

Reference No: EAD/99/07/05

29th October, 2018

FROM: DIRECTOR OF ENVIRONMENTAL AFFAIRS, PRIVATE BAG 394, LILONGWE 3

**TO: SECRETARY AND COMMISSIONER FOR DISASTER MANAGEMENT AFFAIRS,
P/BAG 336, LILONGWE 3**

ATTENTION: Mr. James Chiusiwa

**Environmental Screening for the proposed sites for the Installation of Automated
Weather Stations (AWS) in Northern and Eastern Region**

Reference is made to an environmental screening of the Automated Weather Station sites that was conducted from 5th to 16th October, 2018 by Environmental Affairs Department in collaboration with Department of Climate Change and Meteorological Services and respective district Councils in Northern and Eastern Regions.

Based on the field assessment and the nature of activities for the proposed projects, I wish to inform you that you are required to prepare a generic Environmental and Social Management Plan (ESMP) that will cater for all the sites as the impacts are similar. The ESMP will be used as an action plan for implementation of mitigation measures of identified impacts and compliance monitoring on the same.

Should you have any questions on the foregoing, please do not hesitate to contact the Department.

Yours faithfully,



B.B. Yassin

For: DIRECTOR OF ENVIRONMENTAL AFFAIRS

Att'd:

REPORT FOR THE ENVIRONMENTAL AND SOCIAL SCREENING EXERCISE FOR THE PROPOSED AUTOMATED WEATHER STATIONS IN EASTERN REGION DISTRICTS



Compiled By:

**Biswick Mlaviwa (EAD)
Nisile Mwaisunga (EAD)
George Menyani (DCCMS)**

20th October, 2018

REPORT FOR THE ENVIRONMENTAL AND SOCIAL SCREENING EXERCISE FOR THE PROPOSED AUTOMATED WEATHER STATIONS IN ZOMBA, MACHINGA, BALAKA, MANGOCHI AND NTCHU DISTRICTS CONDUCTED FROM 5TH TO 16TH OCTOBER 2018

1.0. Background

Eight sites have been identified for the installation of automated weather stations in Zomba, Machinga, Balaka, Mangochi and Ntcheu districts. Five of the sites are Extension Planning Area (EPA) centres, one is a private farm (Toleza Farm in Balaka District), one is in Liwonde National Park in Machinga District and another is at an Aerodrome (Zomba Airwing of the Malawi Defence Force). The Department of Climate Change and Meteorological Services and the Environmental Affairs Department (EAD) jointly conducted an environmental and social screening exercise for the proposed sites. The aim of the exercise was to identify and evaluate potential direct environmental and social impacts of the projects by taking into account issues such as the type and scale of the projects, the nature and magnitude of the potential environmental and social risks and impacts, the environmental and social sensitivity of the proposed project sites in order to properly recommend on the type of environmental assessment required before implementation of the projects. This is in line with the environmental impact assessment requirement for projects in Malawi as provided for under Section 24 of Environment Management Act (60:02).

The proposed projects will involve installation of an automated weather station on a 10m by 10m plot size at each site and construction of an associated electric fence to secure the stations.

The joint team that undertook the exercise comprised of the following officers:

- Biswick Mlaviwa, Principal Environmental Officer- EAD
- Nisile Mwaisunga, Environmental Inspector-EAD
- George Menyani, Principal Meteorologist- DCCMS

2.0. Approach and Methodology

The exercise involved undertaking an initial scoping of anticipated environmental and social impacts of the installation of automated weather stations at the respective identified sites and suggesting mitigation measures for addressing the potential impacts.

This was achieved by conducting field visits to all the proposed project sites with Environmental District Officers from the concerned district councils. Discussions were held on site with extension officers (AEDCs and AEDOs), community leaders, project responsible officers and owners of the land where the projects will be implemented. The discussions were guided by a generic Environmental and Social screening Form in order to come up with potential impacts and propose enhancement and mitigation measures in a participatory manner.

The meetings were also able to find out if the land was public or private land and if there would be any issues or conflicts associated with the land.

3.0 Potential Positive Impacts of the Projects

The installation of the automated weather stations in the proposed sites is expected to generally bring about a number of positive socioeconomic impacts. These include:

- Providing geography teachers and students in the schools surrounding the installed automatic weather stations with new knowledge on weather measurement and studies.
- Increased involvement and participation of private sector in weather station operation
- Provision of comprehensive and representative weather data to agricultural stakeholders in the sites and their surrounding areas
- Reduction of burden to meteorological officers who manually collect and send data to headquarters
- Increased capacity of personnel and institutions that will be manning the automated weather stations in weather monitoring
- Provision of accurate and reliable measurements of weather conditions for the particular locations and surroundings
- Reduction of operating costs for the weather stations
- Enhanced weather research and knowledge both at community and national levels
- Improved network of community based weather stations in the country
- Increased collaboration between Department of Climate Change and Meteorological Services and institutions hosting the automated weather stations
- Availing employment opportunities during construction and installation phase

4.0 Potential Negative Impacts and Risks of the Projects

The installation of the automated weather stations in the proposed sites is expected to be associated with some negative environmental and social impacts and risks. Outlined below is a summary of expected negative impacts and risks brought out from the conducted screening exercise:

- Risk of vandalism of the installed automated weather stations by unscrupulous people (in EPAs) and wild animals (in the national park)
- Increased deforestation where land clearing will be done during installation of the stations and as a result of possible use of poles and wood for construction and cooking by contractors' staff
- Soil erosion as a result of clearance of vegetative cover on new sites where the stations will be installed
- Interference in marriages for local people by workers and risk of transmission of STIs as a result of sexual interactions between migrant workers and local women
- Marginalization of women and other vulnerable groups in the selection of beneficiaries of construction activities where employment opportunities are not offered on a fair and equitable basis
- Possible conflicts over ownership of the automated weather stations due to unclarified roles between the Department of Climate Change and Meteorological Services and the hosting institutions
- Poor management of the stations due to inadequate personnel or untrained staff being assigned to manage the stations
- Encroachment of the land adjacent to the installed weather stations
- Lack of community ownership of the installed weather stations as a result of not engaging the local communities

5.0 Project Classification

Following the assessment of the nature and scale of the project activities, the environmental and social sensitivity of the sites and the anticipated environmental and social impacts and risks in all the eight (8) proposed project sites, the sites were recommended as having low or minimal adverse environmental impacts. As such the projects were classified as Category C "have minimal or no adverse environmental impacts".

The impacts from projects in Category C are deemed not to have significant adverse environmental and social impacts, if any, no additional environmental work will be required and implementation can proceed immediately.

6.0 Recommendations

Though the proposed projects are in Category C, the following general recommendations are made to ensure smooth and sustainable project implementation and operation:

- Sensitise and engage the communities and local leaders in all the sites where the project will be implemented to make them aware of, appreciate the importance and own the project.
- Identify appropriate and adequate personnel to man and operate the stations that will be installed
- Provide basic training/orientation in operation and maintenance of the automatic weather stations to personnel and leadership of the institutions that will managing the stations
- Clarify roles and sign a memorandum of understanding (MoU) between the Department of Climate Change and Meteorological Services and the institutions that will be hosting the automatic weather stations
- Engage a competent consultant to develop a generic Environmental and Social Management Plan (ESMP) to guide the environmentally friendly and socially sustainable implementation of the projects as well as to be used for monitoring implementation of enhancement/mitigation measures in all the sites.

7.0 Conclusion

In conclusion, it should be indicated that following the environmental and social screening exercise conducted in the eight proposed sites for the automated weather stations, the Environmental Affairs Department recommends that the sub-projects should proceed on condition that the recommendations made in this report are considered and implemented accordingly, as an integral part of the overall project implementation.

Annex 1: Summary of Site Specific Issues for the Screened Sites

1)	Chingale Extension Planning Area (EPA) in Zomba District The proposed site is at Chingale EPA in Mkawa Village, Group Villagehead Mbukwite in the area of Sub-traditional Authority Nkapita, in Zomba District. The site is already within an existing fenced weather station on public land belonging to the EPA. The existing weather station has been in operation since 1951. A security guard is available meaning that security of the weather station is guaranteed. The topography of the land is flat and soil type is clay loam. No vegetative cover clearance will be required before installation of the automatic weather station elements. However, there is high risk of encroachment of land around the station for farming by EPA staff. Furthermore, there is need to assign additional staff to be manning the station and provision of appropriate basic training and protective wear during the rainy season.				
	<table border="1"> <thead> <tr> <th data-bbox="614 1256 655 2072">Positive Impacts</th><th data-bbox="614 246 655 1256">Negative Impacts</th></tr> </thead> <tbody> <tr> <td data-bbox="655 1256 1015 2072"> • Source of employment of people from surrounding communities during installation of the automated weather station (women would be employed to fetch water for installation) • Local development committees, farmers and agriculture sector civil society and project stakeholders will readily access weather data for their use • Surrounding schools will use the site for their practical sessions on weather-related topics </td><td data-bbox="655 246 1015 1256"> • Risk of encroachment of land adjacent to the station for farming • Risk of vandalism of the automated weather station components • Lack of community ownership of the automated weather station • Interference in marriages for local people by migrant workers • Risk of increase in STIs, HIV and AIDS due to migrant workers </td></tr> </tbody> </table>	Positive Impacts	Negative Impacts	• Source of employment of people from surrounding communities during installation of the automated weather station (women would be employed to fetch water for installation) • Local development committees, farmers and agriculture sector civil society and project stakeholders will readily access weather data for their use • Surrounding schools will use the site for their practical sessions on weather-related topics	• Risk of encroachment of land adjacent to the station for farming • Risk of vandalism of the automated weather station components • Lack of community ownership of the automated weather station • Interference in marriages for local people by migrant workers • Risk of increase in STIs, HIV and AIDS due to migrant workers
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2)	Zomba Airwing in Zomba District The proposed site is within the premises of the Zomba Aerodrome of the Malawi Defence Force Airwing in Zomba City. The site is an open and flat ground with sandy soils. There used to be a weather station at the aerodrome which got vandalized a few years back as it was located away from the offices and without security arrangements in place. However, a weather station is needed to inform the operations of the air traffic control office located about 200 metres from the proposed site. Designation and training of staff to be manning the automated weather station will be required.				
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Positive Impacts	Negative Impacts				
• Source of employment to those who will be recruited by contractors constructing and installing the weather station • Source of weather data for air traffic control office.	• Interference in marriages for local people by migrant workers; • Spread of STIs, HIV and AIDS due to migrant workers; • Increased incidence of communicable diseases.				

	• Training opportunity in weather measurements	• Clearance of grass cover on the site • Risk of vandalism of the automated weather station components
3)	Liwonde National Park in Machinga District The proposed site is within Liwonde National Park in the area of Traditional Authority Sitola in Machinga. The site is moderately sloping with rocky soils and situated close to offices belonging to African Parks who have assumed management of the park in partnership with the Department of Parks and Wildlife. A few trees will need to be cut to open up the site for installation of the automated weather station. There used to be a weather station in the park but got damaged by wildlife. Assigning and training of staff to manage the weather station will be required.	
	Positive Impacts • Source of employment; • Source of weather/climatic data for various projects, research and wildlife management. • Training opportunity in weather measurements	Negative Impacts • Interference in marriages for local people by workers; • Spread of STIs, HIV and AIDS due to migrant workers; • Increased soil erosion on the site due to vegetative cover removal • Loss of a few indigenous trees • Risk of damage to the installed station by wild animals/elephants • Risk of misunderstandings over ownership of the installed weather station

4)	Chikweo Extension Planning Area (EPA) in Machinga District The proposed site is located within the premises of Chikweo EPA near agricultural offices at Chikweo Village in Traditional Authority Chikweo in Machinga District. The site has moderate slope with loamy soils and located at the foot of a hill about 80 metres to the south of Chikweo Trading Centre. The proposed site is within an existing rain gauge station. A few trees will need to be cut in order to provide ample space for the weather station. A watchman is available to provide security to the station. Assigning and training of staff to manage the weather station will be required.	
	Positive Impacts • Source of employment; • Source of weather data for various uses. • Surrounding schools will use the site for their practical sessions on weather-related topics	Negative Impacts • Interference in marriages for local people by migrant construction workers; • Spread of STIs, HIV and AIDS due to sexual interactions with migrant workers; • Risk of vandalism of the installed weather station by unscrupulous individuals plying their trade at the trading centre • Cutting of trees (6) and hedges close to the EPA offices • Risk of damage to the station by rocks or soil masses from the hill, particularly during the rainy season

5)	Bilira Extension Planning Area (EPA) in Ntcheu District The proposed site is within the premises of Bilira EPA in Loti Village, Group Villagehead Gada in the area of Traditional Authority Makwangwala in Ntcheu	
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	District. There is an existing rain gauge station which was installed in 1979. The site is currently being used for crop growing by an EPA staff member and has very gentle slope. The soils at the proposed site are loamy in nature. The site is 30 metres away from the Balaka-Salima Road.
Positive Impacts • Source of employment; • Source of weather data for various projects and research. • Surrounding schools will use the site for their practical sessions on weather-related topics	Negative Impacts • Interference in marriages for local people by migrant workers; • Spread of STIs, HIV and AIDS due to sexual interactions with migrant workers; • Risk of vandalism by people on the installed weather station components

6)	Toleza Farm in Balaka District
	The proposed site for the automated weather station is on an open ground within the premises of Toleza Farm close to the ginnery. The premises are within a wire fence and well secured by farm guards. Toleza Farm is located in Toleza Village in the area of Traditional Authority Sawali in Balaka District. The site is flat with sandy soils. Electricity is available on the farm. There is an existing weather station on the farm close to farm offices across the Balaka-Ulongwe Road. The current site has been found not to be conducive due to growing tree canopy cover.
Positive Impacts • Source of employment; • Source of weather data for planning of agricultural activities on the farm. • Training opportunity in weather measurements	Negative Impacts • Risk of soil erosion; • Interference in marriages for local people by migrant workers; • Risk of spread of STIs, HIV and AIDS due to sexual interactions with migrant workers; • Risk of misunderstandings over ownership of the installed weather station

7)	Makanjira Extension Planning Area (EPA) in Mangochi District
	The proposed site is within the premises of Makanjira EPA about 40 metres in front of the EPA offices in Makanjira Village in the area of Traditional Authority Makanjira in Mangochi District. The site is close to Makanjira Trading Centre along the Makanjira-Mpipiri road. It is flat with loam soils. The site is surrounded by big Acacia and Blue gum trees. A few trees were already cut to create open land for the weather station. There used to be a weather station on the site but it has not been operational since 1994. There will be need to assign and train staff to be manning the automatic weather station.
Positive Impacts • Source of employment to those who will be installing the weather station and to surrounding communities;	Negative Impacts • Loss of trees as the area has trees nearby; • Interference in marriages for local people by migrant workers;

	• Source of climatic data for various uses by different stakeholders in Mangochi District. • Training opportunity in weather measurements • Surrounding schools will use the site for their practical sessions on weather-related topics	• Risk of spread of STIs, HIV and AIDS due to sexual interaction with migrant workers; • Risk of vandalism of the installed weather station by unscrupulous individuals plying their trade at the trading centre
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8)	Nankumba Extension Planning Area (EPA) in Mangochi District	
	The proposed project has been proposed to be within the premises of Nankumba EPA in Mvumba Village, Traditional Authority Nankumba in Mangochi District. The proposed site is an open land close to EPA staff residential houses at Nankumba Trading Centre. The soils at the site are clay loam and the terrain is moderately sloped. Security guards are available on site. There will be need to assign and train personnel that shall be manning the installed automated weather station.	
	Positive Impacts • Source of employment to those who will be installing the weather station; • Source of employment to people from surrounding communities during installation of the automated weather station; • Source of weather updates to the farmers within the proposed area during operation of project. • Source of climatic data for various uses by different stakeholders	Negative Impacts • Risk of soil erosion as the proposed site is open; • Interference in marriages for local people by migrant workers; • Risk of spread of STIs, HIV and AIDS due to sexual interactions between migrant workers and locals; • Risk of vandalism of the installed weather station by unscrupulous individuals plying their trade at the trading centre

Annex 2: Photos of the Screened Proposed Project Sites



Figure 1: Environmental Officers from EAD and extension workers undertaking screening at Chingale EPA in Zomba District



Figure 2: Proposed site for automated weather station at Zomba Airwing grounds in Zomba

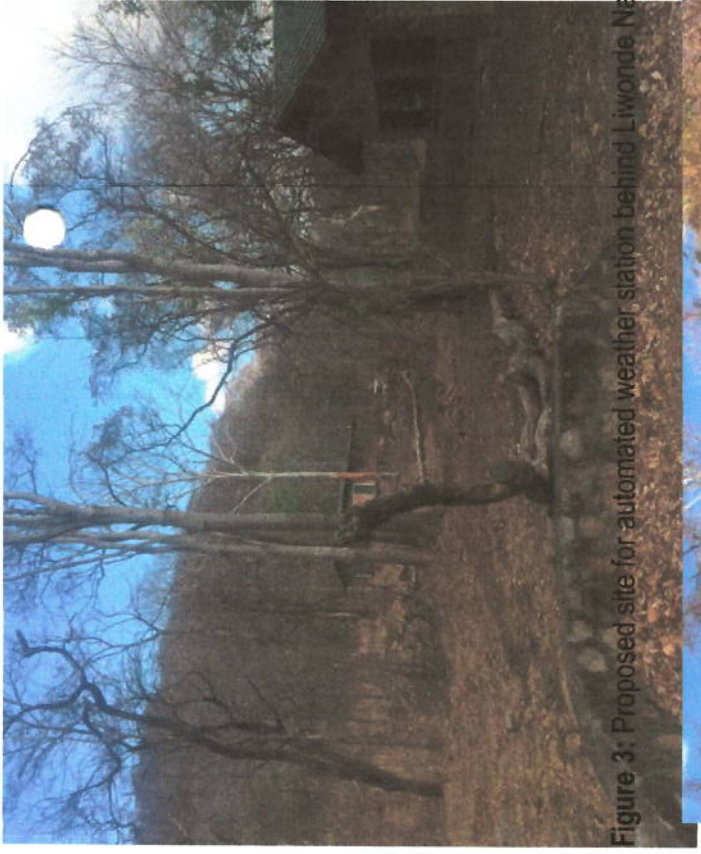


Figure 3: Proposed site for automated weather station behind Liwonde National Park Administration offices

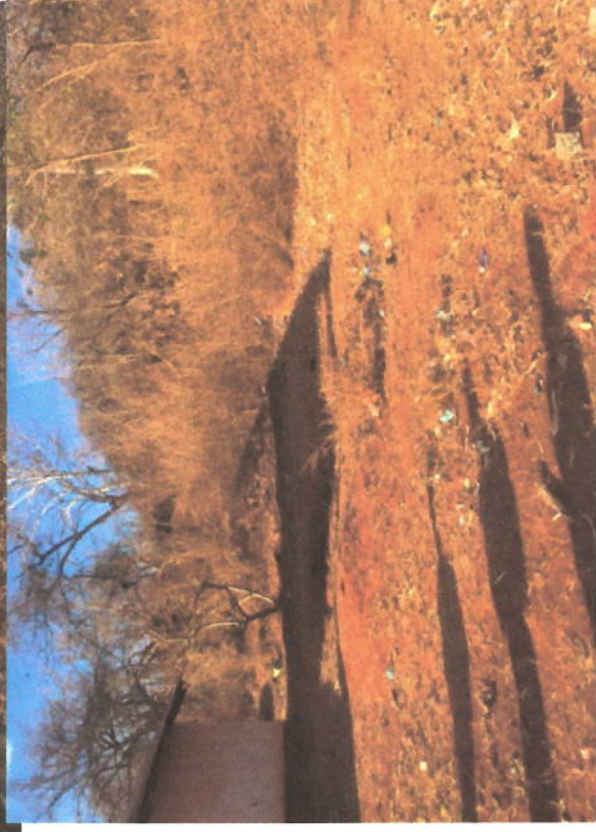


Figure 4: Proposed site for automated weather station at Chikweo EPA offices

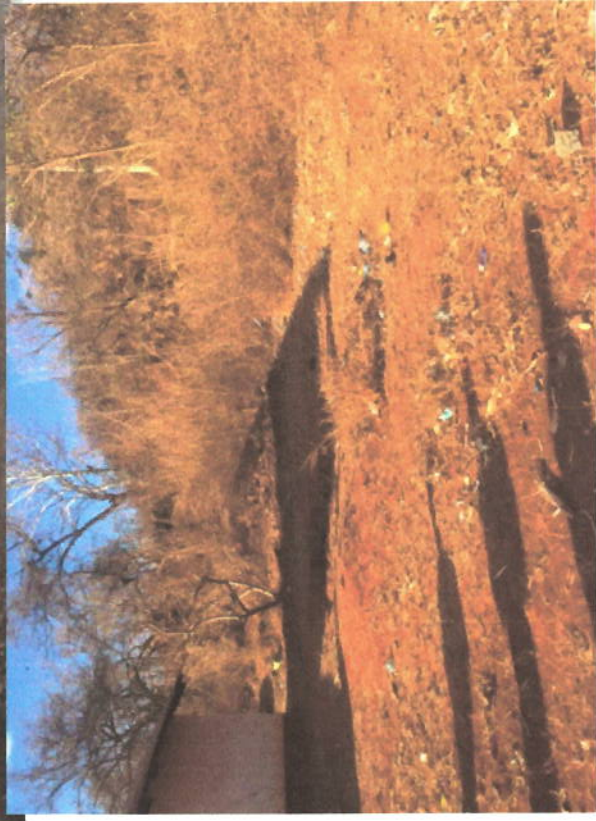




Figure 5: Proposed site for automated weather station at Bilira Extension



Figure 6: Proposed site for automated weather station at Toleza Farm in Balaka District

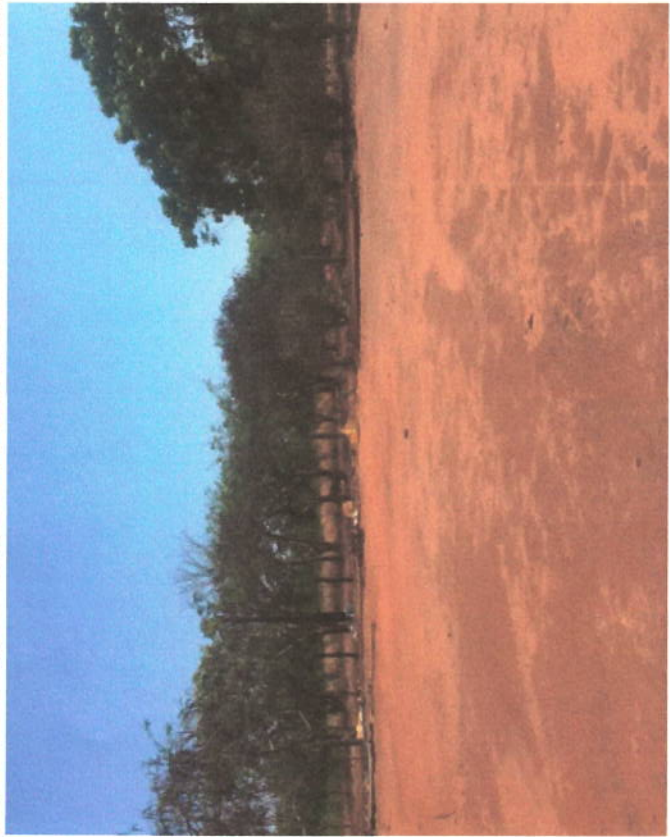


Figure 7: Proposed site for automated weather station at Ntcheu District

Figure 8: Proposed site for automated weather station at Balaka District



Figure 7: Proposed site for automated weather station in front of Makanjira Extension Planning Area (EPA) offices in Mangochi District

REPORT FOR THE ENVIRONMENTAL AND SOCIAL SCREENING EXERCISE FOR THE PROPOSED AUTOMATED WEATHER STATIONS IN CHITIPA, KARONGA, RUMPHI, NKHATABAY AND MZIMBA DISTRICTS CONDUCTED FROM 5TH TO 16TH OCTOBER 2018

1.0. Background

Eight sites have been identified for the installation of automated weather stations in Chitipa, Karonga, Rumphi, Nkhatabay and Mzimba districts. Two of the sites are Extension Planning Area (EPA) centres, one is a private farm (Kawalazi Tea Estate in Nkhatabay District), one is in an area which was hard to reach as the road to the site is impassable along Lake Malawi (Mlowe CDSS) in Rumphi District and another is at Forestry Office (Chikangawa Forest Plantation) while the rest are located in Government CDSS. The Department of Climate Change and Meteorological Services in collaboration with the Environmental Affairs Department (EAD) conducted an environmental and social screening exercise for the proposed sites. The aim of the exercise was to identify and evaluate potential direct environmental and social impacts of the projects by taking into account issues such as the type and scale of the projects, the nature and magnitude of the potential environmental and social risks and impacts, the environmental and social sensitivity of the proposed project sites in order to properly recommend on the type of environmental assessment required before implementation of the projects. This is in line with the environmental impact assessment requirement for projects in Malawi as provided for under Section 24 of Environment Management Act (60:02).

The proposed projects will involve installation of an automated weather station on a 10m by 10m plot size at each site and construction of an associated electric fence to secure the stations.

The joint team that undertook the exercise comprised of the following officers:

- Peter Magombo, Principal Environmental Officer- EAD
- Christopher Manda, Environmental Officer- EAD
- Victor Phiri, District Meteorologist- DCCMS

2.0. Approach and Methodology

The exercise involved undertaking an initial scoping of anticipated environmental and social impacts of the installation of automated weather stations at the respective identified sites and suggesting mitigation measures for addressing the potential impacts.

This was achieved by conducting field visits to all the proposed project sites with Environmental District Officers from the concerned district councils. Discussions were held on site with extension officers (AEDCs and AEDOs), community leaders, project responsible officers and owners of the land where the projects will be implemented. The discussions were guided by a generic Environmental and Social screening Form in order to come up with potential impacts and propose enhancement and mitigation measures in a participatory manner.

The meetings were also able to find out if the land was public or private land and if there would be any issues or conflicts associated with the land.

3.0 Potential Positive Impacts of the Projects

The installation of the automated weather stations in the proposed sites is anticipated to bring about a number of positive socioeconomic impacts. These include:

- Providing geography teachers and students in the schools surrounding the installed automatic weather stations with new knowledge on weather measurement and studies.
- Increased involvement and participation of private sector in weather station operation
- Provision of comprehensive and representative weather data to agricultural stakeholders in the sites and their surrounding areas
- Reduction of burden to meteorological officers who manually collect and send data to headquarters
- Increased capacity of personnel and institutions that will be manning the automated weather stations in weather monitoring
- Provision of accurate and reliable measurements of weather conditions for the particular locations and surroundings
- Reduction of operating costs for the weather stations
- Enhanced weather research and knowledge both at community and national levels
- Improved network of community based weather stations in the country
- Increased collaboration between Department of Climate Change and Meteorological Services and institutions hosting the automated weather stations
- Availing employment opportunities during construction and installation phase

4.0 Potential Negative Impacts and Risks of the Projects

The installation of the automated weather stations in the proposed sites is expected to be associated with some negative environmental and social impacts and risks. Outlined below is a summary of expected negative impacts and risks brought out from the conducted screening exercise:

- Risk of vandalism of the installed automated weather stations by unscrupulous people (in EPAs) and students (in CDSS)
- Increased deforestation where land clearing will be done during installation of the stations and as a result of possible use of poles and wood for construction and cooking by contractors' staff
- Soil erosion as a result of clearance of vegetative cover on new sites where the stations will be installed
- Interference in marriages for local people by workers and risk of transmission of STIs as a result of sexual interactions between migrant workers and local women
- Marginalization of women and other vulnerable groups in the selection of beneficiaries of construction activities where employment opportunities are not offered on a fair and equitable basis
- Possible conflicts over ownership of the automated weather stations due to unclarified roles between the Department of Climate Change and Meteorological Services and the hosting institutions
- Poor management of the stations due to inadequate personnel or untrained staff being assigned to manage the stations
- Encroachment of the land adjacent to the installed weather stations

- Lack of community ownership of the installed weather stations as a result of not engaging the local communities

5.0 Project Classification

Following the assessment of the nature and scale of the project activities, the environmental and social sensitivity of the sites and the anticipated environmental and social impacts and risks in all the eight (8) proposed project sites, the sites were recommended as having low or minimal adverse environmental impacts. As such the projects were classified as Category C "have minimal or no adverse environmental impacts".

The impacts from projects in Category C are deemed not to have significant adverse environmental and social impacts, if any, no additional environmental work will be required and implementation can proceed immediately.

6.0 Recommendations

Though the proposed projects are in Category C, the following general recommendations are made to ensure smooth and sustainable project implementation and operation:

- Sensitise and engage the communities and local leaders in all the sites where the project will be implemented to make them aware of, appreciate the importance and own the project.
- Identify appropriate and adequate personnel to man and operate the stations that will be installed
- Provide basic training/orientation in operation and maintenance of the automatic weather stations to personnel and leadership of the institutions that will be managing the stations
- Clarify roles and sign a memorandum of understanding (MoU) between the Department of Climate Change and Meteorological Services and the institutions that will be hosting the automatic weather stations
- Engage a competent authority to develop a generic Environmental and Social Management Plan (ESMP) to guide the environmentally friendly and socially sustainable implementation of the projects as well as to be used for monitoring implementation of enhancement/mitigation measures in all the sites.

7.0 Conclusion

In conclusion, it should be indicated that following the environmental and social screening exercise conducted in the eight proposed sites for the automated weather stations, the Environmental Affairs Department recommends that the sub-projects should proceed on condition that the recommendations made in this report are considered and implemented accordingly, as an integral part of the overall project implementation.

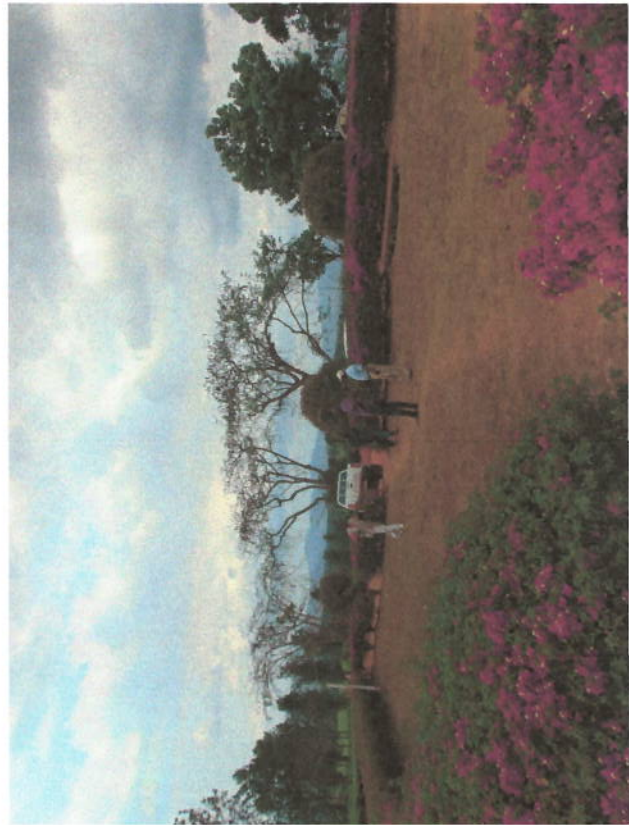
Annex 1: Summary of Site Specific Issues for the Screened Sites

1)

Mhujju Extension Planning Area (EPA) in Rumphi District



The proposed site is at Mhujju EPA in Vingula Village, Traditional Authority Mwachenga, in Zomba District. The site is already within an existing fenced weather station on public land belonging to the EPA. The existing weather station has been in operation for some time. A security guard is available meaning

that security of the weather station is guaranteed. The topography of the land is flat and soil type is sandy loam. Few blue gum trees will be cleared before installation of the automatic weather station element')Furthermore, there is need to assign additionone' taff to be manning the station and provision of appropriate basic training and protective wear during the rainy season.	
Positive Impacts • Source of employment of people from surrounding communities during installation of the automated weather station (women would be employed to fetch water for installation) • Local development committees, farmers and agriculture sector civil society and project stakeholders will readily access weather data for their use! • Surrounding schools will use the site for their practical sessions on weather-related topics	Negative Impacts • Risk of encroachment of land adjacent to the station for farming • Risk of vandalism of the automated weather station components • Lack of community ownership of the automated weather station • Interference in marriages for local people by migrant workers • Risk of increase in STIs, HIV and AIDS due to migrant workers
2)	Kawalazi Tea Estate in Nkhatabay District 

	The proposed site is within the premises of the Kwalazi Tea estate in TA Kabunduli in Nkhatabay. The site is an open and flat ground with clay loam soils. There weather station will be located away from the c les and with security arrangements in place. A w her station is needed to inform the operations of the estate. Designation and training of staff from the estate to be manning the automated weather station will be required.		
	<table><tr><td> Positive Impacts • Source of employment to those who will be recruited by contractors constructing and installing the weather station • Source of weather data for air traffic control office. • Training opportunity in weather measurements </td><td> Negative Impacts • Interference in marriages for local people by migrant workers; • Spread of STIs, HIV and AIDS due to migrant workers; • Clearance of grass cover on the site </td></tr></table>	Positive Impacts • Source of employment to those who will be recruited by contractors constructing and installing the weather station • Source of weather data for air traffic control office. • Training opportunity in weather measurements	Negative Impacts • Interference in marriages for local people by migrant workers; • Spread of STIs, HIV and AIDS due to migrant workers; • Clearance of grass cover on the site
Positive Impacts • Source of employment to those who will be recruited by contractors constructing and installing the weather station • Source of weather data for air traffic control office. • Training opportunity in weather measurements	Negative Impacts • Interference in marriages for local people by migrant workers; • Spread of STIs, HIV and AIDS due to migrant workers; • Clearance of grass cover on the site		
3)	Chikangawa in Mzimba District 		

The proposed site is within Chikangawa forest plantation in the area of Traditional Authority Kapingo Sibande in Nkhatabay. The site is moderately sloping with clay soils and situated close to offices of the plantation manager. The site for installation of the automated weather station is used for agricultural cultivation. There used to be a weather station in at the plantation but its outlived with only one gadget available. Assigning and training of staff to manage the weather station will be required.	
Positive Impacts • Source of employment; • Source of weather/climatic data for various projects, research and wildlife management. • Training opportunity in weather measurements	Negative Impacts • Spread of STIs, HIV and AIDS due to migrant workers; • Increased soil erosion on the site due to vegetative cover removal • Risk of misunderstandings over ownership of the installed weather station

4)

Kameme Extension Planning Area (EPA) in Chitipa District

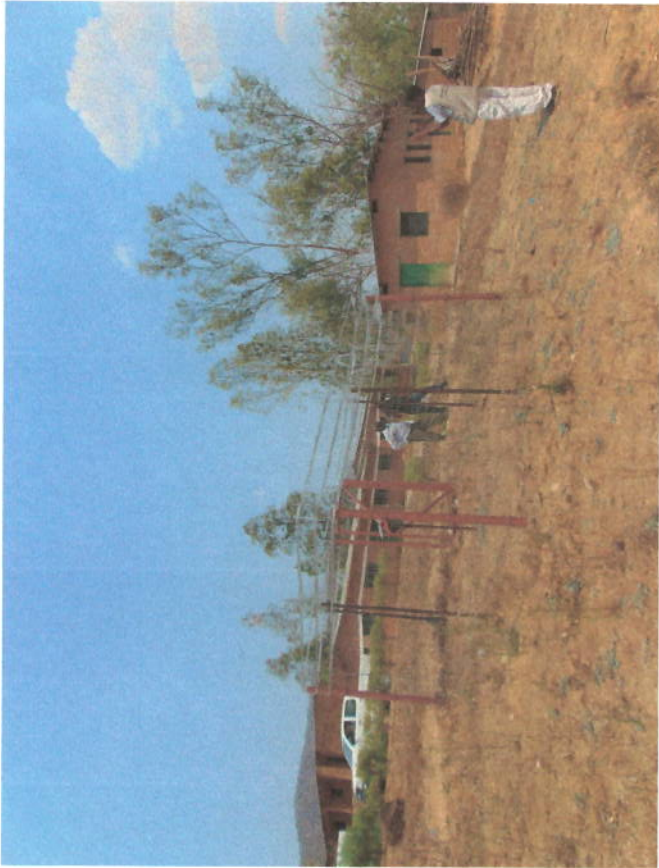


The proposed site is located within the premises of Kameme EPA near agricultural offices at Kameme Village in Traditional Authority Kameme in Chitipa District. The site is flat with clay soils 15 metres from Kameme Trading centre with an existing rain gauge station within the premise. A watchman is available to provide security to the station. Assigning and training of staff to manage the weather station will be required.

Positive Impacts	Negative Impacts
• Source of employment; • Source of weather data for various uses. • Surrounding schools will use the site for their practical sessions on weather-related topics	• Interference in marriages for local people by migrant construction workers; • Spread of STIs, HIV and AIDS due to sexual interactions with migrant workers; • Risk of vandalism of the installed weather station by unscrupulous individuals playing their trade at the trading centre! • Risk of damage to the station by rocks or soil masses from the hill, particularly during the rainy season

5)

Kayelekera CDSS in Karonga District



The proposed site is within the premises of Kayelekera CDSS in Kayelekera Village, Traditional Authority Kyungu in Kyungu District. There is an existing fountain (cold spring) which ooze cold water all year round close to the proposed. The site is currently being used for crop growing by an EPA staff member and has very sloppy/ area about 18metres away from Sere river. The soils at the proposed site are clay loamy in nature.

Positive Impacts

- Source of employment;
- Source of weather data for various projects and research.
- Surrounding schools will use the site for their practical sessions on weather-related topics

Negative Impacts

- Interference in marriages for local people by migrant workers;
- Spread of STIs, HIV and AIDS due to sexual interactions with migrant workers;
- Health hazards to workers
- Risk of vandalism by people on the installed weather station components by students;

6)

Mlare Day secondary school in Karonga District



	The proposed site for the automated weather station is on an open high ground within the premises of Mlare in Mwambero village in the area of Traditional Authority Kyungu in Karonga District. The site is flat with sandy loam soils. There is an existing weather station on close to school administration block. The current site has a watchman available to provide security to the station.				
	<table border="1"> <thead> <tr> <th data-bbox="165 1176 529 2078">Positive Impacts</th><th data-bbox="165 194 529 1176">Negative Impacts</th></tr> </thead> <tbody> <tr> <td data-bbox="165 1176 529 2078"> • Source of employment; • Source of weather data for planning of agricultural activities on the farm. • Training opportunity in weather measurements </td><td data-bbox="165 194 529 1176"> • Risk of soil erosion; • Interference in marriages for local people by migrant workers; • Risk of spread of STIs, HIV and AIDS due to sexual interactions with migrant workers; • Risk of misunderstandings over ownership of the installed weather station </td></tr> </tbody> </table>	Positive Impacts	Negative Impacts	• Source of employment; • Source of weather data for planning of agricultural activities on the farm. • Training opportunity in weather measurements	• Risk of soil erosion; • Interference in marriages for local people by migrant workers; • Risk of spread of STIs, HIV and AIDS due to sexual interactions with migrant workers; • Risk of misunderstandings over ownership of the installed weather station
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7)

Misuku CDSS in Chitipa



	The proposed site is within the premises of Misuku CDSS in the area of Traditional Authority Mwene Misuku in Chitipa District. The site is close to Misuku hill Rural Growth Centre. It is a sloppy with loam soils. A low ridges used for agricultural cultivation will be used to provide some space for the weather station. There will be need to assign and train staff to be manning the automatic weather station. <table border="1"> <thead> <tr> <th data-bbox="159 1176 601 2132">Positive Impacts</th><th data-bbox="159 179 601 1176">Negative Impacts</th></tr> </thead> <tbody> <tr> <td data-bbox="159 1176 601 2132"> • Source of employment to those who will be installing the weather station and to surrounding communities; • Source of climatic data for various uses by different stakeholders in Mangochi District. • Training opportunity in weather measurements • Surrounding schools will use the site for their practical sessions on weather-related topics </td><td data-bbox="159 179 601 1176"> • Loss of soil through erosion; • Interference in marriages for local people by migrant workers; • Risk of spread of STIs, HIV and AIDS due to sexual interaction with migrant workers; • Risk of vandalism of the installed weather station by unscrupulous individuals plying their trade at the trading centre </td></tr> </tbody> </table>	Positive Impacts	Negative Impacts	• Source of employment to those who will be installing the weather station and to surrounding communities; • Source of climatic data for various uses by different stakeholders in Mangochi District. • Training opportunity in weather measurements • Surrounding schools will use the site for their practical sessions on weather-related topics	• Loss of soil through erosion; • Interference in marriages for local people by migrant workers; • Risk of spread of STIs, HIV and AIDS due to sexual interaction with migrant workers; • Risk of vandalism of the installed weather station by unscrupulous individuals plying their trade at the trading centre
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