be held in Kamburu Senior Staff Club on 7<sup>th</sup> December 2017 beginning 9.00 am.

We look forward to your participation and we would appreciate if you could confirm your attendance.

Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**JOSHUA WERE**  
**ENVIRONMENT AND CDM MANAGER**





# KenGen

**Kenya Electricity  
Generating Company Ltd.**

Stima Plaza, Kolobot Road, Parklands  
P.O. Box 47936 - 00100 Nairobi, Kenya  
Telephone: 254-20-3666000 Fax: 254-020-2248848  
Website: [www.kengen.co.ke](http://www.kengen.co.ke)

Our Ref: KGN/ECDM/7-FORKS-SOLAR/053

Date: November 20, 2017

The Women Representative,  
Embu County,

Dear Madam,

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR 7 FORKS SOLAR  
POWER PLANT**

The Kenya Electricity Generating Company Ltd has contracted Mott MacDonald and Eco Plan Management to conduct an Environmental Impact Assessment (ESIA) for the proposed 7-Forks Solar Power Plant. The project site is about 3km North of Kamburu Hydro Power Station, along the Embu-Kangonde road (B7) on the Western side in Mavuria Location, Mbeere South Sub County of Embu County.

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We look forward to your participation and we would appreciate if you could confirm your attendance.

Yours faithfully,

For: KENYA ELECTRICITY GENERATING COMPANY LIMITED

**SIMON NGURE  
REGULATORY & CORPORATE AFFAIRS DIRECTOR**

Received by on  
22/11/17

**CHIEF  
MAVURIA LOCATION  
P.O. Box 226, KIRITIRI  
DATE: 22/11/17  
TEL: 0720 - 652779  
MICHAEL M. NJERU**

**J. Minutes and attendance sheets for the final stakeholder meetings (disclose of the draft ESIA)**



# ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR SEVEN FORKS SOLAR PROJECT, KENYA

## PUBLIC CONSULTATION - ATTENDANCE SHEET

 Venue: *MATINDENI CAMP*

 Date: *07/12/2017*

Page:

#	Name and Organisation	Position	ID number	Contact detail	Signature
	<i>PETER N. NGOGI ACRI/AMUATI DAKA</i>	<i>SOCIAL WORKER</i>	<i>8067988</i>	<i>0723 329 065</i>	<i>[Signature]</i>
	<i>DAVID NGARA MUSA ACCRI NGO</i>	<i>CO-ORDINATOR</i>	<i>10728061</i>	<i>0722 615640</i>	<i>[Signature]</i>
	<i>JAMES MACHARIA MATI DOE-CARITAS</i>	<i>Development promoter</i>	<i>27333122</i>	<i>0717 328862</i>	<i>[Signature]</i>
	<i>UGO FACESCHINI ACCRI NGO</i>	<i>VOLUNTEER</i>		<i>0790706123</i>	<i>[Signature]</i>
	<i>JOSPH MOTISO FISHERIES</i>	<i>EXTENSION OFFICER</i>	<i>22287711</i>	<i>0723 656758</i>	<i>[Signature]</i>
	<i>Siphie Mutembi</i>	<i>County Director</i>	<i>11424989</i>	<i>0722 313518</i>	<i>[Signature]</i>

#	Name and Organisation	Position	ID number	Contact detail	Signature
	Jonathan Ntshemi	AM-CP	KEN 4274	Jonathan@kenya.co.ke	[Signature]
	Florah Mwanungu	Chief Env. off	KenKen	fmaghuwa@kenya.co.ke	[Signature]
	Michael Ogorji	CP	KenKen	mogorji@kenya.co.ke	[Signature]
	Frach Karanya	CP	KenKen	frachanya@kenya.co.ke	[Signature]
	Philip Murenga	C-M	KenKen	pmurenga@kenya.co.ke	[Signature]
	MURAHARI MATHE	ECO PLAN		2017murahari@kenya.co.ke	[Signature]
	Rev Beda Wukh	Courtney Office Manager	WBERC South	bedayaga@guwahati.com	[Signature]
	Micetela M. Wilson	IN Chief	9678 956	O.O.P	[Signature]









ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR SEVEN FORKS SOLAR PROJECT, KENYA

## PUBLIC CONSULTATION - ATTENDANCE SHEET

Venue: MATENDENI CAMP

Date: 07/12/2017






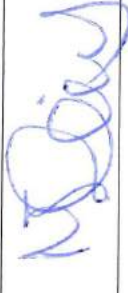

Page:

#	Name and Organisation	Position	ID number	Contact detail	Signature
	MURIMI NYAGA	Extension	2042434	0721525738	
	Peter Ndwiga		11672197	0721174853	
	DAVID NDIYI	WARD ADMIN NAVUDIA	1458286	0721435882	
	PETER KARIUKI	P.A NAVUDIA WARD	22182292	0723932558	
	Gideon Juma Ojoga	Senior Director National Museums of Kenya	13644781	0707260904	
	ROMANUS OPIYO	Consultant ECOPLAN	13059805	0722718096	

Meeting With Hon. Col. Kingangi - MP MBERE  
MATENDENI CAMP - EXECUTIVE ROOM

October 2017

7/12/2017

#	Name and Organisation	Position	ID number	Contact detail	Signature
1.	ROMANUS OPIYO ECOPLAN MGT.	CONSULTANT	13059805	0722 718096	
2	Elizabeth Denga	KenGen	B108413	0722 651726	
3	<del>Julius</del> Odumbe	KenGen	9137653	0722 309988	
4	John N. Rensch	Accounting MP	3297476 1990, E	0720 817697	
5.	Hon. Col. Kingangi				
6	Philip Mwangi	KenGen	10890942	0721 440331	
7	NICOLA DAVIES	MM	—	—	
8	PENINAH MBUITHI	KenGen	10796172	0716 516238	







































# ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR 7 FORKS SOLAR POWER PROJECT, KENYA

## PUBLIC CONSULTATION MEETING - ATTENDANCE SHEET

Venue: MACHANG'A MARKET

Date: 06/ December 2017

No.	Name and Organisation	Contact Details	NATIONAL ID NO. / P.H.C. NO.	Signature
1	RICHARD OGOTI	22191197	- 0720721282	
2	FLORAH MWANGIYANGA	7476293	0705116019	
3	NICASIO NDIKU NYAGI	9821585	0713984607	
4	JAMES MBOGO	0683060	0703188062	
5	ROBERT NYAGA	0884374	0743235649	
6	JOHNSTON NYAGA	14582645	0787682188	
7	DAVID MACHARIA	89261215	0707801141	
8	DONALD N. MUMTI	0341838	0722407151	DNM
9	FREDRICK NYHIGA	3527443	0725470182	
10	PATRICK KITHENGE	1460995	0722314606	
11	ADRIANO NTUKI IRETI	10222520	0705319883	
12	LUTH NDETO	24730596	0714553963	
13	FRANCIS NJERU RUMI	1304752	0713550091	
14	SAMUEL NZIOKI	10641296	0703130747	
15	EDWARD NJERU	0884586	0792103185	
16	ONESMUS MACHIA	24766108	07915881	

17	JUSTUS NDELA ISAMUSI	2256042	0725686372	
18	AGATA MATHA NIKA	9678982	0724116732	
19	MOSES KITHARA NYAGA	13573979	0732969594	
20	PETER NJERU MURITHI	20602453	0725602602	
21	CHARLES NJERU MURITHI	0296063	0714449267	
22	FREDERICK KING'ANGI NDUNGA	3897850	0719864116	
23	SUSAN NJERI MBOGO	25167113	0712427708	
24	NTIRU NJENGEJE	8707663	0729522257	
25	RECHU NJIGI GICHONI	22948183	0727608914	
26	PATRICK NGARI NJENGEJE	0887497	0707370759	
27	JOHN NYAGA NANYI	19573936	0724321089	
28	PAUL MUKENKE	34486194	0702924916	
29	STEVEN MUTUNGI	2589603	0727472736	
30	HON JOSEPH MWANIKI NYAGA	10461037	0701664641	
31	NEISON NJIRE NDUGO	7035743	0701814355	
32	CELESTINO N. NGURU	4312471	0725995906	
33	JUSTIN NYAGA	9413102	0717778220	
34	DANIEL NYAGA	022233474	0704562999	
35	NICATO NJERU	9284925	0712137912	
36	IRENE MUTHONI MBUTA	30619770	071845175	
37	ALFRED MWANIKI	4851317	0729346150	
38	AUGUSTINO NJIRU	3764001	0718143359	



ESIA 7 Forks Solar Power Project

December 2017

39	JACINTA NJERU	4622330	0720067953	<del>John</del>
40	BIDAN NJAGI	2433566	0785674995	NW
41	FELIX NJERU	22678022	0727456579	<del>John</del>
42	COSMUS MURUTHI	9412431	0727758116	CHIEF
43	ESTHER IGOKI NGUKU	3297849	0714190691	FIN
44	SULEIMAN NTIRU SATY		0127562907	<del>John</del>
45	JAMAR KIMANTITI	21624138	0121624138	<del>John</del>
46	NJERU MBOGO	0267675	0706301344	MBOGO
47	SEBASTIAN NJAGI	12802993	0722464523	CHIEF
48	SAMUEL M. MUTUA	25211971	0725025430	<del>John</del>
49	DAMARIS N. MWANIKI	18572375	0713356752	<del>John</del>
50	SOLOMON MUNENE	26426403	0718885701	<del>John</del>
51	BONFACE NATINA	1321004	0749502973	<del>John</del>
52	JACKSON MUGO MUNTI	35101534		<del>John</del>
53	GIDEON ND00	0887963	0720562324	GN ND00
54	MUHAMMAD NG'ANGI	3526118	0720078102	<del>John</del>
55	PETERSON MURUKI IRERI	11672161	0728981274	<del>John</del>
56	EVANS MWANIKI	26023510	0724842616	<del>John</del>
57	BENJAMIN NTAGA NJERU	0892362	0766332689	<del>John</del>
58	KIDWASA NJIRI KIRATI	10222549	0713488923	<del>John</del>
59	NJIRU NDUMA	N/A	N/A	<del>John</del>
60	NICASIOS WAKAKA	3707091	0727140436	<del>John</del>

61	FAITH KITHAKA	3304746	6720488116	FRANCIS
62	ANNE L. NJIU MURAGARI	3706703	0721874833	<del>FRANCIS</del>
63	NALFAH M. WAMATI	20176458	0729669862	FRANCIS
64	LUCY MUTHONI IREI	28239234	0728258778	MURUGU
65	IBRAHIM MURONGIUKI	21931411	0790879177	MURUGU
66	JACKLINE NDERAI	135744035	0725262806	<del>FRANCIS</del>
67	ANDRIANO NYAGA KIGONDU	3097643	6799657907	<del>FRANCIS</del>
68	NICHAE MURU NJERU	329746	0785382432	<del>FRANCIS</del>
69	LINCON NGURU	0299880	0701024160	FRANCIS
70	JANE NPIGA MURUTHUKU	3765026	0704028392	FRANCIS
71	PETER NJAGI NANYU	0299637	0711682909	<del>FRANCIS</del>
72	DAVID MURUTHI NDOO	13573020	0701416755	<del>FRANCIS</del>
73	RECHAE MUTHONI MINANIKI	21941989	0724342476	RACHAEL
74	NZUE NJUKI	3764862	0702024592	FRANCIS
75	DANIEL MUNENE	026859694	0724365258	FRANCIS
76	EPHANTUS MUGO NJAGI	31277317	0739603165	FRANCIS
77	GIBSON NJERU ITUMU	3297262	0725888449	FRANCIS
78	MURINDA KINYATE	6024614	0720817697	FRANCIS
79	JOHN W. RUWIR	3297476	0710393212	FRANCIS
80	NICHASIO IREI	27640319	0723157640	FRANCIS
81	JAMES NJERU	11556913	0720594754	FRANCIS
82	EUSTUS NGUYU	21939370		FRANCIS



ESIA 7 Forks Solar Power Project

December 2017

N7FF1	26117504	0726365340	
JA	N/A	N/A	
INWA	N/A	N/A	
ELU	28339842	0712096523	
RU	13339468	0729974543	
RI	21572501	0729720182	
AGA	22269448	072268709	
EG1	25210174	0704012453	
Juni Njira	1299877	0724434774	
Nulao	11672192	0721174853	
ro	0266992	070592253	
U NJERO	0854991	0729738358	
AM	22668337	0701035954	
NER	11023049	0720512025	
JAB1	11151797	0725346228	
AG1	26239277	0726740440	
RU	0882697	0704512810	
ELU	8067459	0711655172	
OK1 NJUR	3709725	N/A	
GI NJHE	0765391	N/A	
NBA 1250H			
KA	0459378	0724093566	

100	BABY NANCY NJERI	24154244	0707609425	<i>[Signature]</i>
101	ROSE WAWIRA	21236080	0716042623	<i>[Signature]</i>
108	REAH KICURU MUNENE	9880803	0706010690	<i>[Signature]</i>
109	STANWAT WACHIRA	13838824	0723051744	<i>[Signature]</i>
110	ELISHEBA MBUI	0705025023	0729652375	<i>[Signature]</i>
111	ANTONY MBOGU NDWIGA	0401055		<i>[Signature]</i>
112	JOSUA KIGOME MUTINDA	21898789	071567241	<i>[Signature]</i>
113	JOSEPH M. KATHANZU	4251139	0725449717	<i>[Signature]</i>
114	JAMWAT NJOROGE NJERU	3768783	0728896850	<i>[Signature]</i>
115	DICKSON IRERI	0884564	0765380861	<i>[Signature]</i>
116	DOROTHY WANGU	28756249	0765138081	<i>[Signature]</i>
117	GRACE WAMBUU	23761277	0710535909	<i>[Signature]</i>
118	ANTHONY MWANIKI	14410404	0734631443	<i>[Signature]</i>
119	AGATA MWENDIA	23235240	0724165154	<i>[Signature]</i>
120	JOHN NJAGI	10461293	0722594582	<i>[Signature]</i>
121	Beatrice Wangithi	1404052	0712550471	<i>[Signature]</i>
122	Patrick N. Mugo	3706886	0724591159	<i>[Signature]</i>
123	Simon Ndaga	22832387	0728122567	<i>[Signature]</i>
124	Gideon Ngari	5747334	0741609580	<i>[Signature]</i>
125	ALBERTO MWANGANGI	324942203	0702187332	<i>[Signature]</i>
126	DAVID MWANGANGI	27732614	0798793660	<i>[Signature]</i>
127	JOSEPH MWANIKI	1303168	0724854840	<i>[Signature]</i>



128	JOTCK MURARE NGIRI	3707023	0124860538	<del>Keyce</del> Keyce
129	JOHN MURUKI NJAGI	21985847	0700610411	<del>Keyce</del> Keyce
130	AGNES IGOKI NJERU	28174083	0718260861	Am. Abuya
131	AGNES MBURA	10222896	0116836687	
132	GLADIS NJERU	11022631	0714898492	Grace
133	PURITY NGITHI		0708510220	PR.
134	SOSPETER IREI	8922951	N/A	JP.
135	ESTHER KITHAKA	3764475	N/A	
136	DECIITA NTHIGA	N/A	N/A	
137	VIDES MBANDI	9522240	0792841038	<del>PR.</del>
138	MARY MDOGU	10461718	0787426225	PR.
139	CHARITY NJOKI	25451045	0707029283	<del>Keyce</del> Keyce
140	JOTCK WAWIRA	24841044	0728179011	<del>Keyce</del> Keyce
141	ANNE MBANDI	23107121	0705233554	<del>PR.</del>
142	WINNATE KARITA	20851509	0722432054	<del>PR.</del>
143	NICHASIAS MWANIKI	20878482	0723780734	<del>PR.</del>
144	ROSE NJIRI NJERU	8296225	N/A	R-NIN
145	JANE NJOKI	30129732	0726741337	J.M
146	EDITH NJOKI	23025182	0700641290	ED
147	FAITH MUGO	3706950	0702502088	PR.
148	REBINA NGABANI	27859210	0714203235	<del>PR.</del>
149	PHILROSCAT NGINYA	12574644	0722901073	PR.

150	NJERU NJHE	140867	0701373820	WERU
151	JOHN NYAGA RUNJI	4410408	0722373602	<del>WERU</del>
152	FAITH NIGI KING'ANGI	2164732	0715127054	700 / 400
153	PHILIP NYAGA RUKINDU	10641675	0723527004	
154	JEREMIAH KARIUKI	27957801	0713473843	
155	GRACE MURATA	10728180	0718857712	4679
156	LUCY MWENDIA	27020524	0714778832	04
157	JOSEPHINE NDEGI MUTINI	3764553	N/A	700
158	BENJON K. GATITI	8067453	0729895374	
159	MUTURI NJURACA	N/A	N/A	<del>4679</del>
160	BEATRICE WANJA	29238841	0708427469	04
161	NICHTOLAS MUGABDI	N/A	N/A	
162	LYDIA NYAMBURI	33162138	0707950146	4679
163	TERESA MUTHONI NYAMBURI	22504026	0720934573	4679
164	LUCY NGINYA NJERU	22930915	0710737015	
165	JOYCE UUKU	3706227	0712838690	04
166	JUSTA NJAGI	N/A	N/A	04
167	ALBERT N. RUNJI	13884254	0721690558	<del>4679</del>
168	THOMAS MBITHI NJUE	8742963	0795613445	4679
169	SIMON MARIKWA	22077065	0715717814	4679
170	HAMPTON MUGO	3923404	0714243475	4679
171	AUGUSTINE NYAGA IRERI	3416276	0713530670	4679



172	JOHN MWAMBIKI	24149506	0729096363	<del>Thumwa</del> <del>for</del>
173	STANLEY GICHONI	14410405	0792737128	<del>Shut</del>
174	NICHAELE MUAHANI	24379291	0791245160	<del>MUAHANI</del> <del>for</del>
175	JOHN NDUNGU	24330423	0706314531	<del>MUAHANI</del> <del>for</del>
176	THOMAS MUCENGI	0290028	0713529879	<del>MUAHANI</del> <del>for</del>
177	Raphael Kisio	2736933	0700014281	<del>MUAHANI</del> <del>for</del>
178	JACKSON MWANGI	20474765	0724575088	<del>MUAHANI</del> <del>for</del>
179	ALICE INANGARI	30129552	0705343953	<del>MUAHANI</del> <del>for</del>
180	ANN EZEKIEL	31310825	0704530878	<del>MUAHANI</del> <del>for</del>
181	DEAN MUTHINI	33077302	0798793107	<del>MUAHANI</del> <del>for</del>
182	Hedia NGIGI KIGIONDU	2297426	071021047	<del>MUAHANI</del> <del>for</del>
183	TABITHA NDERGWA	20418734	0724905099	<del>MUAHANI</del> <del>for</del>
184	JANIFA SAMU	N/A	N/A	<del>MUAHANI</del> <del>for</del>
185	DAVID NJUE	0265303	0720236170	<del>MUAHANI</del> <del>for</del>
186	DAVID MURUGA NDARA	7035731	0711129525	<del>MUAHANI</del> <del>for</del>
187	DERBEKA MURUGA	7420681	6103010482	<del>MUAHANI</del> <del>for</del>
188	JOSPHINE KARIKI	22059475	0790522493	<del>MUAHANI</del> <del>for</del>
189	NICHAELE KIUUTI	23394939	0740374654	<del>MUAHANI</del> <del>for</del>
190	DURGAN MARINGA	35507789	07 N/A	<del>MUAHANI</del> <del>for</del>
191	MERIC NDERGI	10461897	0702130310	<del>MUAHANI</del> <del>for</del>
192	JESSICA NGUNTI NYAKA	3297422	N/A	<del>MUAHANI</del> <del>for</del>
193	KIDARA NYAKA	24012090	0729349704	<del>MUAHANI</del> <del>for</del>





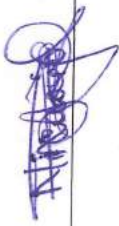















# ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR 7 FORKS SOLAR POWER PROJECT, KENYA

## PUBLIC CONSULTATION MEETING - ATTENDANCE SHEET

Venue: Machanga Market

Date: 6 December 2017

No.	Name and Organisation	Contact Details	Signature
①	Rev Boniface Mungo-Fack	0729430777 0707287105	
2.	Rev. BENAM MURITHI	BOENAMITURACY OFFICE 07244733166	
3	NICASIO NJIRU NJAGI	0713 984607	
4	MWIRHAKI MATHU	ECO PLAN MGT 0712686382	
5	JOSEPH K. MURISO	CHIEF-KIVAA LOCATION 0720551900	
6	ROMANUS OPIYO	ECOLLAN MGT 0722718096	
7	JOHNSON NJETEM	KENIGEN HQ	
8	NICOLA DAVIES	NOT MENTIONED	

9	PENINAA MBUTHI	KENGEN 0716516238	Mwiti
10	Flora Kamanya	KENGEN 0722618285	
11	PHILIP MWUKUSA	Kanien 0721440331	
12	Isabel Kanuku	Kanien 0722-556837-	
13	Elizabeth Njenga	0722659726	
14	Julius Odumbo	0722309986 ASS CHIEF KOMBOMUNYUA	
15	ANTHONY N MUNDU	0727569930	
16	Hon Jotho Tribana Senior Chief	MCA MURURU 0722670674	
17	NICHOLAS M. NJERU	Chief - MURURU	





















# ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR 7 FORKS SOLAR POWER PROJECT, KENYA

## PUBLIC CONSULTATION MEETING - ATTENDANCE SHEET

Venue: MACHANGA MARKET

Date: 06 December 2017

No.	Name and Organisation	Contact Details	Signature
1	SILVANO MUNENE	0726489368   20632534	
2	JOHN MACHARIA	0733567166   11654721	
3	MARGARET NJOKI	0705487635   13855793	
4	NAOMI MABUSA MBUYA	0724126384   32977425	
5	ABINTA MOI		
6	TIVUS MUDANIKI NGDCHI		
7	JOSEPHINE N. NJUE	071458 0721896638   11556734	
8	JAMES NJERU	3706617	
9	KABO GICHERU	13573937	
10	STEPHEN WAKINYA	—	
11	SAMUEL JOEL MUTINI	10345400	
12	DANION MBOGO THAUTHI	0269487 107204556	
13	ONEMUS ICARIKI NJERU	0729074975   3665572	
14	DANIEL MBOGO	0703912928   27404298	
15	FLORENCE MUNYIVA NZOMO	24189096	
16	BENGDON MBUVA	0710687526   10639523	
17		0724493672   22352576	

17	CATHERINE NDUKU	0727432245   13637371		MURUGA NIAGI
18	DAVID KIKUNGU	3 707444		
19	LIDIA WANTA	0715405590   28051237		
20	ANN NDIRUMA NTERU	0713488920   21826093		
21	TULSIAN KADUKU MUTHAMA	0707209414   24327155		
22	GEREMIAH IREKI	07218671181 / 224988330		
23	BENEFACE MUTHURU NGURU	0721226510   02969770		
24	DICKSON N. NDUKI	0721703080   11150088		
25	KYANS KIMANTU NDUKU	0723782143		
26	ESTHER MUTHI MURUKIO	070675188   0726747649		
27	Stanley Ciceli	0727757786   26714267		
28		0726486002   3526702		
29	ALFINGE NYIRU	07085-282257		
30	KENNEDY MUNENE NSIRU	0706466391   133758991		
31	JUSTINE MUNENE	0792841037   35101500		
32	JULIANA MUTHONI NJIRU	13764911		
33	BEATRICE NYAGA MTHIGA	0721 623203 11, 0263753		
34	JULIUS KIRIMA	0721341939 / 15:9697694		
35	CHARITY NYAGA	0713942182 / 1242264		

MURUGA NIAGI

DUKU

NIAGI

WANTA

NDURUMA

NTERU

KADUKU

MUTHAMA

IREKI

MUTHURU

NGURU

NDUKI

KIMANTU

NDUKU

ESTHER

MUTHI

MURUKIO

Stanley

Ciceli

ALFINGE

NYIRU

KENNEDY

MUNENE

NSIRU

JUSTINE

MUNENE

JULIANA

MUTHONI

NJIRU

BEATRICE

NYAGA

MTHIGA

JULIUS

KIRIMA

CHARITY

NYAGA



26	Dominic m mbumba	07 77 335 143	<i>[Signature]</i>
37	JUSTIN N. NOKA	0716070298 / 1085221	<i>[Signature]</i>
38	Emice Kavigi NOKA	0710531977 / 57730610	<i>[Signature]</i>
39	Susan Mbuya NOKA	0725068996 / 24552552	<i>[Signature]</i>
40	Miriam NOKA	0711904319 / 29585460	<i>[Signature]</i>
41	JOYCE MBUYA MURISHI	07741609874 / 2838401	<i>[Signature]</i>
42	ROSE MUTHONI NJERU	0708394558 / 29191363	<i>[Signature]</i>
43	IDENE KADIGI MUNENE	0406479689 / 2377236	<i>[Signature]</i>
44	Leza Njoki J.W.	0728-018306 3707697	<i>[Signature]</i>
45	ASMAH MBUYU	0727090594	<i>[Signature]</i>
46	GRACE WAMBA	0708682559 74153813	<i>[Signature]</i>
47	CITIZEN NJERI	071513R51 / 9068643	<i>[Signature]</i>
48	Terecia Kagendo NJERI	0798424313 / 30054474	<i>[Signature]</i>
49	JERUSA MURISHI	0708617988 / 8046877	<i>[Signature]</i>
50	MARGARINE MUTHONI	N/A 82979557	<i>[Signature]</i>
51	SANAN WANGAR	0780577471 93031309	<i>[Signature]</i>
52	LINCOLN M. MUNENE	0723021120 1323230	<i>[Signature]</i>
53	DAVID NOKA	0729371351 11852097	<i>[Signature]</i>
54	NAOMI MBUYU	077 N/A 3297511	<i>[Signature]</i>
55	NICHOLAS NJAGA	N/A 072885554 N/A	<i>[Signature]</i>
56	LUCY NJERU	0723-835-5529 20227051	<i>[Signature]</i>

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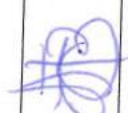





# ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR 7 FORKS SOLAR POWER PROJECT, KENYA

## PUBLIC CONSULTATION MEETING - ATTENDANCE SHEET

DE-BRIEF MEETING

Venue: MATENDENI CAMP

Date: 6 December 2017

No.	Name and Organisation	Contact Details	Signature
1.	ROMANUS OPIYO - ECOPLAN MGT.	0722718096	
2	RICHARD OLOTI MONG'ARE ECOPLAN	0720721282	
3	Elizabeth Dengi	0722659726	
4.	Florah Mwanghangga	0705116019	
5.	PENINAH MURUTHI	0716516238	
6	Obad Kanuku	0722596837	
7.	JULIAS JUMA OGERA NATIONAL MUSEUMS OF KENYA	0701 260 904 jogoya@museums.or.ke	
8	Dr. Ogonji (Kalenjin)	0721458661	

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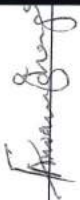







MEETING WITH OPERATIONS MGR.

KENGEN-KITIRO GITARU AT 8.30 AM

ESIA 7 Forks Solar Power Project

December 2017

NAME	ORGANISATION & TITLE		CONTACT AND SIGNATURE
	ECO PLAN / NOT MAC		
1 RICHARD OGOTI MONG'ARE			0720721282 
2 NICOLA DAVIES	NOT MAC.		+12819287625.
3 Obed Kanyuki	Ken Gen		0722596837 
4 PENINAH MBUITHI	Ken Gen		0716516238 
5 FLOREN MWANGATHANGA	Ken Gen		0705116019 
6 MWIHAKI MATHU	ECO PLAN		0712686382 
7 ROMANUS OPIYO	ECO PLAN		0722718096 
8 GUNUS OBUMBE	Ken Gen		0722308986 
9 JOHNSON NJERU	Ken Gen		0722986622 
10 PHILIP MUKHAYA	Ken Gen		0721440331 

MEETING WITH OPERATIONS MGR.

KENGEN-KITIRO GITIRO AT 8.30 AM

ESIA 7 Forks Solar Power Project

06 / December 2017

	NAME	ORGANISATION & TITLE		CONTACT AND SIGNAL
		ECO PLAN / MOTT MAC		
1	RICHARD OGOTI MONG'ARE			0720721282 <del>Ken</del>
2	NICOLA DAVIES			+12819287025.
3	David Kanuki	Ken Gen		0722596837 <del>Ken</del>
4	PENINAH MUBITHI	Ken Gen		0716516238 <del>Ken</del>
5	FLOREN Mwangi HANGA	Ken Gen		0705116019 <del>Ken</del>
6	MWIKAKI MATHU	ECO PLAN		0712586382 <del>Ken</del>
7	ROMANUS OPIKO	ECO PLAN		0722718096 <del>Ken</del>
8	GUINUS ODUMBE	Ken Gen		0722309986 <del>Ken</del>
9	JOHNSON NJERU	Ken Gen		0722986622 <del>Ken</del>
10	PHILIP MUKUNDIA	Ken Gen		0721440331 <del>Ken</del>



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**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR SEVEN  
FOLKS SOLAR PROJECT, KENYA**

**PUBLIC CONSULTATION – MEETING MINUTE**

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**Venue:** MACHANGA MARKET

**Date:** 06/12/2017

**Time Started:** 11.30 A.M

**Time Ended:** 4.30 P.M

**AGENDA**

- Introduction of the Kengen and consultation team
- Project brief
- Question and answer session
- Vote of thanks
- Closing prayers
- Refreshments

**MIN 01/2017 INTRODUCTION**

The meeting commenced with prayers from Pastor Mumo. The Master of Ceremony (M.C) who was Mr. Njiru then invited the Area Chief Mr. Michael Njeru. The chief started by welcoming all the guests and appreciated their attendance. He stated the reason for the public consultation which was to get the views of the affected and interested parties regarding the Seven Folks Solar Project by Kengen.

He later called upon the Chief of Kivaa Mr. Joshat Karungu. The kivaa chief stated that he had come with some community members from Kivaa and requested them to stand and greet the people. He also acknowledged the presence of the Assistant Chief from Kivaa. He stated that the proposed project was a viable one and a very good idea and project. He stated that they have a good working relationship with the people of machanga and that during construction and implementation phases of the project the

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community from Kivaa should be considered and able to benefit from the solar project. He concluded by appreciating all the CSR projects that Kengen has rolled out in their area. The M.C acknowledged the presence of the Machanga CDF group and the former Machanga Member of County Assembly (MCA).

The M.C proceeded to invite the Kengen Operations Manager Mr. Julius Odumbe who would introduce the Kengen team and consultation team

Mr. Julius recognized and thanked the Machanga and Kivaa chiefs, the machanga and Kivaa community members for attending the meeting. He then introduced the Kengen team and later the consultant team. He went to state that the purpose of the public consultation was for the consultant team to table their findings on the draft ESIA report as of December 2017. He also stated that once they have been briefed they will be a question and answer session for them to table their views and also give recommendations. He then invited the Community liaison officer.

The community liaison officer thanked all for their attendance and stated that it was a good project and has been bought close to the community. She gave a brief on the project location and went on to explain that the road leading to the project site will be upgraded, there will be a street lighting project and that the project is not close to the river. She went on to state that the Machanga and Kivaa community to live in unity as has been the case in the past and that both communities will benefit equally from the proposed project. She concluded by appreciating the presence of all.

Mr. Julius went on to state that the proposed project will bring many benefits to the community and that their relationship with the community has been good and should be maintained. He gave a brief on project location and that the proposed project will have minimum interference on the daily livelihoods of the community members. He later on invited Mr. Johnson from Kengen to give a technical brief on the proposed project.

Mr. Johnson stated the project location and clarified that not all the land will be used for the proposed project and gave a technical brief on the project. He stated that he had a chance to speak to the community members and different government officials and agencies and that the response so far was positive. He also stated that the proposed



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project is likely to commence in 2018 upto 2019. He invited Mr. Richard Ogoti from Eco Plan to give the findings from the scoping exercise.

## **MIN 02/2017 FINDINGS FROM THE DRAFT ESIA REPORT**

### **RICHARD OGOTI**

Mr. Richard began by greeting the machanga and Kivaa people and thanked all for their attendance. He stated that public consultation was an on-going process and that in regards to this project it started in April 2017. He went on to state that public consultation and participation was carried out in accordance with EMCA 2015 and IFC international guidelines and standards. Started with explaining the EIA process and stated the various agencies that have been consulted. He went on to state that noise and water analysis have been conducted to assess if the project will have any negative impacts. He concluded by thanking people for listening and invited Dr. Romanus to talk about socio-economic findings.

### **DR. ROMANUS OPIYO**

Dr. Romanus thanked and appreciated all for coming and listed the areas that he would cover that is Socio-economic, biodiversity and cultural heritage findings.

#### **a) Socio-economic**

He stated that for fishers, grazers and bee keepers that they will still be able to access the land and that beehives will be relocated and will continue to get their dues. As for the medicinal trees they will be replanted in the neighbouring Kengen land and that the proposed project will not affect current jobs. He also stated that jobs will be created and shared through the proposed project.

#### **b) Biodiversity**

He stated that on the project site that flora and fauna will be affected. In the case where animals/wildlife has been affected Kengen will consult with Kenya Wildlife Service (KWS) on how to handle the wildlife.

#### **c) Cultural Heritage**

He stated that the project site has no cultural activities thus the area is suitable for the project. There will be a buffer zone to reduce the glare from the solar panels. He concluded by inviting Nicola Davies from Mott MacDonald.

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## **NICOLA DAVIES**

Appreciated the presence of all in attendance and talked about the environmental impacts as a result of the project. She stated that the environmental impacts were on Air, Noise, Traffic, Solar reflections and waste management and the mitigation measures. She thanked all for listening and opened the question and answer session.

## **MIN 03/2017 Question and Answer session**

The Q & A session was moderated by the Machanga Area Chief.

### **Mr. David Mureithi**

- 1) Can the proposed project take water to the households to avoid attack of the people at the river by crocodiles
- 2) Where will the animals be grazing since the project will lock out the herders from accessing the grazing land?
- 3) How will the project reduce marginalization of the community as has been the case in the past?
- 4) Can the project provide electricity to the residents as part of CSR?
- 5) Can there be a re-afforestation program to replace the cut down trees and shrubs?
- 6) Can the community be considered for skilled labour e.g Managers?
- 7) How will kengen ensure that the waste will be disposed properly?

### **Response:**

- There is a water supply program which is unerway
- On employment the first opportunities will go to the local communities
- On being connected to the national grid kplc and rea programs to the schools and houses are on-going
- On water supply the project will have a community water point.

A proposal was raised to change the rule of enggement. The new rule of engegement was to raise all the questions first and the responses will be given after.



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### **JOHN NJOKA RUNJI**

- 1) How can the community bitterness be reduced since the community gave land in 1972 without being consulted and have no water?
- 2) Can there be an MOU on employment between residents and the project?
- 3) On the value of trees to be cut mukalakala shrub is medicinal can cure TB, how can that be mitigated?
- 4) Will this project benefit the local residents economically and in terms of infrastructure development?

### **ANN NJIRU**

- 1) Can transformers be increased beyond 600 M? That is closer to the households –to be supported by this project?
- 2) How will kengen ensure adherence to the MOU on employment from kivaa and mavuria community?

### **DOMINIC MUNYI (Representing Persons with Disability)**

- 1) The community of disabled was not involved in the ESIA. Historically i was displaced during the construction of kamburu dam. Being a small boy and in school he was negatively affected. How will the persons living with disability be assured of inclusion in the job opportunities? He fears the glare from the panels can cause damage to the eyes?

### **Anthony Mburu (Kivaa Area)**

- 1) Can a written agreement be prepared detailing all the project objectives and community benefits?
- 2) Can the community be supplied with clean water to enhance availability of water to the households and not at the project site? How can you avoid the girls in the community visiting those strangers who can abuse them in the name of going for water?

- 
- 3) Can there be an MOU on sharing the produced electricity even 5% production taken to the people?
  - 4) Can there be a committee from the community to meet regularly on the project process?
  - 5) The question of shambas still not resolved?
  - 6) Can locals be considered for jobs?

### **NICASIUR WARAKA**

- 1) There is a history of people been attacked by crocodiles, how will you improve or reduce human-animal conflict ( in the case of kamburu and gitaru)
- 2) A proposal of a youth centre to address cases of youth problems and empowerment?

### **MR. NAMU**

- 1) Referring to a Titanium mining project in kitui , can the community be assured of how the negative effects will be addressed and by who?
- 2) Who is in charge of the entire project during the installation period?
- 3) When will the project start?

### **MR. MOSES**

- 1) Can the community dialogue be clear in order to chart the way forward? There is need to initiate dialogue for community and kengen for good relationship
- 2) The impact on climate change not addressed?
- 3) Casual labourers to be paid well
- 4) A program of employing on contract skilled and unskilled labour to be put in place involving the community
- 5) Need to conserve the local trees of medicinal value
- 6) The project to be regarded as a new project
- 7) How can this zone known as a bufferzone for earlier projects be for another project?



- 
- 8) What is the project cost? In order to negotiate the CSR percentage to the community.
  - 9) There is positive discrimination. How many employees in kengen come from the local community?

#### **DAVID MBITHI GIKUNGU**

- 1) Proposal- the project to nurture talents and empower talented children
- 2) Security to be enhanced in schools and in the area

#### **MUTHAMI (FORMER MCA MAVURIA)**

- 1) Stated that there are historical injustices to the local community by kengen
- 2) The project can partner with county government to seek more funding for CSR projects
- 3) The contractor doing the local road to involve mavuria residents.
- 4) Asked kengen to supply the dispensary at machanga with maternity beds and other facilities.
- 5) Health and social impacts such as HIV/AIDS infections from strangers during construction period to be addressed.
- 6) Can a recreation centre and club be established at the project site be handed over to the local community.
- 7) Land was not compensated since 1985 , this injusticies to be addressed before the project begins.

#### **JEREMIAH IRERI**

- 1) Expects a feedback from kengen as the community was asked to list what they want to be done in terms of security, road infrastructure, water supply, education, electricity (subsidized prices), climate change mitigation strategies, administrative posts.

#### **OTHER QUESTIONS AND RECOMMENDATIONS ASKED**

- 
- 1) The local community has been neglected as kengen has contributed alot to national development e.g electricity generation
  - 2) The process to be re-planned
  - 3) Local people to be educated about the project
  - 4) Water to be supplied to the residents
  - 5) Scholarships from kengen to students to be increased
  - 6) Youth empowerment to be considered
  - 7) The CSR opportunities to be accorded to the locals
  - 8) All weather roads in the project area to be improved
  - 9) Upgrading the local dispensary to a health centre

#### **MIN 04/2017 RESPONSES**

##### **MR.JULIUS**

- Kengen is committed to maintaining a good relationship with the community
- Committes will be involved in all the stages of this project
- He has received a water proposal
- Kengen already supplying seedlings for a green environment
- Kengen has employed many locals and some have been transfered to other areas within the community
- Will partner with government and other agencies to increase electricity supply
- Persons with disability will not be left out when employing

##### **Dr.Romanus Opiyo**

He thanked all for their participation and stated that all public projects must involve members of the public, however residents must be keen on priorities.

##### **MR. BEDAN CDF MANAGER**

He agreed with the resolution of the forum and advised that negotiations to be undertaken and scholarships to be increased from kengen.



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### **MIN 05/2017 ADRESS FROM THE MCA NGARI MBAKA**

He began by appreciating presence of all and stated that not all pledges and promises from kengen have not been honoured and that the project should be renegotiated a new. Added that the local people to be considered first for jobs and agree on a mode of payment. His other recommendations were;

- A committee to be put in place immediately to oversee the process
- A water storage tank to be installed in mavuria for adequate water supply
- A complete ESIA should be conducted
- By products of the project to be given to the community

The Kivaa chief stated that when it comes to the projects the benefits to be shared equally.

### **MIN 06/2017 CLOSING REMARKS**

The M.C gave a vote of thanks to all in attendance.

The meeting was closed with a word of prayer from Mr. Bedan.

## **K. Land Documentation**



GAZETTE NOTICE NO. 2194

## REGISTERED LAND ACT

(Cap. 280, section 35)

## NEW CERTIFICATE

of Mulu in the Republic of Kenya, in absolute ownership/leasehold of land containing 604 acres in the District of Embu registered under the District of Embu and whereas sufficient evidence has been received that the land certificate/certificate of title has been lost. Notice is hereby given that the new Land Certificate/Certificate of Lease provided for in the Act shall be received within that period.

1976

A. G. W. MAINA,  
Land Registrar, Embu

## REGISTERED LAND ACT

(Cap. 280, section 35)

## NEW CERTIFICATE

ID/4933 MBU of Embu in the District of Embu as proprietor in absolute ownership of all that piece of land situated in the District of Embu, Parcel No. Gaturi/Githimu/180, and whereas sufficient evidence has been received that the land certificate/certificate of title has been lost. Notice is hereby given that the new Land Certificate/Certificate of Lease provided for in the Act shall be received within that period.

A. G. W. MAINA,  
Land Registrar, Embu.

## REGISTERED LAND ACT

(Cap. 280, section 35)

## NEW CERTIFICATE

EBU 121728 of Kanja Village in the District of Embu as proprietor in absolute ownership of that piece of land containing 17.15 square kilometres situated in the District of Embu, Parcel No. Kanja/525 registered under the District of Embu and whereas sufficient evidence has been received that the land certificate/certificate of title has been lost. Notice is hereby given that the new Land Certificate/Certificate of Lease provided for in the Act shall be received within that period.

## THE TRUST LAND ACT

(Cap. 288)

## SETTING APART OF LAND

NOTICE is hereby given that the land described in the Schedule hereto has been set apart in accordance with the provisions of Part IV of the Trust Land Act for the purposes specified in the said Schedule.

## SCHEDULE

Place.—North Yatta, Machakos District

Purpose.—Hydro-electric Scheme.

Area.—27.74 square kilometres.

## Description of the land:—

An area of land of approximately 27.74 square kilometres situated approximately 65 kilometres North East of Thika Municipality in Machakos District, Eastern Province, the boundaries of which are more particularly delineated, edged red on Boundary Plan No. 179/103 which is signed and deposited in the Survey Records Office, Survey of Kenya, Nairobi.

The above-mentioned Boundary Plan may be inspected in the office of the Commissioner of Lands, Harambee Avenue, Nairobi.

Dated this 20th day of July, 1976.

P. M. THUMI,  
for Commissioner of Lands.

GAZETTE NOTICE NO. 2195

## THE TRUST LAND ACT

(Cap. 288)

## SETTING APART OF LAND

NOTICE is hereby given that the land described in the Schedule hereto has been duly set apart in accordance with the provisions of Part IV of the Trust Land Act for the purposes specified in the said Schedule.

## SCHEDULE

Place.—Kambura, Embu District.

Purpose.—Hydro-electric Scheme.

Area.—Approximately 17.15 square kilometres.

## Description of the land:—

An area of land of approximately 17.15 square kilometres, situated approximately 65 kilometres North East of Thika Municipality in Embu District, Eastern Province, the boundaries of which are more particularly delineated, edged red, on Boundary Plan No. 179/102 which is signed and deposited in the Survey Records Office, Survey of Kenya, Nairobi.

The above-mentioned Boundary Plan may be inspected in the office of the Commissioner of Lands, Harambee Avenue, Nairobi.

Dated this 20th day of July, 1976.





# **Seven Forks Solar Project**

Volume IV Environmental and Social  
Management Plan (ESMP)

December 22, 2017



Mott MacDonald  
1585 Sawdust Road  
Suite 175  
The Woodlands TX 77380  
United States of America

T +1 (281) 292 2639  
F +1 (281) 298 3274  
mottmac.com

# **Seven Forks Solar Project**

Volume IV Environmental and Social  
Management Plan (ESMP)

December 22, 2017

# Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	19 December 2017	E Lamb	N Davies A Martins	L Jones M Lupton	Draft Report
B	22 December 2017	E Lamb	A Martins	M Lupton	Final Report (corrected typos, changed Project boundaries in maps, updated Project schedule, made it clear that timing in the Project schedule are estimates only and subject to change, replaced Main Contractor for EPC Contractor)

**Document reference:** 383185 | 1 | B

**Information class:** Standard

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# Glossary of terms

**Table 1: Glossary of terms**

Term	Definitions
Area of Influence (AOI)	The area over which the impacts of the Project are likely to be felt including all its related or associated (where applicable) facilities such as the transmission line corridor, water and steam pipelines, access roads, borrow pits, accommodation facilities (where required) as well as any reasonably foreseen unplanned developments induced by the Project or cumulative impacts
Baseline surveys	Gathering of data to describe the existing physical, biological, socioeconomic, health, labour, cultural heritage, or any other variable considered relevant before project development
Biodiversity	Variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems
Chance find	Archaeological or cultural sites and artefacts, including such items as ceramics, tools, buildings, burials, etc., previously unrecognized in baseline studies that are discovered during exploration activities
Consultation	Consultation is a two-way process of dialogue between the project company and its stakeholders. Stakeholder consultation is about initiating and sustaining constructive external relationships over time.
Cultural heritage	Defined as resources with which people identify as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions
Cumulative impacts	The combination of multiple impacts arising from existing projects or activities, and/or anticipated future projects or activities
Ecosystem	The interacting system of a biological community and its non-living environmental surroundings
Emission	Pollution discharged into the atmosphere from smokestacks, other vents, and surface areas of commercial or industrial facilities; from residential chimneys; and from motor vehicle, locomotive, or aircraft exhausts
Environmental and Social Impact Assessment (ESIA)	A forward-looking instrument that can proactively advise decision-makers on what might happen if a proposed activity is implemented. Impacts are changes that have environmental, political, economic, or social significance to society. Impacts may be positive or negative and may affect the environment, communities, human health and well-being, desired sustainability objectives, or a combination of these.
Environmental and Social Management Plan (ESMP)	Summarises the company's commitments to address and mitigate risks and impacts identified as part of the ESIA, through avoidance, minimization, and compensation/offset, and monitor these mitigation measures.
Environmental and social management system (ESMS)	Part of a project's overall management system that includes the organizational structure, responsibilities, practices and resources necessary for implementing the project-specific management programme developed through the environmental and social assessment of the project
Good International Industry Practice (GIIP)	Exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. The outcome of such exercise should be that the project employs the most appropriate technologies in the project-specific circumstances
Greenhouse gases	The following six gases or class of gases: carbon dioxide (CO <sub>2</sub> ), nitrous oxide (N <sub>2</sub> O), methane (CH <sub>4</sub> ), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF <sub>6</sub> )
Grievance mechanism	Procedure provided by a project to receive and facilitate resolution of affected communities' concerns and grievances about the project's environmental and social performance
Habitat	Terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the non-living environment
Hazardous waste	By-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Substances classified as hazardous

Term	Definitions
	wastes possess at least one of four characteristics—ignitability, corrosivity, reactivity, or toxicity— or appear on special lists
Indigenous peoples	Defined by the World Bank E&S Framework as a distinct social and cultural group possessing the following characteristics in varying degrees: (a) Self-identification as members of a distinct indigenous social and cultural group and recognition of this identity by others; (b) Collective attachment to geographically distinct habitats, ancestral territories, or areas of seasonal use or occupation, as well as to the natural resources in these areas; (c) Customary cultural, economic, social, or political institutions that are distinct or separate from those of the mainstream society or culture; and (d) A distinct language or dialect, often different from the official language or languages of the country or region in which they reside
Indirect area of influence	Includes area which may experience project related changes in combination with activities not under the direct control of the project
Information disclosure	Disclosure means making information accessible to interested and affected parties (stakeholders). Communicating information in a manner that is understandable to stakeholders is an important first and ongoing step in the process of stakeholder engagement. Information should be disclosed in advance of all other engagement activities, from consultation and informed participation to negotiation and resolution of grievances. This will make engagement more constructive.
Intangible cultural heritage	According to the 2003 UNESCO convention for the safeguarding of intangible cultural heritage, manifestations of intangible cultural heritage include: Oral traditions and expressions, including language; Performing arts; Social practices, rituals and festive events; Knowledge and practices concerning nature and the universe
Invasive alien species (also, invasive species, non-native invasive species)	Non-native species of flora and fauna that are a significant threat to biodiversity due to their ability to spread rapidly and out-compete native species
KenGen	Kenya Electricity Generating Company Limited, the Project Proponent
Land acquisition	All methods of obtaining land for project purposes, which may include outright purchase, expropriation of property and acquisition of access rights, such as easements or rights of way
Livelihood	Full range of means that individuals, families, and communities utilize to make a living, such as wage-based income, agriculture, fishing, foraging, other natural resource-based livelihoods, petty trade, and bartering
Modified habitat	Land and water areas where there has been apparent alteration of the natural habitat, often with the introduction of alien species of plants and animals, such as agricultural areas
Natural habitat	Land and water areas where the biological communities are formed largely by native plant and animal species, and where human activity has not essentially modified the area's primary ecological functions
Occupational health and safety	The range of endeavours aimed at protecting workers from injury or illness associated with exposure to hazards in the workplace or while working.
Pollution	Refers to both hazardous and non-hazardous pollutants in the solid, liquid, or gaseous forms, and is intended to include other forms such as nuisance odours, noise, vibration, radiation, electromagnetic energy, and the creation of potential visual impacts including light
Significance	Significance of impact considers the interaction between the magnitude and sensitivity criteria
Stakeholders	Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project or the ability to influence its outcome, either positively or negatively.
World Bank Group EHS Guidelines	Technical reference documents for environmental protection and set out industry-specific examples of 'international good practice'. Projects are expected to comply with the levels and measures identified in the General EHS Guidelines where host country requirements are less stringent or do not exist

Source: Mott MacDonald



# Acronyms

**Table 2: Acronyms**

Acronym	Term
AC	Alternating current
AIS	Alien Invasive Species
AOI	Area of Influence
CDM	Clean Development Mechanism
CEO	Chief Environmental Officer
CLO	Community Liaison Officer
CSI	Corporate Social Investment
CSR	Corporate Social Responsibility
DC	Direct current
E&S	Environmental and Social
EA	Environmental Assessment
EcMP	Ecological Management Plan
ECO	Environmental Control Officer
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Control Act
EMS	Environmental Management System
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
GIIP	Good International Industry Practice
GoK	Government of Kenya
H&S	Health & Safety
HRO	Human Resource Officer
HRRP	Habitat Removal and Restoration Plan
IFC	International Finance Corporation
ILO	International Labour Organisation
K&M	K&M advisors (feasibility consultant)
KeRRA	Kenya Rural Roads Authority
KeNHA	Kenya National Highways Authority
KPLC	Kenya Power and Lighting Company
MMLLC	Mott MacDonald LLC
MSDS	Material Safety Data Sheet
NCR	Non-conformance Report
NEMA	National Environment Management Authority
NGO	Non-Governmental Organisation
NMK	National Museums of Kenya
OHL	Overhead lines
OHS	Occupational Health and Safety
O&M	Operations and Maintenance
PCR	Physical Cultural Remains

Acronym	Term
PIT	Project Implementation Team
PPE	Personal Protective Equipment
PS	Performance Standards
PSC	Project Stakeholder Committee
PV	Photovoltaic
PWD	Person with disability
RES	Regional Environmental Superintendent
SCC	Stakeholder Coordination Committee
SEP	Stakeholder Engagement Plan
SWMP	Site Waste Management Plan
TMP	Traffic Management Plan
TRA	Training Needs Analysis
UN	United Nations

Source: Mott MacDonald

**Table 3: Measurements & formulae**

Acronym	Term
CO <sub>2</sub>	Carbon dioxide
dB	Decibel
dB(A)	Decibels Acoustic
GWh	Gigawatt Hour
Ha	Hectare
Hr	Hour
HV	High Voltage
Kg	Kilogram
Km	Kilometre
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt hour
l	Litre
Leq	Equivalent Continuous Sound level
LV	Low Voltage
m	Metre
M	Million
Masl	Metres above sea level
MW	Megawatt
MWe	Megawatt electrical
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Nitrogen oxide
PM <sub>10</sub>	Particulate matter
ppm	Parts per million
SO <sub>2</sub>	Sulphur dioxide
t	Tonnes
tCO <sub>2</sub> eq	Tonnes CO <sub>2</sub> equivalent



# 1 Introduction

## 1.1 Overview

Kenya Electricity Generating Company Limited (KenGen) has identified a need to expand and diversify the generation portfolio of Kenya. Supported by consultants K&M Advisors, Mott MacDonald LLC USA and EcoPlan Management Limited (EcoPlan), KenGen plans to develop the “Seven Forks Solar Project” a solar photovoltaic (PV) power project with capacity of approximately 45MW<sub>AC</sub> (“the Project”). It is intended that the electricity generated by the Project will be fed into the national power grid.

Mott MacDonald and EcoPlan have been commissioned to undertake an environmental and social impact assessment (“ESIA”) for the Project in accordance with the requirements of the EIA/EA regulations 2003, pursuant to the Environmental Management and Coordination Act (EMCA) 2015 (as amended) and in accordance with international lending guidelines as defined by the International Finance Corporation (IFC) Performance Standards (PSs) 2012.

This environmental and social management plan (ESMP) is designed to safeguard the environment, site staff and the local population from Project activity that may cause harm or nuisance. This ESMP is intended to provide a framework to ensure transparent and effective monitoring, prevention, minimisation, mitigation, off-setting and enhancement measures to address the environmental and social (E&S) impacts associated with the Project. This volume consolidates the mitigation requirements identified in the international ESIA process (presented in Volume II of the ESIA).

This ESMP will be included in the contractor tender specifications and performance against these requirements will form part of the contractor selection process.

The ESMP is applicable to the construction and operation phase. It is assumed a separate plan will be prepared for the decommissioning phase at the appropriate time by the decommissioning contractor in accordance with relevant regulatory and good international industry practice at that time (likely to be more than 25 years in the future).

## 1.2 Purpose of an ESMP

The purpose of the Project ESMP is to:

- Clearly describe the required components of KenGen (client) and Contractors’ environmental and social management system (ESMS)
- Establish objectives for the ESMS
- Define the roles and responsibilities for implementation and maintenance of the ESMS
- Define the actual working arrangements for environmental and social management during all activities of the Project

## 1.3 Structure of the report

The Project ESMP is structured according to the following chapters:

- Chapter 1: Introduction
- Chapter 2: Project overview
- Chapter 3: Key legal and administrative framework

- Chapter 4: Organisational framework - client and Contractor roles and responsibilities
- Chapter 5: Mitigation and monitoring requirements
  - Project Construction ESMP
  - Project Operation ESMP
- Chapter 6: Monitoring and reporting



## 2 Project overview

### 2.1 Project location

The Project will be located near the Seven Fork Hydroelectric Power Complex in Mbeere South Sub-County, Embu County, approximately 160km northeast of Nairobi at Latitude 47°48.826" S and Longitude 37°39'32.241" E. The Project site is adjacent to national Highway B7 (Kangonde - Embu Road), approximately 1.5km north of the Kamburu Dam. The Project infrastructure will extend over an area approximately 100 hectares on land that is under KenGen control. The Project site area is characterized by moderately flat terrain with sandy silty clay and rock slopes at the southern portion of the site close to the Kamburu reservoir. The vegetation is primarily dry and low to medium density, and periodically used by local communities for livestock grazing.

### 2.2 Project components

Key components of the Project are:

- PV modules (mono or poly crystalline)
- Inverters, combiner boxes and transformers
- Underground cabling
- Project substation
- Grid connection directly to the existing 132 kilovolt (kV) Kamburu – Masinga overhead transmission line (OHL) at an interconnection point 3.28km northwest of the Kamburu 132 kV substation
- On-site buildings including an operational control centre, office, welfare facilities, security guard house, storage facilities and stores
- Access road from highway B7
- Internal access roads and upgrade to northern premier road
- Site drainage system
- Relocation of an existing low voltage electricity line crossing the site (to be performed by Kenya Power and Lighting Company (KPLC))

### 2.3 Schedule

The Project implementation schedule is envisaged to be fourteen [14] months. Site establishment and civil works is expected to start in the first quarter of 2019 and take three months, followed by eight months for installation and a further three months for commissioning. This schedule is an estimate only and subject to change.

## 3 Legal and administrative requirements

### 3.1 Summary

The Project is required to be developed in accordance with the following regulations, policies and standards:

- KenGen corporate environmental policy statement
- KenGen occupational safety and health (OHS) policy statement
- KenGen fire safety and emergency policy statement
- National Environment Management Authority (NEMA) environmental license
- Environmental Management and Coordination Act (EMCA) 1999 & EMCA (as amended) 2015, Act and supporting regulations
- Relevant county and local laws and regulations (e.g. The Embu County Environment Management Act, 2015)
- Equator Principles 2013
- The International Finance Corporation (IFC) Performance Standards (PS):
  - IFC PS1 – Assessment and Management of Environmental and Social Risks and Impacts
  - IFC PS2 – Labour and Working Conditions
  - IFC PS3 – Resource Efficiency and Pollution Prevention
  - IFC PS4 – Community Health, Safety and Security
  - IFC PS5 – Land Acquisition and Involuntary Resettlement
  - IFC PS6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources
  - IFC PS7 – Indigenous Peoples
  - IFC PS8 – Cultural Heritage
- World Bank Group Environmental Health and Safety (EHS) Guidelines
- International conventions and treaties for the protection and conservation of the environment
- Core conventions and instruments of the International Labour Organisation (ILO) and United Nations' (UN)
- Good international industry practice (GIIP)
- Requirements of the Project stakeholder engagement plan (SEP)

All KenGen and Contractor supporting plans must refer to this framework.



## 4 Organisational framework

### 4.1 Overview

This ESMP applies to all aspects of Project activities for the construction and operation phase of the Project. It is the responsibility of KenGen and its engineering, procurement and construction (EPC) Contractor to ensure this ESMP is followed so that the Project does not cause unacceptable environmental and social impacts. This ESMP will be updated or revised to address prevailing conditions. Responsibilities for implementation of identified mitigation or management actions may fall to KenGen or its Contractor(s). Where responsibilities fall to Contractor(s), these may be implemented via the Contractor's own ESMS and supporting policies, procedures and plans which will be required to be accredited to ISO 14001:2015 or equivalent and approved by KenGen prior to use. As a minimum, Contractors must comply with the KenGen ESMS including this ESMP, and this will be included in the bid materials for Contractors.

It is the responsibility of KenGen to oversee and monitor the implementation of relevant ESMP elements by the Contractor(s) and third-party subcontractors. Both KenGen and the Contractors will appoint Project specific environmental, health and safety (EHS) specialists to oversee, monitor and audit work.

Third party or subcontractors will be responsible for implementing task-specific activities in line with the Project ESMP and in accordance with Contractor systems and procedures.

In addition to setting the management and mitigation framework, this ESMP sets a framework for the following supporting functions:

- Organisation and responsibilities
- Training and awareness
- Emergency procedures and response
- Record keeping
- Performance monitoring, reporting and auditing

### 4.2 KenGen environmental and social management system (ESMS)

#### 4.2.1 ESMS

KenGen has a corporate environmental management system (EMS) certified to ISO14001:2004. All aspects of its operations must conform to the requirements of this EMS. In addition, it is certified to ISO9001 for quality and has an occupational health and safety (OHS) system that is aligned with OHSAS 18001. Labour and worker obligations are set out in its corporate human resources (HR) policy and are aligned as a minimum with requirements for the Ministry of Labour. Together these policies and management systems make up the KenGen environmental and social management system (ESMS).

Under the EMS there is a global management plan that sets out key targets and objectives for all aspects of its operations. In addition, each installation has its own aspects and impacts register and tailored environmental programme and plan and targets for continuous improvement. These provisions set a framework for overseeing construction work performed by others as described below.

#### 4.2.2 KenGen environmental and social policies

KenGen has three key policies that are relevant to the environmental and social management of this Project, these are applicable to any contractor working on the Project and are provided in the Appendix:

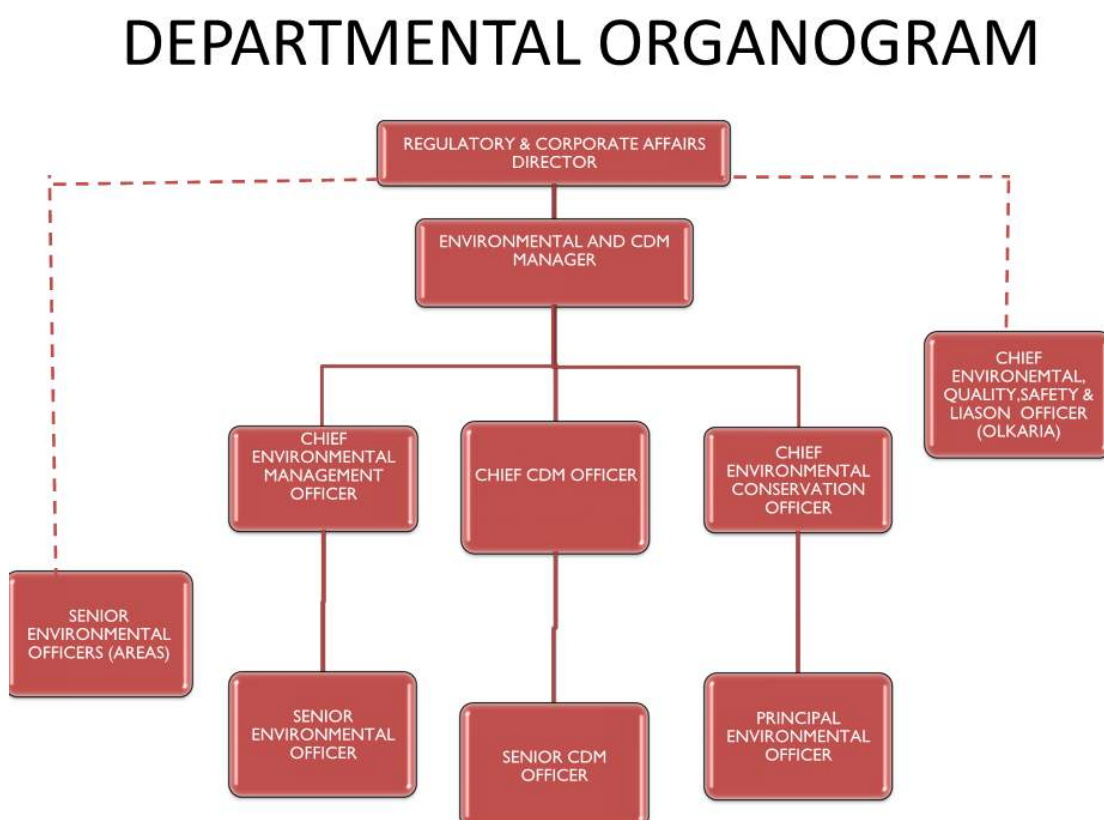
- Environmental policy statement (Appendix A)
- Occupational safety and health policy statement (Appendix B)
- Fire safety and emergency policy statement (Appendix C)

The Project will be operated in accordance with these policies and the specific requirements of this ESMP for the construction and operation phase. It is intended that the Project operations will be fully integrated into the company ESMS within one year of the commercial operation date.

#### 4.3 KenGen environmental and social management

KenGen environmental, quality, health and safety management is overseen by the Regulatory and Corporate Affairs Division within KenGen which houses the Environmental and Clean Development Mechanism (CDM) Team and health and safety officers. Community liaison is managed by the community liaison officer (CLO) under the operational team structures in the regions, see KenGen's organisational structure set out in Figure 1.

Figure 1: KenGen organisational structure



Source: KenGen 2017



#### 4.4 Key roles and responsibilities

For this Project key roles for the implementation of environmental and social requirements are as follows:

- Chief environment officer (CEO) - Leads the environment and CDM team and is responsible for overseeing compliance with the obligations set out in the applicable national and international legislation, the Project ESMP and the Environmental Authorisation during construction and operation
- Health and safety engineer (H&S) - responsible for overseeing health, safety and security at the site during construction and operation
- Regional environmental superintendent (RES) – part of the environment and CDM team and based in the region. Responsible for overseeing compliance with the obligations set out in the applicable national and international legislation, the Project ESMP and the Environmental Authorisation during construction and operation
- Community liaison officer (CLO) – responsible for coordinating the social and stakeholder responsibility's, worker welfare and the grievance mechanism for the Project during pre-construction, construction and operation
- Human resource officer (HRO) – responsible for verifying Contractor HR policy aligns with national requirements and IFC PS2 during construction and operation
- Media relations – responsible for media related aspects of consultation and disclosure for the Project
- EPC Contractor, subcontractor manager and site manager - responsible for on-site implementation of requirements of this ESMP as set out in the Contractor ESMP
- Third party / subcontractors – responsible for consistently applying the requirements of the Project and Contractor ESMP as detailed, relevant to their specific work stream
- Contractor EHS coordinator - assigned to be on site always to ensure the Contractor ESMP mitigation measures are followed and to proactively resolve issues where they may arise
- Further information about the responsibilities of these roles is provided in 4.7 below

During the construction phase KenGen will also engage a specialist external environmental consultant based on site to oversee the day to day implementation of environmental and social requirements of the Project against the ESMP.

#### 4.5 Project implementation framework

KenGen will establish a **Project Implementation Team (PIT)** to oversee the Project development and construction phase. The PIT includes representatives from all relevant disciplines including environment, health and safety and community liaison as well as technical and financial representatives. The PIT will have overall responsibility for overseeing the development of the Project and Contractor performance.

In addition, KenGen will establish a **Project Stakeholder Committee (PSC)** consisting of KenGen representatives from the PIT, KenGen consultant, community nominated representatives and, when relevant, the EPC Contractor. The PSC will be formed early in the development process to coordinate pre-construction, construction and operational links with the community. This Project-specific committee will be retained for the duration of the Project (pre-construction, construction and operation).

As the Project moves into operation the Project will also fall under the existing KenGen corporate social investment (CSI) programme for the Seven Forks region as described in Section 4.5.1 below.

#### **4.5.1 KenGen corporate social investment (CSI) program**

KenGen recognises that part of its responsibility to build and nurture relationships with all stakeholders, by adding value to the communities living around its areas of operation. Through its CSI programme, KenGen has set aside resources to support various initiatives to improve the quality of life and promote good neighbourliness.

Initiatives are carried out through the Corporate Affairs Divisions and the KenGen Foundation. The CSI programme is implemented through the Seven Forks Stakeholder Coordination Committee (SCC). This committee oversees Corporate Social Responsibility (CSR) projects during the operation phase both in Machakos, Embu and Kitui Counties. This committee has four sub-committees who meet quarterly:

- Environment, health and safety
- Employment and economic benefits
- Education
- Sports, culture and social activities

Due to the nature of its business and areas of operation, the company's CSI programme focuses on three main areas:

- Education
- Environment
- Water and sanitation

The company also provides support in the following areas:

- Health
- Sports
- Peace building
- Arts and culture
- Safety
- HIV/AIDS
- Infrastructure

The KenGen CSI programme is funded by diversion of a percentage of company profit to fund CSI projects. In addition, revenue from the CDM programme is diverted to the CSI fund and KenGen Foundation. Any CSI projects undertaken will be in addition to the Project specific mitigation measures and benefit enhancement activities identified in the ESIA.

#### **4.6 Key documentation**

The key E&S documentation is defined as follows:

- Project environmental and social management plan (ESMP) – this document – which sets the framework for overall E&S implementation by the Contractor and KenGen
- Contractor ESMP (to be prepared by the Contractor and approved by KenGen) – sets out the obligations for E&S implementation for the Contractor only



- KenGen environmental and social management system (ESMS) – policies, plans and procedures that KenGen will use to implement the requirements of the Project ESMP
- Contractor ESMS to be prepared by the Contractor and approved by KenGen – policies and plans the Contractor will use to implement the requirements of the Contractor ESMP
- KenGen Human Resource (HR) policy – outlines the labour welfare provisions for the Project
- Contractor HR Policy – stand-alone HR policy or suite of Project documents (e.g. code of conduct, grievance mechanism etc.) that sets out conformance to national labour requirements and IFC PS2

## **4.7 Description of roles and responsibilities**

### **4.7.1 CEO and RES**

Overseen by the CEO KenGen will nominate a RES to take the primary responsibility for overseeing day-to-day environmental oversight for the Project at the local level. The nominated person will have the following key responsibilities:

- Take prime responsibility for practical implementation of environmental management
- Oversee and ensure the implementation of the ESMP (with support from the EPC Contractor and ensure all Contractors and subcontractors follow the ESMP requirements
- Oversee and report environmental performance back to the PIT and Contractor
- Oversee and report environmental performance of the ESIA and ESMP to NEMA
- Review Contractors' and subcontractors' environmental protection/mitigation measures (Contractor ESMP) to ensure compliance with the ESMP
- Coordinate with the Project E&S Consultant to undertake regular audits and inspections to check that committed impact mitigation measures are being implemented
- Act as the first point of contact on environmental matters for government authorities, other external bodies, and the public
- Report ESMP non-compliance matters to the Contractor
- Perform regular environmental awareness sessions and assist personnel in applying environmental standards on site
- Conduct regular audits and inspections to check that committed impact mitigation measures are being implemented
- Conduct environmental monitoring on waste management, water resources, air quality, noise and biodiversity

### **4.7.2 Health and safety (H&S) coordinator**

The Project H&S coordinator will:

- Take prime responsibility for practical implementation of safety management
- Oversee and ensure the implementation of the safety management plans (with support from the Contractors' Site Manager) and ensure all Contractors and subcontractors follow safety requirements and the requirements of the occupational health and safety (OHS) plan
- Oversee and report safety performance to the Contractors' Site Manager and the PIT
- Coordinate regular audits and inspections to check that committed impact mitigation measures are being implemented
- Act as the first point of contact on safety matters for government authorities, other external bodies, and the public in matters of safety

#### 4.7.3 CLO

Being the ultimate point of contact for community stakeholders to request information or lodge grievances which the Project CLO will process and work to resolve in a timely and satisfactory manner according to the Project's grievance mechanism.

- Be part of the PIT and the PSC
- Implement the requirements of the SEP
- Organise meetings with stakeholders (except for media), especially the local group leaders (for instance there are women's groups, youth groups, village elders, religious leaders, disabled people) and the elected and appointed local authorities to provide a regular opportunity to discuss any issues or concerns stakeholders may have
- Implement the Project grievance mechanism
- Produce annual summaries that provide details related to community investment activities and the use of the grievance mechanism

#### 4.7.4 EPC Contractor

The EPC Contractor is not yet identified. The EPC Contractor will be responsible for ensuring that performance of the Project complies with this ESMP, all applicable laws relating to the environment or social management, GIIP with respect to environmental and social matters, and all requirements of IFC Performance Standards as set out in the Chapter 3.

Headline duties of the EPC Contractor are listed below, specific requirements are elaborated in Chapter 5:

- Implement the requirements of the ESMP as defined in this document (Project ESMP)
- Prepare a detailed site environment and health and safety (EHS) management plan(s) that reflect the Project ESMP (Contractor ESMP) (to be approved by KenGen)
- Implement a site EMS and OHS and labour management system including site policies, procedures and method statements for implementing the Contractor ESMP ("Contractor ESMS") (to be approved by KenGen)
- Obtain and hold all relevant temporary permits, notification of works, and documentation required to support construction works and maintain a permit matrix to oversee the permit obligations of the Project
- Provide or ensure necessary training (Contractor team and casual laborers) to implement ESMP requirements
- Identify at least one full time person on site with dedicated EHS and social responsibilities to oversee works on site and liaise with the PIT
- Participate in weekly EHS meetings and prepare / input into weekly construction progress report
- Provide weekly reports on EHS and labour statistics (all for all Contractors and third-party contractors on site)
- Require third party subcontractors to implement relevant requirements of the Contractor ESMP or follow EPC Contractor policies and procedures
- Implement labour standards aligned to national requirements and IFC PS2
- Implement a worker grievance mechanism and worker code of conduct on site
- Implement a local hiring / content mechanism (in collaboration with the PIT and PSC) to prioritize local hiring for the Project (before work on site commences)



- Audit all third-party contractors ESMS and labour provisions at outset of the Project
- Ensure the existing worker accommodation is aligned with IFC PS2 where relevant
- Support KenGen to implement the Project stakeholder engagement plan (SEP) and community grievance mechanism
- Support KenGen as needed with feedback to the PSC

#### **4.7.5 Site / Project Manager**

The EPC Contractor's Site Manager will be required to work to coordinate efforts based on inputs from the KenGen PIT and assist in the allocation of staff with the skills for applying the Contractor ESMP. It is envisaged that the site manager will:

- Ensure that EHS specialists are adequately qualified to understand and implement the ESMP
- Nominate personnel to assist the Site Manager, the Contractor's EHS specialists as required
- Be responsible for communications with KenGen and other Project management about environmental and community issues and non-compliances

#### **4.7.6 Contractor EHS specialist(s)**

The EPC Contractor, as part of the tender process, will be required to demonstrate how they intend to oversee works and the day to day implementation of the requirements of the Contractor ESMP for their activities and those undertaken by any subcontractors. Contractor will be required to appoint an EHS specialist to oversee implementation of the Contractor ESMP as applicable to their works. Where there is more than one EPC Contractor (civil, electrical, substation) at least one dedicated site based EHS specialist per EPC Contractor must be provided. Where appropriate, third party contractors should also have a nominated EHS specialist to coordinate with the EPC Contractor EHS specialist(s).

#### **4.7.7 Control of subcontractors**

The Contractors' management team will be responsible for ensuring subcontractors' performance, including ensuring that subcontractors are adequately informed of the requirements of the Project ESMP (this document) and the Contractor ESMP and can adhere to the requirements. Contractors will ensure that their subcontractors are fully aware of all the occupational health and safety (OHS) and labour rights requirements that must be adhered to in relation to temporary contracts, minimum wage, overtime payments, non-discrimination, positive discrimination towards women, youth and persons with disabilities (PWDs) are implemented. Contractors will be expected to identify the procedures for monitoring and reporting on subcontractor performance and integrate this into overall site reporting requirements.

### **4.8 Funding**

It is the responsibility of KenGen management or the Contractor to ensure that sufficient resources and suitable budget is allocated to implement the requirements of the Project ESMP as defined in subsequent sections. Enhancement projects identified in this document will be funded directly from the Project development budget and not the CSI program.

## 5 Mitigation and monitoring requirements

### 5.1 Overview

Before work commences KenGen will review and approve all contractor(s) ESMP and HR policies including supporting plans, procedures and method statements to ensure compliance with the Project ESMP.

### 5.2 Site description and existing conditions

The Contractor ESMP will include:

- Site layout plans that identify key activity areas including: waste management, hazardous material control, refuelling, temporary storage, welfare facilities, concrete batching in accordance with the requirements of the Project ESMP
- The position of all sensitive receptors (such as nearby residential properties and the livestock watering pond) highlighted on the site plan
- Demarcation of access to the site and traffic management requirements
- Laydown areas

### 5.3 Description of the construction works

The Contractor ESMP will include a detailed description and programme of construction activities that will include as a minimum:

- Proposed dates by when the pre-construction survey work should be completed (ecological survey work, tree inventories, archaeological investigation)
- Dates for site clearance (reflecting need for a community clearance programme)
- Proposed date and sequence of planned works with specific reference to those activities that may have adverse impact on the environment or community (e.g. noisy work, increase in traffic movements etc.)
- Confirmation of proposed working hours (no activities between 7pm and 7am)
- List of the required site services (so that these may be cross referenced against the Environmental Authorisation)
- Location of storage facilities (fuel, materials, waste, chemicals)
- Vehicle access points and delivery routes
- Methods for the removal of materials, wastes and equipment
- Confirmation of proposed accommodation requirements

### 5.4 Temporary permits and notification of works

Unless noted by KenGen, the Contractor will be responsible for obtaining all temporary permits required to perform the works in accordance with NEMA and county obligations including *inter alia*:

- Construction permit
- Temporary abstraction licenses (where applicable)
- Permits for work on public roads and new access requests



- Temporary permits for activities such as batching plants, borrow pits, waste disposal and removal

## 5.5 Disclosure, communication and community grievances

The Project has established a stakeholder engagement plan (SEP) and community grievance mechanism (refer to Volume V: SEP), this will be implemented by the KenGen PIT with support from the Contractor(s). The Contractor(s) will support KenGen to implement the SEP as follows:

- Inform KenGen PIT in a timely manner of key activities in advance so that they may be communicated to the community e.g. significant traffic movements, start of civil works, noisy work etc
- Acknowledge all grievances logged by the community
- Communicate to KenGen PIT within 24 hours of any community grievances directed to the Contractor directly so they may be logged in the central grievance log
- Support KenGen PIT to review and respond to community grievances as determined by the grievance review panel
- Implement actions to address grievances in a timely manner and provide evidence of close out

## 5.6 Workers training and awareness programme

To fulfil the requirements of an ISO 14001 EMS and OHS policy, all Contractor and subcontractor staff members (permanent or temporary) will be required to attend Project inductions that will include health and safety, security, labour and environmental awareness in relation to Project works including *inter alia*:

- H&S and environmental risks associated with the works
- Local, national, and international actions that are required to combat these risks
- Clarification of the KenGen environmental policy and its practical implementation, stressing that it carries implications for the working methods and responsibilities for all employees
- Notification of any specific receptor sensitivities
- Emergency preparedness and response provisions
- Requirements for waste management, materials management, traffic management, dust control, and control of noise
- Natural hazard risks
- H&S, environment and labour incident notification, investigation and reporting procedures
- Stakeholder engagement requirements
- Security requirements for the site
- Labour grievance mechanism and code of conduct, welfare arrangements and key contract provisions
- Worker code of conduct and the workers grievance mechanism

All visitors to site must also receive an abbreviated E&S induction training.

This is in addition to job specific training that may be required as identified in the training needs analysis (TNA) (please refer to 5.6.1 below) and must commence before any work is performed on site by an individual.

### 5.6.1 Contractor and subcontractor training requirements

All Contractors will be required as part of the request for tender for the works to provide a training needs analysis (TNA) and overview of their training provisions and make training records of key staff available for review upon request as part of the internal auditing process for the Project for any specialist disciplines.

## 5.7 Social enhancement plan

Considering the recommendations received from stakeholders during the public meetings, the following enhancement measures will be developed by KenGen prior to construction to enhance the positive social impacts on the community identified in the ESIA. These will be Project specific enhancement activities (not KenGen's CSR) included in the Contractor specification as appropriate. KenGen will formally agree the specific terms of the enhancement programme on a memorandum of understanding (MOU) with the community through the PSC prior to the start of works:

- Support for infrastructure improvements
- Improved access to electricity (up to 10 transformers)
- Community water storage project (at least two) (as per proposal provide by the community) in Machang'a
- KenGen will seek to partner with local government institutions to support a technical empowerment program to enhance technical education for local youth on low - medium skilled activities prior to the start of construction. This would cover skills relevant to the project as determined by the TNA and likely to include such skills as electrical work, brick laying, foundations works, welding
- Local hiring / business database (individual and business) (at least two months prior to start of construction)
- Solar street lighting (Machang'a main street) to support enhanced operating hours for small businesses in the area
- Livelihoods training programme (grazing / bee keeping / firewood collection) for local community
- Visitor centre including solar power exhibit and historical exhibit referring to land use changes in the region to date
- Youth centre / community meeting hall to be constructed by KenGen under the Project scope of work and operated and maintained by the community
- Upgrade Machang'a's dispensary to provide better health, emergency and maternity facilities
- Buffer zone replanting (reforestation project at 10:1 replanting ratio in line with GIIP)

## 5.8 Design phase mitigation measures

The following embedded design features must be considered during the design and procurement process:

### Additional pre-construction survey works:

- Ecological baseline data collection including tree inventory
- Route surveys
- Review of NEMA approved waste options in Kenya (particularly hazardous waste)
- Livelihood restoration plan
- Archaeological intrusive survey



### **Design requirements / contracts:**

- Apply technical specification to reflect extreme weather events (cyclones, rain and wind)
- Implement local hiring programme (refer to local persons and business data base)
- Where practicable, specifying recycled steel or reuse of other steel in the module frames. Recycled steel has a lower embodied carbon than virgin steel therefore its use would reduce the embodied carbon of the Project
- Review and assess the proposed specification required for roads and consider whether hard surfacing is necessary
- Grade and improve road along the northern boundary of the site to the reservoir (in collaboration with KeRRA)
- Use water for construction and operation under the Kamburu Dam permit
- Retain the existing watering pond on site
- Re-align the existing distribution line around the site (in coordination with KPLC)
- Construct an elephant fence along the southern boundary of the site
- Implement rainwater capture on the operational buildings
- Design and specify low water consumption specifications in buildings for low water consumption (e.g. bathrooms)
- Design borrow pits and other engineering infrastructure to minimize alteration of drainage paths and generation of sediment load
- Locate construction compounds away from sensitive water features
- Adopt GIIP to minimise risk of pollution during construction and operation
- Incorporate storm water treatment system e.g. detention ponds or infiltration basins into the design
- Re-vegetate area under the solar panels (to minimize dust connected with soil erosion), using a low water consumption species
- Provide adequate cross drainage structures where building new roads to avoid altering drainage paths or damming waters and causing flooding
- Design storm water drainage systems in line with the Kenyan technical norms and to take account of future climate variability, adequate drainage sized to meet climate resilience design specifications
- Address decommissioning (end of life and end of panel life) disposal through the supplier in the first instance to at least the minimum standards of NEMA and GIIP. KenGen will include these preferences in contracts with suppliers.
- Position of plant items as far as practically possible from sensitive receptors along the northern boundary of the site (reduction of dust, noise)

### **Procurement:**

- Implement procurement measures that recognize opportunities such as ordering the correct amount of materials to be delivered when needed, reducing the amount of packaging used by suppliers and establishing a take back system with suppliers
- Seek ways to reduce raw material consumption
- Arrange for all packaging waste to be returned to the supplier
- Use locally sourced materials, whenever practicable, to minimise transport distances
- Recognize need to retain buffer zone for planting along the road and village boundaries

- Maintain access to the watering pond on the north-western side of the site during construction

## 5.9 Project construction ESMP

The following tables identify specific mitigation and monitoring measures associated with the environmental and social impacts identified in the ESIA and should act as the framework for implementing actions identified in the ESIA. Further elaboration on some requirements is provided in Section 5.10 below. Tables include:

- Table 5: Air quality management
- Table 6: Surface water management including water quality
- Table 7: Noise management
- Table 8: Landscape and visual impact management
- Table 9: Traffic and transport management
- Table 10: Land contamination, materials and waste management
- Table 11: Social management
- Table 12: Ecological management including habitat removal and restoration and soil mitigation
- Table 13: Archaeology and cultural heritage management
- Table 14: Occupational health and safety management



**Table 4: General site environmental and social management**

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
Comply with national permit requirements	Environmental permits (permanent)	Develop permit matrix (name, phase, requirements and lead)	KenGen	Prior to appointment of EPC Contractor	Permit matrix – monthly updates
Implement good international industry site management	Notification of works	Plan and give regulators advanced warning of potential problems and start of works Always display on site the emergency number for regulators and local community at key worksites Ensure site personnel know the correct procedure for reporting incidents	All Contractors and KenGen	Prior to site establishment	Monthly update via the PIT
	Selecting and managing EPC Contractor	Contractors to provide work completion certificates and EHS certificates as proof of their past environmental performance prior to hiring Ensure Contractors have a copy of the ESMP as part of the tender process Ensure subcontractors attend environmental training session Audit the performance of subcontractors during the Project	KenGen (and supporting consultant)	Part of contractor tender process	Proof of checks, training records Site inspection records to be made available on site
	Selecting and managing subcontractor	Subcontractors to provide work completion certificates and EHS certificates as proof of their past environmental performance prior to hiring Ensure subcontractors have a copy of the Project ESMP as part of the tender process Ensure subcontractors attend environmental training / induction session Audit the performance of subcontractors during the Project Adhere to the local hiring policy (see Section 5.10.4 below) for prioritizing local contractors	EPC Contractor	Part of contractor tender process	Proof of checks, training records Site inspection records
	Management and site control	Nominate person within Contractor's organization with defined responsibility for EHS role in Project Require all method statements to include EHS requirements Through relevant training, ensure everyone on site is aware of their responsibilities and liabilities with respect to the environment and social responsibility Through site induction, make staff and visitors aware of Project environmental issues and environmental standards Prominently display warning signs at key work sites Make KenGen environmental policy available to all on site	EPC Contractor	Throughout Project works	Successful third-party audit (KenGen Environmental Consultant)
		Adequately protect primary work sites against vandalism, theft and breakage Construction works Contractor to always be	EPC Contractor		

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
		responsible for security the site while the services are being performed Secure the worksite boundary			
	All site works	Establish a safe working environment with an occupational health and safety (OHS) plan that addresses potential hazards, identifies preventive and protective measures, including training and use of personal protective equipment (PPE), and describes documentation and reporting of accidents, diseases and incidents. See Table 14 for more information	EPC Contractor	Throughout Project works	OHS plan
	Liaison with the local community	Identify the key local representatives and keep them informed of progress	KenGen Project CLO	Start of site works - ongoing thereafter	Complaints register Monthly audits Communication records
		Display contact board at the perimeter of key work sites stating contact details in the event of a complaint or comment Use this board to display information about Project phasing and other relevant matters	KenGen Project CLO supported by Contractor		Daily site walk around
		Implement the requirements of the grievance mechanism and stakeholder engagement plan (SEP)	KenGen Project CLO		Grievance logs
		Deal with any complaints that arise quickly and in accordance with the defined complaints procedure Create a log of complaints and ensure they are properly followed up and resolved	KenGen Project CLO supported by Contractor		Grievance logs Number of complaints
	Security (inside work site boundary)	Develop and implement a site safety and security management plan based on a risk assessment and requirements as set out in Section 5.10.8	EPC Contractor (approved by KenGen)	All times	Daily site walk around
		Ensure all security staff are appropriately vetted and trained about use of force, the security plan, and emergency response	EPC Contractor	Before security team starts work	Training records
Ensure general site housekeeping and environmental protection	Daily and weekly site inspections of permanent work sites	Work sites will be subjected to daily "walk-round" site inspections by the Contractors' EHS management staff	EPC Contractor (oversight by KenGen)	Throughout Project works	Site inspection records Number of complaints Target zero

**Table 5: Air quality management**

Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
Minimise dust	Earthworks, material	Dust	EPC Contractor (overseen	Throughout	Site inspection



Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
emissions	handling / vehicle movements	<p>Develop a dust management plan</p> <p>Provide PPE to workers on site, such as dust masks where dust levels are likely to be excessive</p> <p>Locate activities and rock / earth stockpiles away from identified receptors (north west and road boundary)</p> <p>Cover, seed or fence stockpiles to prevent wind whipping</p> <p>Keep stockpiles for the shortest time</p> <p>Consider the prevailing wind direction when siting stockpiles to reduce the likelihood of affecting sensitive receptors</p> <p>No bonfires</p> <p>Minimise amounts of material handling and avoid double handling</p> <p>Sealing or re-vegetate completed earthworks as soon as reasonably practicable after completion</p> <p>Ensuring all vehicles carrying loose or potentially dusty material to or from the site are fully sheeted</p> <p>Use water as a dust suppressant where applicable (e.g. using towed water bowsers with spreader bars) and ensure an adequate water supply</p> <p>Regular (daily) visual monitoring of dust episodes, soiling of vegetation, dust resuspension on the roads and dust clouds</p> <p>Re-vegetate areas as soon as practicable (refer to the habitat removal and reinstatement plan (HRRP), see Section 5.10.1</p> <p>Use of modern (less than 5 years old) vehicle / construction fleet to minimise emissions</p> <p>Ensuring that the engines of all vehicles and equipment on site are not left running unnecessarily</p> <p>Plan site layout – machinery and dust causing activities (e.g. access roads, stockpiles) should be located away from the site boundary and sensitive receptors where practicable</p> <p>Minimise movement of construction traffic around site</p> <p>Maintain a logbook: record any exceptional incidents that cause dust, either on- or off- site, and the action taken to resolve the situation in the log book</p>	by KenGen Contractor)	Project installation	records Community grievances

**Table 6: Surface water management including water quality**

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
Minimise impact on natural water resource	Water abstraction	No groundwater abstractions without prior approval/permits from authorised body	KenGen EPC Contractor	Site establishment	Site inspection records

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
use and contamination		Obtain variation for current abstraction permit (Kamburu reservoir) to incorporate water needs for the Project  Submit copies of abstraction permits to the relevant authorities within 10 days of receiving these permits from NEMA		and operation	Permit requirements met  Domestic wastewater treatment system monitoring reports
	All construction activities with the potential to result in spillage of fuels, lubricants, concrete and other toxic materials	The Contractor will prepare a site-specific surface water control plan. It should include the following general methods of control: <ul style="list-style-type: none"> <li>• No direct discharges to surface watercourses</li> <li>• Manage silt laden run off from site, especially during rainy season</li> <li>• Implement cross drainage structures where building new roads, borrow pits</li> <li>• Site compounds to be located away from sensitive water features (more than 50m)</li> </ul>	EPC Contractor	Site establishment	Site inspection records
	Equipment and vehicle maintenance	Undertake equipment and/or vehicle maintenance off site where feasible to prevent potential for releases and spills of oils/solvents/hydrocarbons	EPC Contractor	Throughout Project works	Site inspection records

**Table 7: Noise management**

Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
Avoid nuisance generated by daytime works affecting closest sensitive receptors up to 200m	Site establishment / construction	The Contractor will prepare a site-specific noise control plan. It should include the following general methods of noise control: <ul style="list-style-type: none"> <li>• Inform nearby dwellings on the timing and duration of works and when the noisiest stages are likely to occur (ongoing through process)</li> <li>• Design noise barriers or other noise attenuation into the design if necessary</li> <li>• Select low noise plant and equipment using equipment with lower comparative sound power levels where practicable.</li> <li>• Examine plant and equipment daily for defect prior to the start of works and under no circumstances should defective equipment be used</li> <li>• Avoid unnecessary revving of engines</li> <li>• Switch off equipment when not in use</li> <li>• Limit noisy activities to daytime working hours where practicable</li> </ul>	EPC Contractor	Daily throughout Project works	Site inspection records Noise monitoring reports Community grievances



Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
		<ul style="list-style-type: none"> <li>Position plant and equipment as far as possible from sensitive areas (northern boundary with the community of Machang'a)</li> <li>Locate of static plant (e.g. generators) to take advantage of any screening to break the line of sight from receptors</li> <li>Brief site operatives in keeping noise to a minimum</li> <li>Identify and implement appropriate PPE requirements</li> <li>Prioritize selection of quiet equipment in the selection process</li> <li>Concentrate noisiest types of work into as short a period as possible, and during least disruptive times of the day (e.g. before or after school or market hours, not during nearby events or meetings)</li> </ul>			
	Construction traffic	<p>Limit vehicle speeds on site and access roads, particularly along the northern boundary of the site (10km per hour)</p> <p>Manage traffic to avoid the need for traffic to queue up on Route B7</p> <p>Schedule timing of deliveries to avoid disturbance</p> <p>Maintain access roads to minimise discontinuities in the road surfaces which may give rise to vehicle body noise and rattle</p> <p>Specify allowable times for construction activities (e.g. weekends, non-market days)</p>	EPC Contractor	Throughout Project works	<p>Site inspection records</p> <p>Noise monitoring reports</p>

**Table 8: Landscape and visual impact management**

Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
Minimise adverse impacts on viewsheds and landscape character	Site establishment / construction	<p>Keep construction traffic to a minimum</p> <p>Implement good housekeeping practices including stockpile areas and dust suppression measures</p> <p>Be careful when locating construction compounds</p> <p>Store topsoil properly</p> <p>Restrict the extent of all disturbed areas as far as practicable</p> <p>Construct installations with sustainable materials, materials to reduce the visual impact and material that enhances the aesthetics of the Project area</p> <p>Minimise external lighting</p>	EPC Contractor (oversight by KenGen)	Mitigation ongoing throughout site establishment	Site inspection records

**Table 9: Traffic and transport management**

Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
Minimise road hazards, congestion and damage to road infrastructure	Site establishment	<p>Contractors should use a pre-defined route from the Port or other locations to the site. This route should consider approaching the site from the south along Route B7. No stopping of Project related vehicles or use of abnormal roads is allowed between Route B7 and the site</p> <p>Contractors to develop a traffic management plan (TMP) to include:</p> <ul style="list-style-type: none"> <li>• All vehicles should turn directly into the site or to a pre-agreed / defined layby area of the main road</li> <li>• These routes / stopping locations may need to be agreed with the relevant authorities (KeNHA) as necessary and if necessary the local police will be notified</li> <li>• Adopt best transport safety practices across all aspects of Project activities with the goal of preventing traffic accidents and minimising injuries suffered by Project personnel including: <ul style="list-style-type: none"> <li>– Emphasise safety aspects among drivers (specific induction training for all drivers)</li> <li>– Improve driving skills and require licensing of drivers</li> <li>– Adopt limits for trip duration and arranging driver rosters to avoid overtiredness</li> <li>– Avoid dangerous routes and times of day to reduce risk of accidents</li> </ul> </li> </ul>	Contractors (overseen by KenGen)	Daily throughout Project works	<p>Site inspection records</p> <p>EHS statistics and incident reporting relating to traffic incidents</p>



Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
		<ul style="list-style-type: none"> <li>– Undertake regular maintenance of vehicles and use of manufacturer approved parts to minimise potentially serious accidents caused by equipment malfunction or premature failure</li> <li>– Minimise pedestrian interaction with construction vehicles</li> <li>– Coordinate with emergency responders to ensure that appropriate first aid is provided in the event of accidents</li> <li>– Employ safe traffic control measures, including road signs and flag persons to warn of dangerous conditions</li> <li>– Report all traffic accidents and statistics to KenGen</li> <li>– Contact the national police in the case of a traffic accident</li> <li>– Ensure any road improvements within the Project site, if necessary, comply with relevant county requirements</li> <li>– Make drivers aware of route and contingency measures as pre-defined at induction stage</li> <li>– Brief drivers of HGV on good road practice and that they will be instructed to pull over on narrow sections of road to allow build-up of traffic to pass</li> <li>– Ensure that all general site traffic, will run to coincide with site working</li> <li>– Ensure that normal load heavy goods vehicles use a defined route, which will need to be agreed on prior to Project works</li> <li>– Keep signage to a minimum, however temporary direction signs indicating work site entrance will be required. The detailed signing arrangement will be agreed between the appointed Contractor in close liaison with the sub-county and police service</li> </ul>			

**Table 10: Land contamination, materials and waste management**

Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
Reduce the use of raw materials/ potentially finite and or scarce resources	Site establishment	<p>Re-use materials on site wherever practicable, most significant opportunity of which is with respect to excavated materials</p> <p>Implement good housekeeping and operating practices, including inventory control to reduce the amount of waste resulting from materials that are out-of-date, off-specification, contaminated, damaged, or excess to plant needs</p> <p>Substitute raw materials or inputs with less hazardous or toxic materials wherever economically and technically feasible</p>	Contractors	Mitigation ongoing throughout site establishment	N/A

Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
Appropriate spoil handling and disposal	Site establishment	<p>Topsoil and overburden will be carefully removed from each of the proposed spoil disposal sites and stockpiled nearby and preserved for eventual use as rehabilitation material once the spoil disposal sites are no longer required</p> <p>Organic topsoil (superficial layers) will be used for revegetation activities on site and near the site</p>	Contractors	During site establishment and excavations	Site inspection records
Waste minimization and safe handling, storage and disposal of waste	Design and site establishment	<p>Design:</p> <ul style="list-style-type: none"> <li>Waste management planning: identify and characterize the source of all waste streams from the Project with the proposed final disposal option</li> <li>Waste prevention: identify opportunities to prevent waste production in the first instance</li> <li>Recycling and reuse: waste reuse and recycling opportunities to be identified including investigations into suitable facilities that can process such waste streams to be explored (in accordance with NEMA regulations)</li> <li>Preference opportunities for supplier to remove packaging waste for ultimate disposal (in accordance with NEMA regulations and transboundary waste disposal obligations)</li> </ul> <p>General waste management:</p> <ul style="list-style-type: none"> <li>Contractor to develop and implement a site waste management plan (SWMP) for dealing with general and non-hazardous waste to include opportunities for re-allocating surplus material to the community (community waste management program)</li> <li>All waste material arising to be segregated into non-hazardous and hazardous wastes for consideration for re-use, recycling, or disposal</li> <li>All skips/waste storage to be suitably covered (to avoid dispersion of light materials by wind or filling of skip with rain) and waterproofing to avoid any soil contamination from leachate</li> <li>Treatment and disposal: where re-use or recycling is not feasible or practicable, appropriate treatment and/or final disposal options are to be identified for all waste streams, including confirmation that facilities/sites can accept the proposed waste stream(s) and are accredited by NEMA</li> <li>All transfer of materials to waste disposal sites in accordance with NEMA regulations</li> <li>Monitoring: procedures for waste tracking to be developed</li> <li>Monitoring: there should be periodic audits of internal waste management practices to ensure on-going compliance throughout the life of the Project and reporting of these practices to NEMA, with any recommendations for improvements in waste management practices of the Project forming part of on-going</li> </ul>	Contractors	Throughout Project works	<p>Waste monitoring/tracking records (volumes, waste type)</p> <p>Site inspection records</p> <p>Periodic waste audits (at least two audits during the contracted scope)</p>



Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
		<p>reporting (if any)</p> <p>Hazardous waste management:</p> <ul style="list-style-type: none"> <li>Waste storage: temporary waste storage to be fully identified and designed according to GIIP and NEMA hazardous waste handling requirements</li> <li>Transportation: all waste containers designated for off-site shipment to be secured and appropriately labelled with loading overseen by competent and trained employees from an external contractor properly authorised by NEMA to do this transportation</li> <li>Treatment and disposal: where re-use of recycling is not feasible or practicable, appropriate treatment and/or final disposal options to be identified for all waste streams, including those considered to be hazardous, by a company authorised by NEMA for this activity</li> <li>Liquid wastes/oil/chemicals to be stored in tanks or drums located in bunded areas which can hold 110% of the total storage volume and in accordance with national safety requirements.</li> </ul>			
Prevention of leaks, spills and environmental incidents	Site establishment	<ul style="list-style-type: none"> <li>Develop an emergency response plan including spill control plan (see Section 5.10.3 below)</li> <li>Establish procedure for reporting any environmental incidents related to spills / leakages and how to deal with any spills / leakages</li> <li>Identify and implement appropriate PPE requirements</li> <li>Provide specialist training in appropriate procedures to persons with hazardous materials or waste management responsibilities</li> <li>Maintain an inventory of hazardous materials and specific procedures/ controls</li> <li>Maintain available copies on site of material safety data sheets (MSDS) for all hazardous substances used during the Project</li> <li>Provide copies of all MSDS for all hazardous substances used during the Project to NEMA as part of submission of the detailed environmental management plan(s)</li> <li>Store waste and hazardous materials in areas that are: <ul style="list-style-type: none"> <li>Located away from existing sensitive receptors</li> <li>Not at risk from theft or vandalism</li> <li>Easily accessible in a safe manner</li> <li>Well ventilated</li> <li>Unlikely to be damaged</li> <li>Have a waterproofed floor</li> </ul> </li> </ul>	KenGen ECO Contractors	Throughout Project works	Records of emergency drills Site inspection records

Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
		<ul style="list-style-type: none"> <li>Ensure fire extinguisher are available always</li> <li>Ensure spill kits are available always</li> </ul>			
Appropriate choice of final waste disposal option	Construction and installation	Identify waste handling facilities for the Project to accept/ treat waste. Review available re-use/recycling facilities to ensure they can accept the waste streams	Contractor(s)	Throughout Project works	Periodic waste audits (at least two audits during the contracted scope)

**Table 11: Social management**

Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
Safeguard the well-being and improve the living standards of those whose livelihoods are negatively affected	Livelihood displacement	Prepare and implement a LRP	KenGen	Up to one week before site works commence	Monitoring to be defined on the LRP
Prevention of adverse impacts on local communities	Influx management	Prioritize recruitment of local labour where possible Prohibit Contractors from hiring staff at site and for less than five days <sup>1</sup> Request EPC Contractor(s) to present their recruiting approach as part of the tender process Require EPC Contractor(s) to hold job fairs in Embu County Organise a one-day financial management seminar/workshop for contracted employees at least two months prior to expected Project completion Provide a one or two page or hour monthly brief to workers on stress management, lifestyle campaigns (see additional information about this below under health and safety) and wellness issues Require EPC Contractor to organise a short campaign on HIV/AIDS, STIs, Zika virus or other important medical health issue every four months Workers to sign the code of conduct	KenGen CLO Contractors	Throughout Project works	Monitoring of recruitment plan
	Social enhancement plan	Produce a social enhancement plan that sets out in broad terms how the Project will interact with	KenGen CLO Project Stakeholder	Throughout Project works	Monitoring of social

<sup>1</sup> If less than five days there will be insufficient time to ensure staff have adequate training and knowledge of EHS plans



Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
		communities and contribute to local development in the Project wider area of influence (Masinga Mbereee) Document detail of the enhancement programs in a memorandum of understanding (MOU) agreed with the community	Committee (PSC)		enhancement plan
Provide workforce training and development	Workers education awareness and training	Prepare a training plan to address: <ul style="list-style-type: none"> <li>• Awareness to be sensitive to general environmental impacts of the Project as well as the environmental impact of specific tasks</li> <li>• Knowledge to guide implementation of environmental management procedures</li> <li>• Skills to use institutional instruments and technologies to contribute to proper environmental management in the Project</li> <li>• As appropriate, the plan will also target inhabitants of the areas near the Project area so they have more awareness of environmental problems related to the community</li> </ul>	KenGen CLO Contractors	Prior to mobilisation if works and throughout Project works	Monitoring of training plan
Protect workforce and community welfare	Security plan	KenGen in collaboration with Contractors to prepare a security strategy for site prior to mobilisation of works. The plan will: <ul style="list-style-type: none"> <li>• Identify the types of security issues the Project must defend against</li> <li>• Indicate how security personnel will be contracted and managed (whether KenGen or Contractor employed)</li> <li>• Identify a procedure compliant with IFC PS4 for vetting and recruiting security personnel</li> <li>• Define training requirements for security personnel<sup>2</sup></li> <li>• Elaborate use of force and code of conduct policies for security personnel</li> <li>• Describe access and control equipment and procedures (for instance signage, gates and fencing, lighting, any surveillance, patrols, alarms,</li> </ul>	KenGen CLO Contractors	Prior to mobilisation if works and throughout Project works	Site inspection records

<sup>2</sup> Training should address requirements related to security personnel included in the United Nation's Code of Conduct for Law Enforcement Officials, and the United Nation's Basic Principles on the Use of Force and Firearms by Law Enforcement Officials

Objective	Activity	Action	Responsibility	Timescale	Monitoring / KPI
		visitor arrivals, etc.). • Elaborate investigation and reporting			
Positive stakeholder relationships	Coordinate and stakeholder engagement	Implement the SEP	KenGen CLO	Prior to mobilisation if works and throughout Project works	Monitoring of SEP

**Table 12: Ecological management including habitat removal and restoration and soil mitigation**

Objective	Activity	Action	Responsibility	Timescales	Monitoring/ KPI
Minimise disturbance to sensitive habitats and species	Development and site preparation works and design	<p>Contractor will prepare an ecological management plan (refer to Section 5.10.1)</p> <p>Undertake ecological wet season survey to confirm findings of baseline assessment</p> <p>Undertake a tree inventory for site clearance to inform reforestation plan</p> <p>Record medicinal plants in Project area for compensation</p> <p>Develop a habitat removal and restoration plan (HRRP) to include re-vegetation replanting under the PV panels</p> <p>Undertake all vegetation / habitat removal with the supervision of qualified ecologist / local plant specialist in accordance with the site HRRP</p> <p>Clearance of trees and other vegetation will be planned to avoid the peak period for breeding birds</p> <p>Require appropriate procedures (licensing) for felling of trees, appropriate removal of material to avoid risks of fire</p> <p>Maintain buffer zone trees as much as possible</p>	Specialist ecologists commissioned by KenGen KenGen to oversee	Up to one week before site works commence	Site inspection records



Objective	Activity	Action	Responsibility	Timescales	Monitoring/ KPI
	Topsoil removal during excavation works	Store topsoil in dedicated sites within site boundary Site to be earmarked in advance in material extraction plan All storage of material to be agreed in advance with the land-user	Contractors	To be defined and demarcated before start of works	Monitoring programme – success of reinstatement programme
	Ensure invasive species are not introduced to the area	Ensure imported soils and aggregates are from known sources Regular checks and surveys for alien invasive species (AIS) every three months Refer to AIS management below	Contractors	Throughout Project works	No recorded introduction of alien and invasive species
	Workforce presence	Workers awareness campaigns highlighting (induction): <ul style="list-style-type: none"> <li>Ban on the removal of flora</li> <li>Ban within contracts subject to penalties of hunting wild animals and birds</li> <li>Educate workers about the existing legislation and penalize workers involved in poaching</li> </ul>	Contractors	Throughout Project works	No disturbance of sensitive habitats
	Procurement of stone, gravel and wood	Ban excavation of sand and gravel from watercourses and lakes Wherever practicable use existing quarries rather than opening new ones New quarries and deposits will be supervised by environmentalists	Contractors	Throughout Project works	No disturbance of sensitive habitats
Restoration / offset	Habitat compensation	Develop a reforestation plan with 10:1 reforestation ratio Use indigenous plants as much as possible for replanting programs Use local nursery to grow seedlings required for planting Preference planting within the existing buffer zone	KenGen (in coordination with landowners and supported by local tree nursery or other)	Immediately or at least one year after tree cutting was done in the rainy season (in accordance with national law)	Seedling success for five years

**Table 13: Archaeology and cultural heritage management**

Objective	Activity	Action	Responsibility	Timescales	Monitoring/ KPI
Reduce risk of site clearance and foundation works encountering significant archaeological site	Planning	Undertake archaeological survey prior to start of any site clearance and earthworks in collaboration with National Museums of Kenya (NMK)  Create an historical record of Project development for purpose of recording cultural changes of this area	KenGen supported by approved local archaeological specialist	Prior to site establishment	Pre- site establishment archaeology survey report
Manage potential unexpected discovery of archaeological remains/ artefacts	Site establishment	Develop and implement chance find procedure, refer to Section 5.10.9, that includes the following requirements if a chance find is identified: <ul style="list-style-type: none"> <li>• Immediately stop work (in the vicinity of the chance find)</li> <li>• Notify nominated person on site</li> <li>• Contact relevant cultural authorities</li> <li>• Implement recommendations in accordance with requirements</li> <li>• Resume works under the supervision of the relevant cultural authorities</li> </ul>	Civil works Contractor KenGen CLO	Prior to and during site establishment	Chance find reports and notifications to relevant cultural authorities



**Table 14: Occupational health and safety management**

Objective	Topic / Activity	Action	Responsibility	Timescales	Monitoring/ KPI
Stringent management of health and safety on site throughout construction to reduce the risks of accidents and illness to personnel	All construction works	<p>Develop occupational health and safety (OHS) plan aimed at preventing accidents, injuries and work-related diseases through the identification of the causes of physical, chemical, biological and radiological hazards and by prioritising hazard elimination, hazard control and hazard minimisation. It should include the following:</p> <ul style="list-style-type: none"> <li>• Ensure all employees carry out induction health and safety training prior to commencement of work</li> <li>• Include OHS issues in training plan and arrange for regular refresher courses every year for existing workers</li> <li>• Provide written materials and signage in appropriate languages</li> <li>• Hold tool box talks on hygiene and sanitation</li> <li>• Provide HIV / AIDS awareness programme</li> <li>• Use appropriate safety and security measures to minimise risk of electrocution or other harm (e.g. working at heights)</li> <li>• Address water and air vector health risks such as malaria</li> <li>• Hold awareness workshops with photos of venomous snakes and other poisonous animals that could be encountered in the Project area, directed to workers during site clearance works as well as operation (this activity should also seek prevention of unjustified killing of snakes and other poisonous animals)</li> <li>• Establish measures to prevent risk of accidents due to site traffic including procedures for safe driving on site, establishing rights of way, speed limits, vehicle inspection requirements, etc</li> <li>• Provide appropriate and legally required signage related to site hazards and risks</li> <li>• Provide shelters on site (at key work fronts) to allow shelter from the sun and rain</li> <li>• Ensure good housekeeping to prevent pooling of water and nesting of animals</li> <li>• Specific requirements for grounding and lightning rods to be included in technical specifications and in the routine monitoring of Contractors' equipment and installations</li> </ul>	Contractor (s)	Prior to commencement and throughout Project works	<p>OHS plan to be submitted for review</p> <p>Regular audits</p> <p>No reported incidents and accidents resulting in serious or fatal illness/injury (Target Zero)</p> <p>Minimal loss of workers' time from accidents and illness related to occupational activities</p>

Objective	Topic / Activity	Action	Responsibility	Timescales	Monitoring/ KPI
		<ul style="list-style-type: none"> <li>Undertake control and quality assurance of drinking water</li> <li>Identify and implement pest and vector control activities</li> <li>Use community grievance mechanism (in the SEP) for addressing any concerns related to security personnel</li> </ul>			
	Accident and emergency preparedness and response	<p>Develop accident and emergency preparedness and response plan (see Section 5.10.3) and carry out procedure training and drills with workers and local health authorities on a regular basis</p> <p>Provide first aid facility and trained personnel for construction staff on site</p> <p>Provide induction and training on emergency evacuation procedures in the event of a natural hazard emergency (lightning/thunderstorms, volcanic eruption, seismic activity, landslides, forest fires) (to be aligned with municipality emergency evacuation and response plans)</p> <p>Keep a venom pump and doses of antivenom and rabies serum in health facilities on site and in area of influence (AOI)</p> <p>Install telecommunication systems such as radio with emergency personnel in place prior to civil works commencing and emergency communication protocol</p> <p>Set up a telecommunications procedure specifying the hierarchy of who to contact in the case of an emergency</p>			Test warning systems, including telecommunications systems, annually and test fire alarms monthly
	Monitor health and safety performance on site	Initiate system for logging accidents/illness and check regularly			Monthly EHS statistics Incident reporting Regular audits



## 5.10 Additional information for supporting plans

The following sections set out additional information for developed as per the Project ESMP.

### 5.10.1 Ecological management plan (EcMP) including habitat removal and restoration plan (HRRP)

The EcMP and HRRP will include the following as a minimum:

- Details of the environmental staff to be hired by the Contractor
- Details of the local community members, non-government organisations (NGOs) or consultancy, and the specialists that will undertake some of the activities that require specialist and local knowledge / identification of important tree or shrub species
- Requirements for pre-clearance surveys and tree inventories
- Outlines for removal of trees
- Measures to prevent the introduction and spread of non-native invasive species (details provided below)
- On-site habitat restoration strategy (under the panels and other) to minimize microclimate effects (slow growing)
- Awareness for all workers engaged in the Project of the environmental and ecological sensitivities (critical/natural habitats and threatened and protected species) of the region, the Project site and their own actions. Staff will be provided with relevant information through staff induction, toolbox talks, leaflets and office posters.

#### 5.10.1.1 Invasive species management plan

KenGen and/or Contractors will monitor these species during Project works and will identify and report new invasive species establishing in the Project areas. Preventative, control and monitoring measures will need to be implemented by Contractors about the following aspects of the Project:

Packaging and movement of materials:

- Minimise traffic and the distance it has travelled
- Source goods/materials locally where practicable
- Contain any AIS and report their presence

Vehicles and equipment:

- Train workers and raise awareness regarding AIS
- Record and report the presence of any AIS

Soil and vegetation:

- Minimise disturbance to, or movement of, soil and vegetation
- Prevent soil damage and erosion
- Ensure imported soil/other materials are safe and free of AIS (source from a reputable supplier, request information on the soil's origin)
- Prevent AIS establishment on exposed stored soil (do not store bare soil near known sources of AIS, consider using matting to cover exposed soil)
- Ensure infested material is disposed of safely
- Retain as much natural vegetation as practicable

Habitat reclamation:

- Use native plants for reinstatement and landscaping
- Assess any non-native species (to be used in landscaping) for AIS potential
- Consider that some AIS may be soil-based
- Avoid altering soil and water body properties

It must be mentioned that not all the above measures will need to be implemented; risk screening will need to be undertaken by KenGen and/or Contractors for each Project site and this will inform the implementation of the most appropriate prevention and control measures.

#### **5.10.2 Livelihood restoration plan**

A livelihood is defined as a means of securing the necessities of life. A livelihood restoration plan (LRP) will be prepared by KenGen to identify the full range of impacts to livelihoods as a result of the restrictions to land use on the Project site and establish the mitigation for the affected persons. The LRP will ensure that livelihood restoration is done in a transparent, consistent, and equitable manner.

The ESIA social baseline data will be used during monitoring and evaluation to assess the extent to which measures in the LRP are effective in mitigating negative impacts on livelihoods. The following was discussed during the ESIA phase and needs to be addressed by the LRP: beehives relocation, grazing needs, access to Kamburu dam for fishing and watering animals.

### 5.10.3 Emergency response plan / spill control plan (construction and operation)

Emergency response procedures identify preventive actions and the methods and approaches for handling accidents/incidents, fire-fighting and safety response, spill response, natural hazards, and other potential hazards. For the construction phase the Contractor will prepare a site wide plan that includes the following as a minimum:

- Details of crisis management team
- List of contacts with external organisations e.g. relevant county or other emergency response teams (names, address, telephone numbers) and individual responsibilities for making these contacts
- List of individual responsibilities under the headings
- Preparation in the event of an accident, including evacuation plans, staff training, planned drills
- Emergency supplies for water, electricity
- Actions during the emergency (fire, severe weather (rain, cyclones) other situations)
- Actions after the emergency, including restoration, clean-up and remedial measures
- Sources of necessary information and locations of the pollution control facilities
- Spill control plan
- List of emergency equipment (i.e. fire extinguishers and first aid kits), emergency exits and muster points and a map showing their location

Any environmental incidents must be dealt with rapidly and effectively. Spill kits will be readily available at all individual work-site locations where spills may occur e.g. in locations where fuels, oils and chemicals are stored and used, with additional quantities kept in the central laydown areas. Personnel will be trained to identify, report and deal with incidents, including clean-up of spills as part of the work induction programme. An incident reporting form will need to be completed whenever there is an incident that requires action. NEMA will also need to be informed, as per environmental regulations.

In any major incident, the KenGen health and safety coordinator will take direct responsibility, supported by the KenGen CEO, Contractor site manager and Contractor EHS specialists where the accident has occurred. The KenGen health and safety coordinator will be fully aware of their responsibilities beforehand. It must also be understood that environmental concerns will in certain circumstances take sub-ordinate priority to the protection of human life and private property.

Spill response / pollution control materials will be stored in a safe location on site near the potentially hazardous activities or those where risks of spillages are high, such as equipment refuelling areas. This material is to be used to contain and clean up pollution / spills, and care will be taken to properly dispose of any absorbent materials. Contractors will keep stocks well maintained and replenished. For spill related incidents, spill response materials will include the following:

- Clean sand and oil absorbing material
- Sand bags
- Buckets and shovels
- Storage containers

The emergency response plan is to be submitted to the relevant authorities.



#### 5.10.4 Local hiring / content policy

The local recruitment plan will include but not be limited to the following:

- Policy statement of all Contractors' commitments to meeting Kenyan Laws and GIIP with regards to recruitment and labour management including non-discrimination and equal opportunities
- Commitment to use local personnel and business as priority
- Description of the types of employment opportunities to be provided to local people during the Project including skills levels, indicative timeframes of recruitment and likely duration of contracts
- Description of the local recruitment processes including timely (at least one month prior to recruitment) disclosure of information about vacancies through community meetings (Project Stakeholder Committee – PSC) as well as the job application procedures for candidates
- Information about how job opportunities are advertised equitably to ensure equal opportunities for all local people subject to appropriate skills availability

Contractors to disclose this policy document to PIT and PSC to promote transparency in the recruitment process.

#### 5.10.5 Project labour policy statement

The Project needs to ensure its policy and procedural consistency with international standards related to workers' rights. This includes requiring all Contractors and subcontractors to have management systems and worker procedures in place to:

- Raise awareness prior to recruitment, clarifying the local hire policy and procedures, including identification of opportunities for women to participate in employment and training
- Observe statutory requirements relating to minimum age for employment of children and meet international standards of not employing any persons under the age of 16 for general work and no persons under the age of 18 for work involving hazardous activities
- Ensure acceptable conditions of work including by observing national statutory requirements related to minimum wages and hours of work
- Meet international standards related to paying all wages, including bonuses and premium pay for overtime work, to all employees in a timely fashion and in a manner consistent with ILO Convention 95. There should be clearly benchmarked payment schedules in the Contractors' contracts
- Commit to not taking any action to prevent employees from exercising their right of association and their right to organise and bargain collectively
- Ensure no workers are charged fees to gain employment on the Project
- Ensure rigorous standards for OHS are in place
- Base employment decisions on principles of non-discrimination and equal opportunity, fair and equal pay, especially for women carrying out the same work as men
- Establish a labour grievance mechanism and document its use for labour complaints without reprisal

In addition to the above commitments, the EPC Contractor will need to have in place the following which its subcontractors or temporary workers will agree to:

- Prepare or provide a corporate HR policy appropriate to the size and workforce which indicates the approach for management of employees (this could be partly requested in the tender process)
- Provide health insurance for employees for the duration of their contracts
- Produce job descriptions and provide written contracts and other information that outline the working conditions and terms of employment, including the full range of benefits<sup>3</sup>
- Report regularly on the labour force profile, including gender, and location source of workers (for instance from the three municipalities, the country and outside the country)
- Report regularly on labour and working conditions key performance indicators, for instance hours worked (regular and overtime) during period and cumulatively, hours lost, number and type of accidents, near misses, site audits and meetings, trainings, use of labour grievance mechanism, etc.
- Hold toolbox talks on workers' rights and the labour grievance mechanism during the construction phase
- Hold regular briefings and take preventative measures about health issues
- Organise a training programme and keep training registers for construction workers
- Provide all construction workers with a summary declaration of their employment service and training activities at the end of contract as a means to finding continued employment
- Establish OHS procedures in the overall environmental management system which provide workers with a safe and healthy work environment considering the inherent risks for this type of project

Contractors and subcontractors need to be made aware of their role in ensuring the Project meets international standards related to labour and working conditions. In particular, overtime arrangements and the timely payment of wages should be addressed. This should be done through contractual clauses and regular monitoring.

KenGen will undertake a labour audit at the outset of the Project on the EPC Contractor and the supply chain and monthly post check audits thereafter to monitor implementation.

#### **5.10.6 Project labour code of conduct**

The Contractor will establish and publicise a code of conduct for the labour force. The code will cover the following and all employees will be required to sign onto this code of conduct (KenGen and all Contractors including temporary works).

- Proper use of PPE and other work equipment that has been provided
- No hunting, poaching or illicit use of local natural resources
- Careful use of local natural resources and Project resources, especially water, fuel, fuelwood and electricity
- Discreet sexual behaviour that takes into consideration messages about HIV/AIDs and sexually transmitted diseases, and local laws and regulations governing this
- No involvement in human trafficking
- Restrictions related to consumption of alcohol and drugs
- Prohibition of firearms on site (with the exclusion of site security personnel)

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<sup>3</sup> Benefits might include life insurance, health care, disability/invalidity coverage, maternity/paternity leave, retirement provision, redundancy payments over and above legal minimum, lay-off pay, extra employment injury benefit, survivors' benefits, extra paid holiday entitlement, compassionate leave, reimbursement for flights home, payment of children's education, employee education needs, and in kind benefits such as sports or child day care facilities, meals, transportation provision and others.

- Safe driving practices
- Respect for the local community and its cultural norms in which labourers are working
- Professional behaviour and integrity when dealing with the public

#### **5.10.7 Labour grievance mechanism framework**

The EPC Contractor will implement a labour grievance mechanism (that is open to all subcontractors and temporary workers). The labour grievance mechanism will include the following:

- A policy statement that grievances can be raised by any member of staff without fear of reprisals
- Response times for grievances categorised according to the severity of the grievance or the issue in question
- A form for logging grievances and when and how they are closed out
- A process for monitoring grievances to identify repeat or unresolved grievances and reporting these issues to senior management to expedite remedial action
- Contact details for staff to whom grievances should be raised

The grievance mechanism will be explained to any subcontractors on appointment and a notice summarizing the approach and providing contact details for staff to whom grievances should be raised will be posted in the site rest areas and offices.

#### **5.10.8 Site safety and security management plan**

A security management plan should be prepared that incorporates the following:

- Security for Project staff, sites and assets will be provided in accordance with applicable Kenyan laws, principles of international good practice<sup>4</sup>, respect for human rights and proportionality
- The Security Contractor will observe KenGen policies regarding ethical conduct and human rights and will have its own policies on appropriate conduct and use of force
- The Security Contractor will not employ individuals implicated in human rights abuses and will use force only when necessary and to an extent proportional to the threat
- The Security Contractor will maintain the confidentiality of Project information
- The Security Contractor will ensure that all security guards are provided with regular training. Particularly on the use of force
- KenGen will vet the background of the Security Contractor they intend to employ particularly regarding use of excessive force
- KenGen / Contractor will provide a grievance mechanism by which complaints against their security providers can be received
- KenGen / Contractor will consider and, where appropriate, investigate all allegations of unlawful or abusive acts by security personnel, act (or urge appropriate parties to take action) to prevent recurrence, and report unlawful and abusive acts to public authorities
- Security staff employed on the Project will be required to sign up to the 'Security Personnel Code of Conduct' elaborated below

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<sup>4</sup> Including practice consistent with International Finance Corporation (IFC) Performance Standard 4 Community Health Safety and Security; and, the United Nation's (UN) Code of Conduct for Law Enforcement Officials, and UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials



- KenGen will not sanction any use of force except when used as a last resort for preventive and defensive purposes in proportion to the nature and extent of the threat. Firearms will not be used against persons except as in self-defence or in defence of others against an imminent threat of death or serious injury
- Any security guard issued with a firearm or other weapon will be held accountable for its use. All weapons will be logged and security guards will not be allowed to take these items off site or when not on duty
- KenGen will consult with and contract an external monitoring and compliance assurance body, to monitor the Security Contractor and ensure they fulfil their obligation to provide security in a manner consistent with these principles

In addition to the above principles, all security personnel employed on the Project will be required to commit to the following Security Personnel Code of Conduct:

Respect and protect human dignity and maintain and uphold the human rights of all persons:

- Ensure the full protection of the health of persons in custody and take immediate action to secure medical attention whenever required
- Not use arbitrary or abusive use of force, and use force only when strictly necessary and to the extent required for the performance of duty
- Only use firearms when deemed necessary as per the Security Policy
- Not use torture or other cruel, inhumane or degrading treatment or punishment
- Not engage in harassment or abuse of other workers or community members

Exhibit integrity and fairness in the performance of duties:

- Enforce rules, regulations, laws and policies fairly and consistently
- Conduct duties as instructed by supervisor
- Not commit any act of corruption

Be observant in duties and reporting promptly:

- Report all security incidents, violations of laws and policies and promptly
- Be aware of surroundings always
- Act to reduce security risks to people and property

Be professional and courteous in all interactions with the public and employer:

- Maintain appropriate conduct for interactions with local community members, including respecting local customs and cultural norms both on- and off-site

KenGen / Contractor will engage a private Security Contractor to provide security for the Project site and not directly employ security staff.

#### **5.10.9 Chance finds procedure**

Prior to site works, KenGen will consult with the relevant cultural authorities (National Museums of Kenya), to ensure that the chance find procedure to be produced is acceptable to them. Updates or amendments will be made by KenGen where appropriate.

The ownership of any chance finds discovered on the Project will be determined by the relevant cultural authorities who aim to collect, preserve, and research natural cultural national heritage.

Contractor employees such as excavation equipment operators and supervisors are to be trained in identification of physical cultural resources during excavation.

The procedure upon discovery of chance finds or physical cultural remains (PCR) includes the suspension of work and following steps:

- Contractor will stop work (in some cases, all work will need to be suspended, in others just the work in the immediate vicinity of the find will need to stop)
- Contractor will immediately report the discovery to KenGen's Environmental Control Officer (ECO) (the Contractor may not be entitled to claim compensation for work suspension during this period)
- KenGen's ECO may suspend work and may request from the Contractor some excavations at the Contractor's expense if the Environment and Social team (ES) thinks that a discovery was made and not reported
- Contractor will demarcate and limit access to the site
- KenGen's ES will consult with national authorities to decide whether the item can be removed and work may continue, for example where the item is a single item of archaeological value
- The Contractor will submit a chance find report to the KenGen ES within one day of the find recording key details
- KenGen ES to inform the relevant cultural authorities immediately following the submission of the chance find report and provide a copy of the report

As required cultural heritage authorities will undertake to send a representative to the discovery site; details will be agreed between the relevant cultural authority and KenGen. The representative will determine the action to be taken which may include, but will not be limited to:

- Removal of the chance find/PCR(s) deemed to be of significance
- Execution of further excavation within a specified distance of the discovery point
- Extension or reduction of the area demarcated by the Contractor

KenGen and the civil works Contractor to agree response times and time periods in their chance find procedure for further suspension of the works until an instruction on the required action is received from the relevant cultural authorities.

Following approval from the relevant cultural authority, KenGen's ES will issue the appropriate Contractor with the instruction to recommence works.

## **5.11 Operational environmental and social management plan requirements**

### **5.11.1 Operational ESMS**

During operations KenGen will adopt and develop and implement a site ESMS that aligns with the corporate EMS, labour policy and OHS policy and the requirements for this Project ESMP. The operational ESMS will include as a minimum the following site policy, plans and procedures:

- Site environmental and social policy
- Environmental and social risk identification matrix (operation)
- Site operational environmental and social management plan (ESMP)
- Site procedures to address the management of key aspects relevant to the operation of a solar plant including *inter alia*:

- Emergency response and preparedness including spill control
- Site security
- Surface and foul water run off
- Site waste management
- Reforestation and site restoration
- Pollution prevention and control (dust, noise, glint and glare)
- Site monitoring procedure including:
  - EHS statistics
  - Community water quality monitoring programme
  - Habitat restoration monitoring (site)
  - Reforestation monitoring (compensation planting)
  - Community grievance log
  - Annual internal and external inspection and audit plan
  - Employee training needs analysis
- Site inspection and audit procedure (internal and external)
  - Internal site inspection visits (quarterly)
  - Internal H&S inspection
  - Internal EMS, labour audit (annually)
  - External ESMS audit (annually)
- Communication (internal and external)
  - Updated stakeholder engagement plan (SEP) (to be updated at least annually)
  - Procedure for internal communication and reporting (KenGen management)
  - Procedures for external communication and reporting (NEMA and other relevant stakeholders)

Key requirements for the operational phase are summarised in Table 15.



**Table 15: Operational environmental and social management plan (O-ESMP)**

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
Minimize operational environmental effects	Operation				
	Traffic	Clearly post site entry and exit signs	KenGen / O&M Contractor	Operation	Signs
	Traffic	Use 24-hour security and limit vehicles entering the site	KenGen / O&M Contractor	Operation	Access log
	Traffic	Clearly post on-site speed limits of 10km /hr.	KenGen / O&M Contractor	Operation	Speed limit signs / non-conformances
	Noise / Air quality	Maintain and monitor community grievance mechanism in case of noise or air quality issues.	KenGen / O&M Contractor	Operation	Review number of community complaints – monthly
	Water quality	Monitor water quality at the reservoir abstraction point	KenGen / O&M Contractor	Operation	Monthly water quality data
	Glint and Glare	Post signage along the roads relating to glint and glare effects Maintain and monitor community grievance mechanism in case of noise issues. Evaluate and respond to complaints with outcome	KenGen / O&M Contractor	Operation	Review number of community complaints – monthly Monitor response rate
	Waste management	Implement a waste segregation policy Monitor waste streams generated and maintain log of waste transfer and disposal as per NEMA regulations.	KenGen / O&M Contractor	Operation	Bi-weekly quantities of waste and types Certificate of approved handler and disposal site Estimates of quantities of types of waste recycled, reused and recovered
	Foul water run off	Monitor treated water before use for irrigation	KenGen / O&M Contractor	Operation	Monitoring records
	Surface water run off	Develop operational surface water management plan	KenGen / O&M Contractor	Operation	Monitor soil erosion (visual)
	Reforestation	Implement the reforestation plan Complete replanting within 5 years Monitor replanting success for further 5 years. (10 years) Monitor medicinal trees restoration	KenGen / O&M Contractor	Operation	Replanting success rates Annual monitoring status report
	Ecological	Monitor bat or bird fatalities	KenGen / O&M Contractor	Operation	Number of fatalities
	Ecological	Monitor bee translocation programme	KenGen / O&M Contractor	Operation	Quarterly monitoring to determine establishment and productivity.

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
Minimize operational social effects	E&S management	Integrate social management actions from the ESIA into the Operational ESMP	KenGen / O&M Contractor	Operation	O-ESMP containing all social management actions proposed on the ESIA
	E&S management	Establish operational ESMS (as per KenGen policies)	KenGen / O&M Contractor	Operation	O-ESMS established
	Communication	Maintain community grievance mechanism and open channels of communication (Project Stakeholder Committee) as defined in the SEP	KenGen / O&M Contractor	Start of operation	Community grievance log Number of complaints Duration for close out Minutes of meetings from PSC (monthly / quarterly)
	Communication	Update SEP to facilitate access to information to the public (local and wider AOI) during operation	KenGen / O&M Contractor	At least Annually	Updated SEP
	Livelihood restoration	Monitor access is being maintained around the site to the reservoir Monitor if affected persons have a higher living standard than before, living at the same standard as before, or are worse off than before	KenGen / O&M Contractor	Operation	Annual status report
	Local recruitment	Create an employment committee for ongoing hiring needs	KenGen / O&M Contractor	Operation	Register of recruitment of local people
	Local recruitment	Prioritize employment and subcontracting locally	KenGen / O&M Contractor	Operation	Maintain statistics for local hiring
	Technical empowerment	Create a visitors' centre (including display and historical record) and employ locally	KenGen / O&M Contractor	Operation	Visitors centre Number of visitors Number of educational groups
	Labour and work conditions	Apply HR policy to all workers (permanent and temporary)	KenGen / O&M Contractor	Operation	Human resource policy implemented and communicated to workers
	Occupational health and safety	Set up an operating OHS plan	KenGen / O&M Contractor	Operation	OHS plan OHS annual audit reports OHS monthly inspection reports
	Labour	Comply with laws and ILO Core labour standards	KenGen / O&M Contractor	Operation	Labour statistics Labour complaints Labour audit (annually) against IFC PS2
	Labour	Set up a worker grievance mechanism	KenGen / O&M Contractor	Operation	Established grievance mechanism and log Monthly review of grievance log Record of close out of all

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
	Community health and safety	Prepare an Emergency response plan	KenGen / O&M Contractor	Operation	grievances Emergency response plan Record of annual drill Record of contact with local services
Social enhancement	Enhancement measures	Continue to implement enhancement measures agreed with the community	KenGen / O&M Contractor	Operation	Annual status report



## 6 Monitoring and reporting

### 6.1 Overview

The following sections set out minimum proposed reporting and auditing provisions. The development of these will be the ultimate responsibility of the KenGen PIT (during construction) and the KenGen O&M team during operation.

### 6.2 Performance reporting and auditing

Table 16 summarises the key reports to be produced in support of the works for the Project. Any third parties working on behalf of KenGen will be required to set up systems within their own ESMS for reporting on these topics.

**Table 16: Minimum reporting requirements**

Report Type	Requirements
Accident / incident and non-compliance report (NCR)	Any breaches of the accepted standards specified will be reported to the KenGen Site Manager. KenGen will define accidents, incidents and environmental and health and safety near misses in the contracts of all Contractors
Site inspection records	KenGen and all Contractors are to compile a site inspection checklist or record format relevant to their ESMP implementation responsibilities Alongside routine daily visual inspections, periodic site inspections are to be undertaken and recorded at least every two weeks to confirm ongoing compliance with ESMP requirements
Monthly internal EHS reports	Relevant parties will prepare a monthly report for submitting to the KenGen's ES and include: <ul style="list-style-type: none"> <li>• Progress in implementing the ESMP</li> <li>• Findings of the inspection and monitoring programmes, with emphasis on any breaches of the control standards, action levels or standards of general site management; reported back to staff to improve environmental performance/behaviour</li> <li>• Outstanding NCRs</li> <li>• Summary of any complaints by external bodies and actions taken/to be taken</li> <li>• Relevant changes or possible changes in legislation, regulations and international practices</li> </ul>
Internal audits	Undertaken every six months to review the adequacy of implementation of Contractors' ESMP in accordance with the requirements stated in this report
Annual report to NEMA	Within the first quarter of each year, KenGen are to submit to NEMA and the relevant authorities, a report outlining compliance with the NEMA environmental permit conditions, this ESMP and measures outlined in the ESIA
Annual independent audits (external)	As a minimum, throughout the first 2.5 years of the Project, arrangements will be made for an industrial environmental management specialist to carry out an independent audit of the existing practices against the requirements of the ESMP. The key objectives of the audit will be as follows: <ul style="list-style-type: none"> <li>• Report on the practical implementation of the ESMP and progress since the last visit</li> <li>• Establish feasible improvement objectives for completion before the next visit</li> </ul> These audits will be used to re-examine the continued appropriateness of the ESMP and to provide advice on any updates required. Attention will be given to lessons learnt in the light of experience. Consideration will be given to the monitoring programmes in place to determine whether their purpose has been served and they can therefore be terminated or reduced in frequency.

#### 6.2.1 Document handling

In line with KenGen document control procedures, a complete and up-to-date file of all relevant sources of information will be maintained by the Contractor and will include:

- Current environmental permits and consents
- All relevant regulations, international guidelines, and codes of practice
- Current calibration certificates for all the equipment that requires calibration by an external organization
- Incident reports
- Latest version of the Project and Contractor ESMP
- Records for environmental monitoring (inspection forms) and audits
- Record of the Project programme
- Manufacturers' operating manuals for all the environmental monitoring equipment
- Equipment maintenance and repair records
- Correspondence in relation to environmental matters / permits including internal and external
- Minutes of relevant meetings, including stakeholder meetings and interviews and internal management meetings
- Environmental and social training records (e.g. attendance records for environmental awareness training)
- Workers grievance log

In addition, KenGen (or their nominated consultant) will maintain the following records:

- Community grievance log
- Records for environmental monitoring (inspection forms) and audits
- Correspondence in relation to environmental matters / permits including internal and external

### 6.2.2 Supervision, inspection, and auditing

In line with KenGen's internal audit plan, the KenGen PIT will establish procedures to supervise and measure the effectiveness of the management system. This should be through a combination of inspections and audits (internal and third party). This should be done by experienced experts and relative to the nature of the risks. KenGen and the Contractors will be required to develop an incident register and implement corrective actions.

### 6.2.3 Monitoring and supervision of Contractors' management of labour and working conditions

KenGen will be responsible for ensuring that the required labour standards are passed on to all Contractors and subcontractors. KenGen will then need to ensure implementation of written commitments and procedures through monitoring and supervision activities, especially but not limited to those presented in Table 17.

**Table 17: Contractor labour monitoring**

Timing / Phase	Labour aspect	Indicator of Contractor compliance	Methods for KenGen verification
Within one month of Contractor commencing works	Labour management recruitment Labour force data	Contractor HR policy based on non-discrimination, equal opportunity and fair treatment that is compliant with the national labour law Staff members conversant on the HR policy	Contractors' HR policies in Project file
Within one month of notice to proceed	Occupational health and safety	Contractor health and safety plan in place that has provisions to provide a safe and healthy work environment by preventing accidents, injuries and diseases; ensures workers are trained; and	Contractors' H&S plans in Project file

Timing / Phase	Labour aspect	Indicator of Contractor compliance	Methods for KenGen verification
		includes emergency prevention measures and response actions	
During work activities	Working conditions and terms of employment	Written employment contract for each worker Appropriate shelter and shading Break times adhere to national law Provision of timely payment of salaries General information regarding terms and conditions, Project activities and occupational health and safety information provided at an established location on site	Periodic random interviews with five to ten employees regarding contract and working conditions Visual inspection of PPE use Daily visual inspections of eating, resting, drinking and washing facilities Review of information
During work activities	Labour grievance	Workers aware of labour grievance mechanism Use of grievance mechanism	Monthly random interviews with employees Periodic discussion with Contractors; HR department
During work activities	Occupational health and safety	Number of training sessions and number of trainees Accident registers up to date on sites with number of accidents (KenGen will encourage subcontractors to meet zero accidents and fatalities target) Regular reporting of EHS statistics to KenGen for central collation Proper use of PPE Safe and hygienic eating, resting, drinking and washing facilities	Accidents reported on in Contractors' monthly reports Regular (minimum weekly) visual inspections of sites and use of PPE

#### 6.2.4 Environmental monitoring

Performance indicators required to be monitored during the Project are as outlined in Table 21.

**Table 18: Environmental monitoring**

Measure	Frequency	Method	Responsibility
Air quality – dust emissions	Regular (daily)	Visual monitoring of dust episodes, soiling of vegetation, dust resuspension on the roads and dust clouds	Contractor / KenGen E&S Consultant
Noise	Once a week	Spot check monitoring at commencement of activities using sound level meter, and at the nearest residential properties/sensitive receptors, for comparison against standards Monitoring equipment to be calibrated in line with manufacturers requirements	Contractor / KenGen E&S Consultant
Waste	Periodic	All waste should be recorded for offsite disposal There should be periodic audits of internal waste management practices to ensure on-going compliance throughout the life of the Project, with any recommendations for improvements in waste management practices forming part of on-going reporting	Contractor / KenGen E&S Consultant
AIS	During site establishment works Annual checks and surveys thereafter	Site walkover	Contractor / KenGen E&S Consultant



Measure	Frequency	Method	Responsibility
Flora and fauna	As per EcMP (to be defined)	As per EcMP (to be defined)	Contractor / KenGen E&S Consultant
Archaeological	During site establishment works	Chance finds procedure / watching brief	Contractor / KenGen E&S Consultant

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## **A. KenGen environmental policy statement**





## ENVIRONMENTAL POLICY STATEMENT

KenGen has revamped its Good -2- Great transformation strategy. This includes a focus on achieving environmental sustainability as we provide reliable, safe, quality and competitively priced electric energy and services.

In fulfilling this responsibility, KenGen undertakes to uphold Environmental Standards that exceed the minimum legal and regulatory requirements. To this end, we shall adopt all reasonable and practical measures to:

- a. Provide resources to maintain and continually improve its Environmental Management System (EMS) based on the ISO 14001:2015 and its supporting standards.
- b. Identify risks and opportunities, implement pollution control measures, mitigate negative environmental impacts while at the same time enhancing positive environmental impacts resulting from its activities, products and services.
- c. Endeavour to comply with and exceed the requirements of all applicable environmental laws, regulations, permit and licences conditions and other requirements to which the organization subscribes to.
- d. Establish environmental objectives, targets and continually review environmental management programs.
- e. Strive to enhance the ecosystems through partnership and engagement with its stakeholders including the local community living around KenGen's instalations.
- f. Purpose to train all employees on the environmental sustainability, significant environmental aspects and responsibilities associated with their jobs.
- g. Contribute to global sustainable development through mainstreaming of climate change mitigation and adaptation in the business process.
- h. Communicate its environmental policy and performance to employees and key stakeholders.

Signed:.....

Date: 3/11/2017.....

Rebecca Miano (Mrs) OGW

**MANAGING DIRECTOR AND CEO**

Section: Corporate Policies & Procedures	Effective Date: 01.09.2017	Doc. No. CRP/RCA/Q&S/Q&S/PL/02
		Rev. No. 4

## **B. KenGen occupational safety & health policy statement**



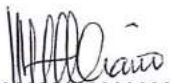
## **OCCUPATIONAL SAFETY & HEALTH POLICY STATEMENT**

KenGen has revamped its Good -2- Great transformation strategy. This includes a focus on achieving positive safety culture and maintaining safe work conditions, equipment and systems of work. The policy applies to all key stakeholders at work place including employees, local community, contractors and visitors.

In fulfilling this responsibility, KenGen undertakes to observe Health and Safety Standards that exceed the minimum legal and regulatory requirements. We shall adopt all reasonable and practical measures to:

- a) Create a safe working environment and uphold professional practices that stimulate positive and healthy impacts in the organization.
- b) Identify and eliminate any workplace hazards, which may result in personal injury and property loss/damage.
- c) Provide the resources and training required to ensure workers are aware of hazards and continually improve health and safety management,
- d) Ensure and inculcate a positive safety culture at the workplace with involvement of all employees and key stakeholders.
- e) Establish and monitor objectives and targets for prevention of ill health and injuries.
- f) Communicate and promote this policy to all key internal and external stakeholders.

Creating a safety culture is primary to KenGen in becoming a market leader in provision of reliable, safe, quality and competitively priced electrical energy in the Eastern African region.

Signed:.......... Date: 3/11/2017.....

Rebecca Miano (Mrs) OGW

**MANAGING DIRECTOR AND CEO**

Section: Corporate Policies & Procedures	Effective 01.09.2017	Date:	Doc. No. CRP/RCA/Q&S/Q&S/PL /03
			Rev. No. 3



## **C. KenGen fire safety & emergency policy statement**



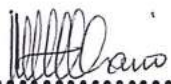
## **FIRE SAFETY & EMERGENCY POLICY STATEMENT**

KenGen is committed to providing a safe environment for all persons who work in and visit our premises. In the event of an emergency, KenGen's priority will be to save lives and thereafter ensure continuity of its operations and protection of the environment.

KenGen recognizes fire as one of its significant hazards. In a bid to ensure reduced risk from fire, KenGen implements workplace emergency response standards that exceed the minimum legal and regulatory requirements and will adopt all reasonable and practical measures to:

- a) Assign responsibility to individual persons within the organization for hazard prevention and control.
- b) Provide maintenance and inspection of emergency detection and response equipment including firefighting appliances and detection systems.
- c) Implement evacuation procedures specific to the emergency, installations and premises.
- d) Identify assembly points and communicate emergency protocols.
- e) Train employees on emergency response, firefighting techniques and incident management.
- f) Plan and conduct emergency testing and drills.

This policy shall be communicated to key stakeholders and reviewed for its relevance and appropriateness in view of changing circumstances, legal and other requirements on a regular basis.

Signed:.......... Date:.....3/11/2017.....

Rebecca Miano (Mrs) OGW

### **MANAGING DIRECTOR AND CEO**

<b>Section:</b> Corporate Policies & Procedures	<b>Effective</b> 01.09.2017	<b>Date:</b>	<b>Doc. No.</b> CRP/RCA/Q&S/Q&S/PL /04
			<b>Rev. No.</b> 3







# **Seven Forks Solar Project**

## **Stakeholder Engagement Plan**

December 22, 2017

Mott MacDonald  
1585 Sawdust Road  
Suite 175  
The Woodlands TX 77380  
United States of America

T +1 (281) 292 2639  
F +1 (281) 298 3274  
mottmac.com

# **Seven Forks Solar Project**

## **Stakeholder Engagement Plan**

December 22, 2017

# Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	15 December 2017	A Martins J Allis	N Davies	M Lupton	Draft report
B	22 December 2017	A Martins	M Lupton	M Lupton	Final report (replaced Project setting figure, corrected typos, updated Project schedule and made it clear that timing in the Project schedule are estimates only and subject to change)

**Document reference:** 383185 | 1 | B

## Information class: Standard

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# Glossary of Terms

Term	Definition
Consultation	Consultation is a two-way process of dialogue between the project company and its stakeholders. Stakeholder consultation is about initiating and sustaining constructive external relationships over time.
Grievance Mechanism	Procedure provided by a project to receive and facilitate resolution of affected communities' concerns and grievances about the project's environmental and social performance.
Environmental and Social Impact Assessment (ESIA)	A forward-looking instrument that is able to proactively advise decision-makers on what might happen if a proposed activity is implemented. Impacts are changes that have environmental, political, economic, or social significance to society. Impacts may be positive or negative and may affect the environment, communities, human health and well-being, desired sustainability objectives, or a combination of these.
Information Disclosure	Disclosure means making information accessible to interested and affected parties (stakeholders). Communicating information in a manner that is understandable to stakeholders is an important first and ongoing step in the process of stakeholder engagement. Information should be disclosed in advance of all other engagement activities, from consultation and informed participation to negotiation and resolution of grievances. This will make engagement more constructive.
Stakeholders	Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project or the ability to influence its outcome, either positively or negatively.

Source: Based on International Finance Corporation (IFC) Performance Standards and IFC Good Practice Handbook on Stakeholder Engagement (2007)



# Acronyms

Acronym	Term
AC	Alternating current
AC	Affected communities
AOI	Area of Influence
CLO	Community Liaison Officer
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Control Act
ERC	Energy Regulatory Commission
ESIA	Environmental and Social Impact Assessment
ESMS	Environmental and Social Management System
FGD	Focus group discussion
GIIP	Good International Industry Practice
GoK	Government of Kenya
IFC	International Finance Corporation
K&M	K&M advisors (feasibility consultant)
KCAA	Kenya Civil Aviation Authority
KFS	Kenya Forest Service
KeRRA	Kenya Rural Roads Authority
KeNHA	Kenya National Highways Authority
KNTS	Kenya National Transmission System
KPLC	Kenya Power and Lighting Company
KWS	Kenya Wildlife Service
MMLLC	Mott MacDonald LLC
NEMA	National Environment Management Authority
NGO	Non-Governmental Organisation
NTS	Non-Technical Summary
OHL	Overhead lines
PIT	Project Implementation Team
PS	Performance Standards
PSC	Project Stakeholder Committee
PV	Photovoltaic
SCC	Stakeholder Coordination Committee
SEP	Stakeholder Engagement Plan
SMS	Short message service

# 1 Introduction

## 1.1 Overview

Kenya Electricity Generating Company Limited (KenGen) has identified a need to expand and diversify the generation portfolio of Kenya. Supported by consultants K&M Advisors, Mott MacDonald LLC USA and EcoPlan Management Limited (EcoPlan), KenGen plans to develop the “Seven Forks Solar Project” (the Project) a solar photo voltaic (PV) power project with capacity of approximately 45MW<sub>AC</sub>. It is intended the electricity generated by the Project will be fed into the Kenya National Transmission System (KNTS).

Mott MacDonald and EcoPlan have been commissioned to undertake an Environmental and Social Impact Assessment (ESIA) in accordance with the requirements of the Environmental Impact Assessment / Environmental Assessment) (EIA/EA regulations 2003, pursuant to the Environmental Management and Co-ordination Act (EMCA) 1999 and EMCA (amendment) 2015 Act and in accordance with international lending guidelines as defined by the International Finance Corporation (IFC) Performance Standards (PSs) 2012.

This Stakeholder Engagement Plan (SEP) is Volume V of the ESIA and is designed to guide the Project’s approach to stakeholder engagement throughout its lifecycle. This SEP has been developed in accordance with both national and international policy requirements for information disclosure, meaningful consultation, participation and stakeholder engagement. The SEP applies to all stages of the Project, namely planning, construction, operation and decommission.

## 1.2 Structure of the report

The SEP contains the following chapters:

- Chapter 2: Project description
- Chapter 3: Stakeholder engagement requirements
- Chapter 4: Identification of stakeholders and communication methods
- Chapter 5: Stakeholder engagement programme
- Chapter 6: Community grievance mechanism
- Chapter 7: Monitoring and reporting

## 2 Project Description

### 2.1 Overview and project setting

The Project will be located near the Seven Forks Hydroelectric Power Complex in Mbeere South Sub-County, Embu County, approximately 160km northeast of Nairobi, Kenya at Latitude 47°48.826" S and Longitude 37°39'32.241" E. The Project site is adjacent to national Highway B7 (Kangonde - Embu Road), approximately 1.5km north of the Kamburu Dam, as illustrated in Figure 1, and will extend over an area approximately 100 hectares on land that is owned by KenGen. However, the land is currently used by local communities for livestock grazing and to reach Kamburu Dam on foot. Project construction on the site is expected to start in the first quarter of 2019.

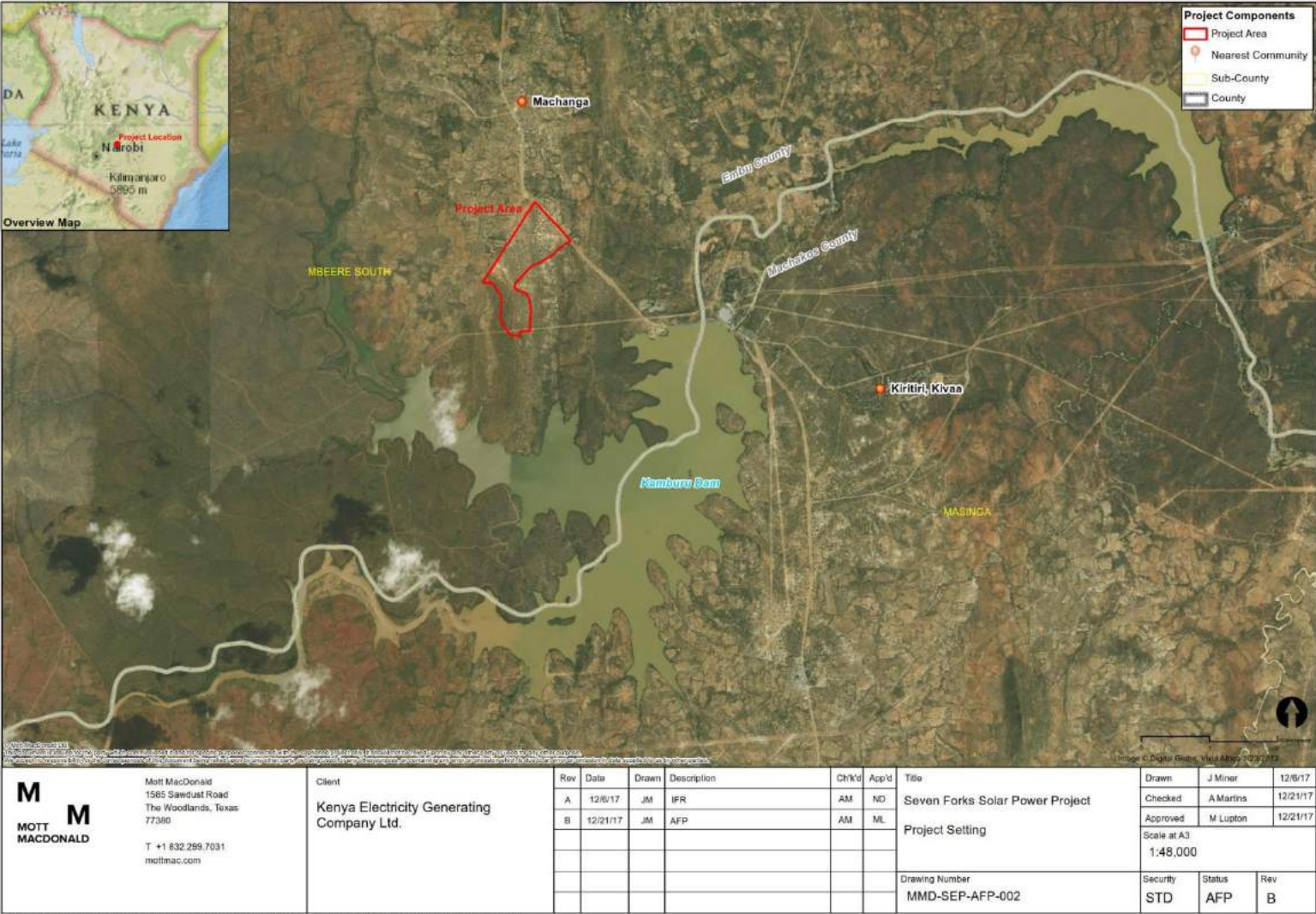
A preliminary feasibility study on the types of solar PV technologies that would be best suited for the Project has been completed, which concluded that monocrystalline, polycrystalline, and thin-film module technologies could be suitable for the Project. The feasibility study proposed the use of a horizontal single axis tracking system which rotates with the angle of the sun to maximize the power output of the PV modules. This will include the following components:

- PV modules (mono or poly crystalline)
- Inverters, combiner boxes and transformers
- Underground cabling
- Project substation
- Grid connection directly to the existing 132 kilovolt (kV) Kamburu - Masinga overhead transmission line (OHL) at an interconnection point 3.28km northwest of the Kamburu 132 kV substation
- On-site buildings including an operational control centre, office, welfare facilities, security guard house, storage facilities and stores
- Access road from highway B7
- Internal access roads and upgrade to northern premier road
- Site drainage system
- Relocation of an existing low voltage electricity line crossing the site (to be performed by Kenya Power and Lighting Company - KPLC)

A full description of the Project and components is provided in Chapter 3 of the ESIA.



Figure 1: Project setting



## 2.2 Objectives of this stakeholder engagement plan

The SEP is a document used to ensure a comprehensive and culturally appropriate strategy for consultation, disclosure and public participation throughout the lifecycle of the Project. It should be considered a live document that will be revisited and modified as necessary. The objectives of this SEP are:

- Ensure compliance with national legislation and IFC Performance Standards regarding consultation, disclosure and participation
- Identify and analyse stakeholder groups that may be affected by or have an interest in the Project with attention to vulnerable or under-represented groups
- Define appropriate engagement (consultation, disclosure and participation) strategies, content and timeline for each stakeholder group
- Maintain a constructive and complementary relationship between stakeholders and Project Company throughout Project lifecycle
- Provide a grievance mechanism for the public to register complaints, questions, concerns or comments and a system for recording and responding to such grievances in a timely manner

## 2.3 Previous stakeholder engagement and information disclosure activities

Consultation activities performed in support of this ESIA include:

- Consultation round 1: Stakeholder consultation began during the first visit where key stakeholders involved in the regulatory approval process were visited. These meetings were held in April 2017 and consisted of presentations regarding the Project and receipt of feedback from the stakeholders consulted
- Consultation round 2: A second period of consultation was performed during the scoping site visit in September 2017 consisting of public meetings with affected communities and interviews with key informants such as representatives from local authorities and from the local community. This included meetings, interviews and issue of questionnaires. The meetings had an important role related to regulatory approvals. Each stakeholder expressed interest in and support for the Project. However, concerns about compensation, positive impacts and benefit sharing were highly raised, mainly by community members.
- Consultation Round 3: consultation was held during the ESIA baseline data collection period in October 2017, including meetings with government officials, regulatory authorities in Embu County, and meeting with ward chiefs and opinion leaders. In addition, four focus group discussions (FDG) were held in the village of Machang'a covering the social groups listed below.
  - Women's representatives
  - The Youth and Business Group
  - Livelihood restoration and small business owners
  - Land users including agriculture, bee keeping, herbalists (medicine men/women) and livestock groups
- Consultation Round 4: two final stakeholder meetings to disclose the findings of the ESIA to the local community and department heads at the National, Regional, County and Sub-county level in December 2017. These are:
  - Meeting with National, Regional, County and Sub-county stakeholders and political leader in Embu (07 December 2017)

- Public meeting (Baraza) with community leaders and members from Machang'a, CBO's NGOs, business and commerce representatives and education institutions in Machang'a (06 December 2017)

A summary of the issues discussed during the meetings, meeting minutes and attendance sheets are presented in Chapter 5 of the ESIA.



## 3 Stakeholder Engagement Requirements

### 3.1 Overview

This chapter sets out the regulatory requirements relevant to the involvement of stakeholders in the Seven Forks Solar Project. This SEP has been produced to ensure meaningful stakeholder engagement that meets both national legislation requirements and international standards. The requirements and guidelines on which this SEP is based are summarised below.

### 3.2 National regulations

#### 3.2.1 EMCA

The EMCA puts forth the obligations for the environmental licensing process, including the development of an Environmental Impact Assessment (EIA). Public disclosure is an important step in the licensing process. After issuing an EIA to NEMA, the proponent is required to publish the following information in the Gazette, in at least two newspapers circulating in the area or proposed area of the project and over the radio:

- A summary description of the project
- The place where the project is to be carried out
- The place where the EIA study, evaluation or review report may be viewed
- A time limit of not exceeding 60 days for the submission of oral or written comments on the EIA study, evaluation or review report

#### 3.2.2 Environmental (Impact Assessment and Audit) regulations

Aside from reiterating the above stipulations, the Environmental (Impact Assessment and Audit) Regulations adds specific timelines for disclosure requirements and sets out guidelines for a Public Hearing that may be required by NEMA after the receipt of public comment prior to issuing the license.

The Environmental (Impact Assessment and Audit) Regulations stipulates further consultation during the EIA process, stating that the “proponent shall in consultation with the Authority [in this case NEMA], seek the views of persons who may be affected by the project”. This regulation also identifies the need for disclosure once the project has been approved by the Authority through publication of the project and its anticipated impacts by:

- Posting posters in strategic public places in the vicinity of the site of the proposed project informing the affected parties and communities of the proposed project
- Publishing a notice about the proposed project for two successive weeks in a newspaper that has a nation-wide circulation
- Making an announcement of the notice (above) in both official and local languages on a radio station with a nation-wide coverage at least once a week for two consecutive weeks

At least three consultation meetings are called for by this regulation, these being held with affected parties and communities to explain the project and its effects, and to receive their oral or written comments.” Notice of these meetings should be sent out at least one week prior to the meetings and the locations should be chosen for convenience of the affected communities and other stakeholders. A qualified coordinator should be present at the meetings to receive and

record oral and written comments and be responsible for translation of these comments and reporting the comments to the Authority.

### 3.2.3 National Energy Act

The National Energy Act of 2006 stipulates the need for public advertisement of the intent of applying for a license from the Energy Regulatory Commission (ERC) for generation and distribution of energy through a 15-day notice in at least two national and one regional newspaper of wide circulation. All local authorities must also be notified in writing, including local authorities in the proposed area of supply.

### 3.2.4 Summary

A summary of disclosure and consultation requirements from national legislation is presented in Table 1 below:

**Table 1: Timing of disclosure and consultation requirements in national legislation**

Phase	Environmental Management and Coordination Act	Environmental (Impact and Audit) Regulation	Energy Act
During ESIA development – for public contribution	No reference made	Posters Newspaper (notice for two successive weeks) upon submission to NEMA Radio (local and official languages) (once a week for two successive weeks) upon submission to NEMA Three public meetings	No reference made
After ESIA submitted to NEMA – for public comment	Gazette and two newspapers Radio NEMA website	Gazette and newspaper (once a week for two successive weeks) Radio (once a week for two successive weeks) Possible public hearing – defined by NEMA after receipt of public comments	No reference made
Prior to request for generation and distribution license	No reference made	No reference made	Two national and one regional newspaper (15-day notice) Written notification to all local authorities

Source: Mott MacDonald

## 3.3 International standards

The IFC PSs set the framework of requirements to be addressed in an international ESIA and the means to address them to international standards. They include:

- IFC PS1 – Assessment and Management of Environmental and Social Risks and Impacts
- IFC PS2 – Labour and Working Conditions
- IFC PS3 – Resource Efficiency and Pollution Prevention
- IFC PS4 – Community Health, Safety and Security
- IFC PS5 – Land Acquisition and Involuntary Resettlement

- IFC PS6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources
- IFC PS7 – Indigenous Peoples
- IFC PS8 – Cultural Heritage

IFC PS1 specifically refers to the need for and means of achieving community engagement, disclosure of relevant project information, appropriate consultation processes and grievance mechanisms throughout the project lifecycle. The extent and degree of engagement required by the consultation process should be commensurate with the project's risks and adverse impacts and with the concerns raised by the affected communities (ACs). The consultation process should provide ACs with the information necessary to understand the project, its impacts, risks and mitigation measures; opportunities to express their views regarding these points and consideration and response to these views.

The requirements for stakeholder engagement according to this PS are:

- Begin as early as possible in the project cycle and continue throughout the life of the project
- Conduct engagement based on timely, relevant, understandable and accessible information in a culturally appropriate format
- Focus inclusive engagement on those directly affected as opposed to those not directly affected
- Be free of external manipulation, interference, coercion, or intimidation
- Enable meaningful participation, where applicable
- Be documented

Relevant information should be disclosed to the ACs, including:

- The purpose, nature, and scale of the project
- The duration of proposed project activities
- Any risks to and potential impacts on such communities and relevant mitigation measures
- The envisaged stakeholder engagement process including means for participating where applicable
- The grievance mechanism

Differentiated strategies should be utilised to allow for the effective engagement of various stakeholder groups, including those identified as disadvantaged or vulnerable. The project should understand the representativeness of leaders and representatives to ensure that the views of ACs are truly represented in the process. Gender considerations should be taken into account and views of both genders should be included in engagement as well as decision-making processes.

When projects have potentially significant adverse impacts on communities, the project should engage in informed consultation and participation through in-depth exchange of views and information and iterative consultation. The outcomes of these consultations should be incorporated into the project design, mitigation and benefit-sharing measures.



## 4 Identification of Stakeholders and Engagement Methods

### 4.1 Overview

Project stakeholders are people and groups that (i) will be affected by the Project; (ii) are likely to be interested; and/or, (iii) could influence the outcome of the Project or have decision-making role in the Project. These stakeholder groups, individuals and representatives have been identified and analysed so as to determine the most effective engagement methods for each. This identification and analysis should be updated as the Project progresses and the social context evolves.

Stakeholders with diverse perspectives, interests and relationships to the Project can contribute to varied understandings of the local context and how the Projects activities impact the local environment, thus the importance of thorough stakeholder identification and analysis.

### 4.2 Stakeholder identification and analysis

The stakeholders that could be affected by, have interest in or have decision-making roles in the Project have been mapped and analysed to create a focused stakeholder list with strategies for how to engage with each of them. This analysis is summarised in Table 2 below.

Table 2: Project stakeholders and suggested communication and consultation methods

Stakeholder Group	Stakeholder Identified	Stakeholder relevance			Engagement Methods				
		Affected	Interested	Decision Maker	Public Meetings	Focus Groups	Private Meetings	Engagement through CLO	Correspondence
Land users, women representatives and vulnerable groups in the nearest community	Land users and vulnerable groups in Machanga Community including disabled people	x		x	x	x		x	
Non-Government Organisations (NGOs)	Association of International Christian Co-operation (ACCRI) – Mbeere South Sub County	x			x	x			x
	Caritas	x			x	x			x
Higher education institutions	University of Nairobi		x	x	x				x
Machakos County Administrative Government	Governor’s Office		x	x	x		x		x
	Kivaa Chief’s Office		x	x	x		x		x
Machakos County Political Representatives	Machakos Sub-county Commissioner		x	x	x		x		x
	Machakos Sub-county Water Department		x	x	x		x		x
	Machakos Sub-county Agriculture Department		x	x	x		x		x
National Government Agencies	National Environment Management Authority (NEMA) (Nairobi)		x	x			x		x
	National Environment Management Authority (NEMA) (Embu County)		x	x	x		x		x
	KETRACO		x	x			x		x
	Ministry of Energy and Petroleum (MoEP)		x	x			x		x
	Kenya Electricity Transmission Company Limited (KETRACO)		x	x			x		x
	Kenya Power and Lighting Company Limited (KPLC)		x	x			x		x
	Energy Regulatory Commission (ERC)		x	x			x		x
	Ministry of Lands & Physical Planning		x	x			x		x
	Kenya National Highways Authority (KeNHA)		x	x			x		x
	Kenya Rural Roads Authority (KeRRA)		x	x	x		x		x
	Kenya Civil Aviation Authority (KCAA) (Nairobi)		x	x	x		x		x
	Water Resources Management Authority (WRMA) (Regional office in Kerugoya)		x	x	x		x		x
	Kenya Forest Service (KFS) (Embu County)		x	x	x		x		x
	Game warden Kenya Wildlife Service (KWS) at Mean National Reserve		x	x	x		x		x
Embu County Administrative Government	Embu Governor’s Office		x	x	x		x		x
	Embu County Assembly		x	x	x		x		x
	Embu County Youth Empowerment & Sports Department		x	x	x		x		x
	Embu County Education Science & Technology Department		x	x	x		x		x
	Embu County Lands, Water, Environment and Natural Resources Department		x	x	x		x		x
	Embu County Agriculture, Livestock, Fisheries & Cooperative Department		x	x	x		x		x
	Embu County Gender, Culture and Social Services Department		x	x	x		x		x
	Embu County Trade & Tourism Department		x	x	x		x		x
	Embu County Finance & Economic Planning Department		x	x	x		x		x
	Embu County Infrastructure, Energy & Housing Department		x	x	x		x		x
	Embu County Public Service and Administration Department		x	x	x		x		x
	Embu County Health Department		x	x	x		x		x
	Embu Emergency Service Providers		x	x	x		x		x
	Mbeere South Sub-county Administrator (SCC)		x	x	x		x		x

Stakeholder Group	Stakeholder Identified	Stakeholder relevance			Engagement Methods			
Embu County Political Appointments	Machanga Chief's Office		x	x	x		x	x
	Embu County Commissioner		x	x	x		x	x
	Mbeere South Constituency	x	x	x	x		x	x
	Kiritiri Sub-county Commissioner Office		x	x	x		x	x
	Kiritiri Sub-county Forestry Department		x	x	x		x	x
	Kiritiri Sub-county Water Department		x	x	x		x	x
	Kiritiri Sub-county Agriculture Department		x	x	x		x	x
	Kiritiri Sub-county Public Works Department		x	x	x		x	x
	Kiritiri Sub-county Metrological Department		x	x	x		x	x
	Embu Senator		x	x	x		x	x
	Embu Members of Parliament (MPs)	x	x	x	x		x	x
	Embu Members of the County Assembly (MCA)	x	x	x	x		x	x
	Machanga Members of the County Assembly (MCA)	x	x	x	x		x	x
	Office of the Mavuria Ward administrator	x	x	x	x		x	x
Media	Local media (radio and newspaper)		x		x			x

Source: Mott MacDonald



### 4.3 Encouraging participation of women, vulnerable and marginalised groups

Good international industry practice (GIIP) and IFC PSs indicate the need for specific attention to women and vulnerable groups, including disabled people to ensure that their views are heard, recorded, and considered in Project planning and implementation. All consultation activities should be planned to facilitate the active participation of disadvantaged groups in public meetings, including considerations regarding accessibility, timing, and direct invitations for women.

Vulnerable or marginalised groups are likely to experience impacts in different ways, may not be represented by mainstream groups or may need to receive information and participation opportunities in unique ways. As the ESIA is developed, the Project team will make efforts to identify and engage with these groups in a meaningful way, updating the SEP as necessary so as to support the most complete understanding of the local context, identify the broad range of potential impacts and risks from the Project and design effective mitigation and compensation measures for the full range of stakeholders.

Team members responsible for engagement activities will be made aware of gender considerations as well as existence and needs of vulnerable and marginalised groups to ensure their effective roles as facilitators for all stakeholders. For this Project, particular groups have been identified as vulnerable and marginalised include:

- Children and the youth - there is a need to tailor engagement to empower the youth and also from a health and safety perspective related to induced migration
- Disabled people – the community includes blind, deaf / hard of hearing, low mobility or mentally challenged persons. Additional means for engaging in jobs and disseminating information in a suitable format should be considered
- Those that do not speak English (mainly elderly)

## 5 Stakeholder Engagement Programme

### 5.1 Overview

This chapter presents the main engagement activities and roles that will be undertaken throughout the lifecycle of the Project according to the IFC and national requirements. The engagement activities serve two key purposes:

- Disclosure of relevant information to help stakeholders understand the risks, impacts and opportunities of the Project as well as measures in place to minimize, mitigate or enhance these. It should be noted that different information or means of communication will be considered relevant to different stakeholders. The disclosure of meaningful information ensures more constructive participation from stakeholders, helps to contain and orient expectations, makes stakeholders aware of what to expect from Project activities and provides them with the ability to hold the Project Company accountable to their commitments.
- Provide stakeholders with the opportunity to voice their opinions, preferences, concerns, questions and grievances. This enables participation and involvement in the understanding of the local context, Project design and social and environmental management of the construction and operation of the Project.

The stakeholder engagement activities will be undertaken with respect for the differences between stakeholder groups and will be inclusive, clear, direct, open and meaningful. Accessibility is a key component, in regard to the information, format, language and location of activities. The engagement process should be understood as a two-way relationship, where both company and stakeholders exchange information and ideas. Affected groups will be informed about how their views and concerns have been incorporated or considered in the Project planning or implementation process. Meetings and informational materials will be in both local and official languages. KenGen will verify what are the preferable languages by stakeholders to undertake all engagement activities.

### 5.2 Community liaison officer

KenGen already has hydropower assets in the Seven Forks region and through this process has an active community stakeholder relationship. Stakeholder engagement of the operational hydropower schemes are coordinated through the KenGen Seven Forks Stakeholder Coordination Committee (SCC), which was constituted in February 2013 to cater for various stakeholder interested in KenGen's projects in the region. The SCC covers Mavuria and five other locations in Embu County: Mutitu, Mtuobare, Gichiche, Kiambere and Makima. It is responsible for liaising and managing community interests and concerns on the Seven Forks Hydro power projects and does this through close collaboration with community chiefs.

In addition, KenGen has a dedicated community liaison officer (CLO) for this region who will oversee the Project too. The CLO works closely with community liaison officers based both in Embu county and Machakos county.

The CLO will be responsible for implementation of this SEP, engaging with a Project Stakeholder Committee (PSC, described below) and providing a link between KenGen and the local communities. The CLO will organise, attend and record stakeholder engagement activities and maintain lines of communication with interested and affected parties. The CLO will manage the planning, implementation and monitoring of any community investment activities.

For the Seven Forks Solar Project, KenGen will set up a Project Implementation Team (PIT) to oversee the development and construction of the Project. The PIT will include the regional CLO, as well as representatives from technical, environmental and health and safety disciplines, to ensure local specificities will be taken into account.

In the pre-construction phase, the Project will identify a Project Stakeholder Committee (PSC). This PSC will include representatives from the PIT, the CLO and community representatives (nominated by the community) but as a minimum include representatives of the following groups:

- Opinion leaders
- Women
- Youth
- Disabled people
- Small businesses owners
- Farmers
- Bee keepers

To the extent possible, the PSC will remain constant throughout the Project construction phase and will have knowledge of and comfort with the local social context.

### **5.3 External communications**

All external communications should follow the same revision process and be in line with the same branding requirements, as defined by the existing external communications procedure established by KenGen and the environmental and social management system (ESMS). This procedure should support a cohesive, correct and appropriate communications strategy in line with this SEP.

A quarterly magazine will be prepared to communicate information about the Project.

### **5.4 Media spokesperson**

KenGen will identify a senior staff member with media training to be the media spokesperson / public relations representative and do the radio announcements. This position will be included in an organogram. All media enquiries will be managed by the media spokesperson and all staff (direct and indirect) working on the Project will be required to forward any media enquiries through the spokesperson. This is important to guarantee clarity in the messages sent by KenGen and ensure appropriate language and content.

### **5.5 Use of electronic media**

KenGen website ([www.kengen.co.ke](http://www.kengen.co.ke)) will be used to announce the availability of ESIA documentation, including the Non-Technical Summary (NTS), to provide links to documents and to publish relevant Project news of interest to the public. It has a contact page for stakeholders to send views and comments about the Project.

In addition, during the Project development process, KenGen will set up a “push” short message service (SMS) and Facebook account and other social media options to disclose regular information about the Project, key milestones and other Project information.



## 5.6 Measures to ensure traffic safety

A traffic management plan (TMP) will be developed that incorporates mitigation measures to enhance the efficient transport of any materials to site, whilst minimising congestion and disruption which might affect general traffic on Route B7 and the local population. The mechanisms in the SEP will be used to communicate information about Project timelines so that road users are aware of periods where there may be disruption to normal traffic flow.

KenGen's appointed contractors must agree temporary traffic management measures then adopt and monitor an appropriate way of working in consultation with the local county, police and roads agencies (KeRRA and KenHA)

This represents a commitment to satisfy roads and transport obligations and can be finalised as agreed between the contractor and the relevant stakeholders prior to commencement on-site.

Mitigation measures to ensure traffic safety to be considered on the TMP include:

- Set up a procedure for communicating project information to local communities via public notices, map designations, and radio as necessary. Notify communities of pending work scope, duration of tasks and location of activities in particular movement of abnormal loads
- Install appropriate signage to inform local communities and road users of site access routes, construction areas and where vehicles may be turning or pulling out slowly

## 5.7 Timescales and responsibilities

Table 3 below outlines the sequence and responsibilities of disclosure and consultation activities for the Project and indicates the activities that have been completed. Timing indicated in Table 3 is an estimation only and may be subject to change. Consultation activities will take the form of public consultations, focus groups and private meetings as shown above on Table 2.

Chapter 5 of the ESIA presents the consultation activities performed during 2017 in support of the ESIA in more detail.

**Table 3: Stakeholder engagement implementation timescales and responsibilities**

Activity	Timing	Responsibility
<b>Planning</b>		
Meetings with stakeholders involved in the regulatory approval process (Consultation round 1)	Completed – April 2017	ESIA Consultant
Focus group, interviews and meetings with government and community representatives and disclosure of one-page introductory brief, (Consultation round 2 and 3)	Completed – September and October 2017	ESIA Consultant
Public consultation meetings (Consultation round 4) and disclosure of Project Executive Summary	Completed – December 2017	KenGen and ESIA Consultant
Submission of Final ESIA and related documents to NEMA	January 2018	KenGen and ESIA Consultant
Approval of Project and set up of PSC	First semester of 2018	KenGen and community
Set up information disclosure mechanisms (push SMS / social media account / magazine)	First semester of 2018	KenGen
Signature of the Project social enhancement plan for construction phase	First semester of 2018	KenGen
Announcement of Project viability and potential start of site preparation activities	First quarter of 2019	KenGen
Use the PSC and social media to communicate	In tandem with construction	KenGen Seven Forks Project

Activity	Timing	Responsibility
strategy with key messages about Project benefits and some standard responses to main potential scenarios (including an emergency scenario)	tendering	Stakeholder Committee (PSC)
Disclosure of construction schedules to Embu County Administrative Government representatives (especially planning and transportation departments) and community	Before construction commencement	PSC
Consultation and disclosure on contents of Contingency Plan and annual drills and grievance mechanism	Before construction commencement	PSC
<b>Construction</b>		
Ongoing community liaison and grievance logging, investigation, resolution, and reporting	Ongoing	KenGen
Regular updates on website, newspapers, radio and social media	Ongoing	KenGen (with support from PSC)
Update SEP and stakeholder analysis	Annually	KenGen with input from PSC
Annual Reporting	Annually	KenGen
Grievance logging, investigation, resolution, and reporting	Ongoing	SCC
<b>Operation and Maintenance</b>		
Set up the operational Project Stakeholder Committee (PSC)	By the start of operation	KenGen
Opening of power plant ceremony	After commissioning	KenGen
Grievance logging, investigation, resolution, and reporting	Ongoing	SCC
Development of operational community investment programme	Before operation commencement	SCC
Revise communication strategy for current status and activities	Before operation commencement	SCC
Regular updates of website, social media, in newspapers and on radio	Ongoing	SCC
Update SEP and stakeholder analysis	Annually	SCC
Annual reporting	Annually	SCC

Source: Mott MacDonald

## 6 Community Grievance Mechanism

### 6.1 Overview

Having a community grievance mechanism is in line with GIIP and international standards, as well as a requirement of the IFC PSs. This grievance mechanism permits anonymous complaints, respects the confidentiality of the complainants, and protects all parties from retaliation. This grievance mechanism is based on the principles of being legitimate, accessible, predictable, equitable, transparent, rights compatible. It is both continuous and dialogue based. The grievance mechanism will present lessons learned and identify improvement opportunities.

A grievance can be defined as an actual or perceived problem that might give grounds for complaint. This mechanism can also be used as a means for communicating suggestions or concerns, asking questions or requesting information.

The steps described in this chapter guarantee clarity in the grievance receipt and response process.

### 6.2 Confidentiality and anonymity

The Project will aim to protect a person's confidentiality and will guarantee anonymity in annual reporting. Individuals will be asked permission to disclose their identity. Investigations will be undertaken in a manner that is respectful of the complainant and the principle of confidentiality. The complainant will need to recognise that there may be situations when disclosure of identity is required and the Project will identify these situations to see whether the aggrieved party wishes to continue with the investigation and resolution activities.

### 6.3 Disclosure, reporting and resolution

The grievance mechanism will be disclosed in all Project communication materials and through other relevant means of communication. It will be free and accessible by any person. KenGen staff and employees involved in the development, construction and operation of the Project will be familiarised with the grievance mechanism and will direct community members to use it for all formal communications with the Project.

The main steps for handling grievances are: receive, classify, acknowledge, investigate, respond, allow for recourse/appeal and follow-up, and close out.

Grievances will be recorded in a formal logging system (an example is provided in Appendix B) for which KenGen will be responsible. The grievance log will be separate from a stakeholder log which details interactions with communities and stakeholders. People may register grievances using the form presented in Appendix A by contacting the CLO, during engagement activities or online using the Project's website or through the PSC.

The CLO will classify grievances according to Table 4. All grievances will be acknowledged and responded to according to their classification within the stipulated timeframe presented below. An update on the grievance log and outcomes will be fed back to the PSC on a regular basis. Where investigations are required Project staff and outside authorities as appropriate will assist with the process. The CLO will collaborate with KenGen management or subcontractors (as appropriate) to identify who has the correct skills to investigate the issue raised. The investigation will also aim to identify whether the incident leading to the grievance is a singular



occurrence or likely to reoccur. Identifying and implementing activities, procedures, equipment and training to address and prevent reoccurrence will be part of the investigation activities.

**Table 4: Classification of grievances**

Classification	Risk Level (to health, safety or environment)	Response
Low	No or low	The grievance may not be related to Project performance, it may be a comment, or a request. CLO will acknowledge within 7 days and investigate if required. The CLO will document findings and provide a response within 30 days of receiving. Response is likely to have minimal cost in addition to time spent on addressing the issue.
Medium	Possible risk and likely a one-off event	CLO will acknowledge complaint within 7 days. The CLO and an appropriate investigation team will conduct investigation. KenGen may decide to stop work during the investigation to allow the corrective preventive actions to be determined. The CLO will provide a response within 30 days of receiving complaint. The corrective action is likely to be straight forward involving changing a piece of equipment or procedure which does not take long or have substantial cost implications to implement.
High	Probable risk and could reoccur	CLO will acknowledge the complaint within 7 days and KenGen will organise a major investigation team for prompt investigation and resolution. Work may be stopped in the affected area. The CLO will provide a response within 30 days of receiving complaint. If more time is needed to complete the investigation this will be communicated to complainant within 30 days of receiving complaint. As necessary the response will include a press release. The corrective action may be complex or sensitive involving changing equipment or a procedure which requires training of staff and has substantial cost implications.

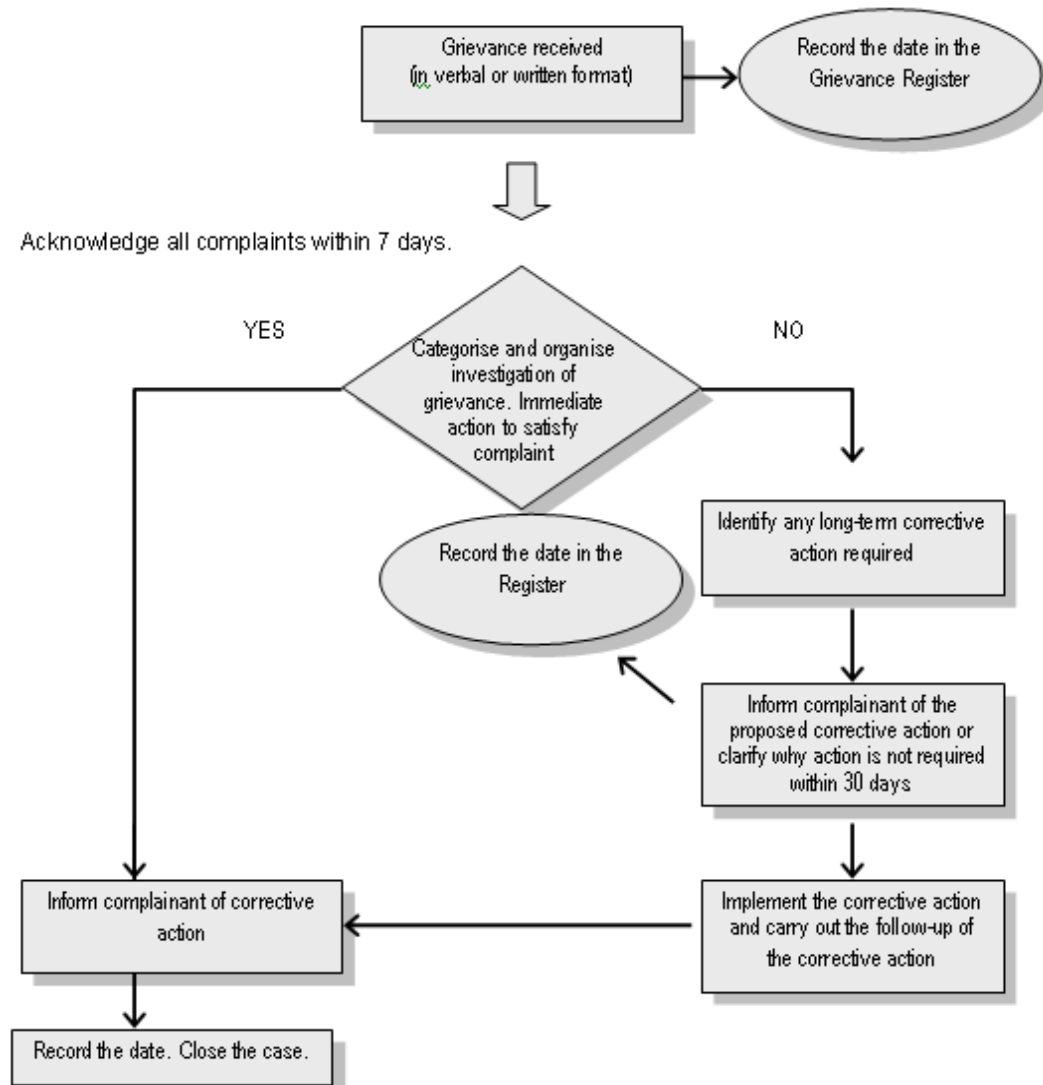
The CLO will explain to the complainant in writing or orally, the grievance review process, the investigation results, any changes to activities that will be undertaken to address the grievance, and how the issue is being managed to meet appropriate environmental and social management systems. This will all be documented in writing and recorded for further reference. In some cases, it will be appropriate for the CLO to follow up later to see if the person or organisation is satisfied with the resolution or remedial actions. The grievance will be closed out in the register as:

- Resolved. The resolution has been communicated, agreed and/or implemented
- Unresolved. The complainant did not accept the proposed resolution and has appealed to other entities for resolution
- Abandoned. The complainant is no longer contactable and efforts to trace whereabouts have been unsuccessful

The complainant has recourse to legal resolution of the issue should they not be happy with the resolution provided by the CLO.

The CLO will summarise grievances weekly or monthly during construction and bi-annually during operation removing identification information to protect the confidentiality of the complainant and guaranteeing anonymity. The procedure will be at no cost and without retribution to the complainant and stakeholders. The outcomes will be formally fed back to the PSC on a regular basis. The procedure for processing grievances is depicted in Figure 2.

**Figure 2: Flowchart for processing grievances**



Source: Mott MacDonald 2017

## 7 Monitoring and Reporting

### 7.1 Stakeholder engagement plan updating and reporting

This SEP identifies various reporting activities. The SEP will be reviewed by KenGen prior to construction, prior to commencement of operations and throughout the course of Project lifecycle as deemed necessary or at least once a year to assess whether:

- The stakeholder list remains current and representative and whether engagement should cease or be extended to any stakeholders
- The type of consultation and disclosure activities are appropriate for the different stakeholders
- The frequency of consultation activities is sufficient
- Grievances are being adequately dealt with

Additional updates influenced by the Project development may be required.

### 7.2 Community liaison officer reporting

The CLO will be responsible for:

- Listing all disclosure activities, adverts placed in newspapers and other media
- Keeping minutes of PSC and other consultation meetings with dates, venue, list of participants and photos
- Retaining all original written consultation correspondence including comments left as evidence of the process and outcomes
- Grievance logging and tracking: each grievance will be logged, given an identification number and followed through by recording details and timing for their categorisation, investigation, resolution and closing out

### 7.3 Annual reporting

A Project specific annual report summarising environmental and social Project performance, disclosure and consultation activities, CLO activities including grievances and updates to the SEP will be produced once construction activities commence and every year going forward.

### 7.4 Stakeholder engagement monitoring and performance evaluation

Indicators and benchmarks for assessing the implementation process and outcomes of the SEP are:

- Number of private meetings, public meetings, focus group discussions, announcements, press releases, among others
- Number and list of participants at meetings (efforts should be made to collect resident location and gender disaggregated data on participant attendance)
- Issues discussed at meetings
- Actions taken on key issues raised at meetings
- Numbers of complaints and queries
- Types of complaints and queries



- Types of action take to correct issues and prevent recurrence
- Time taken to address complaints and queries

Performance of stakeholder engagement will be evaluated against the goals and objectives set out in this SEP. The evaluation will review to what extent the SEP activities have been completed and how the identified goals have been achieved. Evaluation results and any lessons learned will be incorporated in the respective SEP updates.

# Appendices

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## A. Grievance Registration Form

Full Name	
Contact Information	By Post: Please provide mailing address
Please identify how you wish to be contacted (mail, telephone, e-mail)	By telephone:  By e-mail:
Preferred language of communication?	English ..... Other (please specify).....
Description of incident, grievance, suggestion, comment, or question (For grievances: What happened? Where did it happen? Who did it happen to? What is the result of the problem?)	
Date of incident/grievance	
	One time incident/grievance (date _____)  Happened more than once (how many times? _____)  On-going (currently experiencing problem)
What would you like to see as a response?	
Internal Use Only Grievance received by: Date: Reference number:	



# B. Grievance Log Template

Table 5: Grievance log template

Number	Date received	Name/ Anonymous	Type of grievance	Classification	Brief description	Person responsible for follow-up	Actions taken	Date resolved	Action taken to avoid similar grievances

Source: Mott MacDonald

