

**The Republic of Kenya
Rural Electrification Authority**

**The Project for Establishment of
Rural Electrification Model
Using Renewable Energy
in
the Republic of Kenya**

**Project Completion Report
Volume 2 Attachment 1/2**

March 2015

Japan International Cooperation Agency (JICA)

NIPPON KOEI
Challenging mind, Changing dynamics

KRI International
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PDM Version 1.0

Date:2012/05/10

Project Title: The Project for Establishment of Rural Electrification Model Using Renewable Energy**Implementing Agency:** Rural Electrification Authority (REA) and Ministry of Energy (MoEn)**Target Group: [Direct beneficiaries]** Staff of REA and MoEn, Staff of MoEd, MoPHS and Mol, District Education/Medical/Business development Officers in pilot project sites, Staff and users of public facilities of pilot projects, Private businesses in pilot project sites, other stakeholders to be confirmed**[In-direct beneficiaries]** Local PV suppliers and technicians, power users in rural areas**Project Site:** Kenya (Pilot project sites to be identified and confirmed)
2015 (3 years)**Project Period:** 2012–

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Overall Goal: Rural electrification models using renewable energy are disseminated in the country to improve the quality of Kenyan's life.	<ul style="list-style-type: none"> Number of applied public facilities and business/industrial facilities using developed renewable energy models by the Project. Expenditure on lighting is decreased in target public facilities of the Project. Increase number of mobile phone charging in target public facilities of the Project Increase profitability of the business/industrial in target facilities of the Project Users satisfaction on energy use is increased in target facilities (and communities) of the Project. 	<ul style="list-style-type: none"> Official reports of MoEn/REA Financial management reports of the target facilities. O&M records of the target facilities User survey Household survey 	<p>There will be no drastic policy change in rural electrification in Kenya.</p> <p>Recommendations are adopted by relevant organizations.</p>
Project Purpose: Rural electrification models using renewable energy are established.	<ol style="list-style-type: none"> Guidelines and manuals to practice models for rural electrification using renewable energy are adopted for implementation by the REA and MoEn Recommendations to improve policies and institutional frameworks to promote the models are made to relevant organizations. The Outputs of the Project are incorporated into the Rural Electrification Master Plan (REMP) Renewable energy facilities installed by the Project are operated and maintained properly 	<ul style="list-style-type: none"> Project reports Periodical monitoring reports prepared by the monitoring team Reports on REMP 	REMP is regularly updated.
Outputs: 1. A practical model for PV electrification of health service institutions in non-electrified areas is developed through pilot projects.	<ol style="list-style-type: none"> 1-1. Target benefits of consumer/users* are achieved at health service institutions of the pilot projects. 1-2. In target health institutions and community, 12 awareness raising activities are conducted in 5 sites. 1-3. In total 45 engineers of related ministries and agencies shall be given training by the Project. 1-4. In target health institutions, at least 3 staff have accurate understanding and able to conduct proper O&M of PV facilities. 1-5. The O&M activities are properly recorded. 1-6. Accounting (fee collection and cash management) are properly operated and recorded; 1-7. The O&M reports are made available for the monitoring team. 1-8. Financial reports are regularly submitted to District Medical Officer(s) of the project sites. 	<p><i>Target benefits of consumer/users* need to be identified by baseline surveys and stakeholders meetings in order to set indicators.</i></p> <ul style="list-style-type: none"> Project reports; Periodical monitoring reports prepared by the monitoring team Records of institutions Reports to District Medical Officer(s); Questionnaire survey 	Cooperation with related ministries, agencies and local governments is maintained.
2. A practical model for PV electrification of schools in non-electrified areas is developed through pilot projects.	<ol style="list-style-type: none"> 2-1. Target benefits of consumer/users* are achieved at schools of the pilot projects; 2-2. In target school and community, 12 awareness raising activities are conducted in 5 sites. 2-3. In total 45 engineers of related ministries and agencies shall be given training by the Project. 2-4. In target school, at least 3 staff have accurate understanding and able to conduct proper O&M of PV facilities. 2-5. The O & M activities are properly recorded; 2-6. Accounting (fee collection and cash management) are properly operated and recorded; 2-7. The O&M reports are made available for the monitoring team. 2-8. Financial reports are regularly submitted to District Education Officer(s) of the project sites. 	<ul style="list-style-type: none"> Project reports; Periodical monitoring reports prepared by the monitoring team Records of institutions Reports to District Education Officer(s); Questionnaire survey 	
3. A practical model for the electrification of business/Industrial facilities using renewable energy is developed through pilot projects.	<ol style="list-style-type: none"> 3-1. Target benefits of consumer/users* are achieved at facilities of the pilot projects 3-2. In target business/industry and community, 6 awareness raising activities are conducted in 3 sites. 3-3. In total 45 engineers of related ministries and agencies shall be given training by the Project. 3-4. In target business/industry, at least 3 staff have accurate understanding and able to conduct proper O&M of PV facilities. 3-5. The O&M activities are properly recorded; 3-6. Accounting (fee collection and cash management) are properly operated and recorded; 3-7. The O&M reports are made available for the monitoring team. 3-8. The O&M reports and financial reports are regularly submitted to District Officer(s) of the project sites and to the monitoring team of the Project; 	<ul style="list-style-type: none"> Project reports; Periodical monitoring reports prepared by the monitoring team Records of institutions Reports to District Officer(s); Questionnaire survey 	
4. Necessary policy and institutional frameworks for spreading the models for rural electrification using renewable energy are recommended.	<ol style="list-style-type: none"> 4-1. International workshop with other 6 East African Countries is organized. 4-2. Recommendations to improve policies and institutional frameworks necessary for dissemination of rural electrification models are compiled. 4-3. Guidelines and manuals to exercise public model(s) and business model are formulated. 	<ul style="list-style-type: none"> Project reports, Periodical monitoring reports prepared by the monitoring team; 	

<p>Activities:</p> <p>0-1. Set up a Working Group (WG) consisting with clarified roles and functions of the counterpart personnel.</p> <p>0-2. Finalize the provisional version of PDM and PO of the Project by JCC.</p> <p><u>For Output 1 (Health service institution model)</u></p> <p>1-1. Review policies, studies, surveys and projects related to PV electrification of health service institutions.</p> <p>1-2. Clarify components of "System design," "Sustainable O&M" and "Sustainable financial plan" to constitute dispensary model(s).</p> <p>1-3. Select 3 health institutions for 1st phase pilot projects.</p> <p>1-4. Organize stakeholders meetings at the 1st phase pilot project sites including community leaders and the private sector for information sharing and exploring the possibility to find capable private businesses to join the Project as users or service providers.</p> <p>1-5. Conduct baseline survey(s) on target communities, institutions and the private sectors of the 1st phase pilot project sites.</p> <p>1-6. Conduct capacity & needs assessment of target communities, institutions and the private sectors in dealing with the operation and maintenance of renewable energy facilities and the management of energy supply services.</p> <p>1-7. Conduct capacity & needs assessment of officers in relevant ministries, agencies and local governments in dealing with sensitization and education of communities, users, and service providers on renewable energy matters.</p> <p>1-8. Apply for procedures of Environmental and Social Considerations including gender consideration for rural electrification projects using PV.</p> <p><PP Phase 1></p> <p>1-9. Prepare detailed plans of the 1st phase pilot projects consisting of "System design," "Sustainable O&M" and "Sustainable financial plan."</p> <p>1-10. Organize stakeholders meetings to verify the detailed plans.</p> <p>1-11. Formulate the implementation plans of the 1st phase pilot projects, including procurement, information & knowledge dissemination, and stakeholders' training.</p> <p>1-12. Implement and monitor the projects' activities.</p> <p>1-13. Compile the results of the 1st phase pilot projects including benefits for users and communities</p> <p>1-14. Conduct awareness raising activities for 1st phase pilot projects, 3 times at 3 sites.</p> <p><PP Phase 2></p> <p>1-15. Examine lessons learnt from the 1st phase projects.</p> <p>1-16. Select 2 health institutions for 1st phase pilot projects</p> <p>1-17. Organize stakeholders meetings at the 2nd phase pilot project sites including community leaders and the private sector for information sharing and exploring the possibility to find capable private businesses to join the Project as users or service providers.</p> <p>1-18. Conduct baseline survey(s) on target communities, institutions and the private sectors of the 2nd phase pilot project sites.</p> <p>1-19. Conduct capacity & needs assessment of target communities, institutions and the private sectors in dealing with the operation and maintenance of renewable energy facilities and the management of energy supply services.</p> <p>1-20. Prepare detailed plans of the 2nd phase pilot projects.</p> <p>1-21. Organize stakeholders meetings to verify the detailed plans.</p> <p>1-22. Formulate the implementation plans.</p> <p>1-23. Implement and monitor the projects' activities.</p> <p>1-24. Conduct awareness raising activities for 2nd phase pilot projects, 2 times at 2 sites.</p> <p>1-25. Compile the results and lessons learnt of the 2nd phase pilot projects including benefits for users and communities.</p> <p>1-26. Examine the components of health institution model(s) to formulate guidelines and manuals on the model(s).</p> <p>1-27. Prepare policy recommendations with institutional framework to promote the health institution model(s).</p> <p>1-28. Monitor and report the progress of indicators to achieve Output 1.</p> <p><u>For Output 2 (School model)</u></p> <p>2-1. Review policies, studies, surveys and projects related to PV electrification of schools.</p> <p>2-2. Clarify components of "System design," "Sustainable O&M" and "Sustainable financial plan" to constitute school model(s).</p> <p>2-3. Select 2 schools for 1st phase pilot projects.</p> <p>2-4. Organize stakeholders meetings at the 1st phase pilot project sites including community leaders and the private sector for information sharing and exploring the possibility to find capable private businesses to join the Project as users or service providers.</p> <p>2-5. Conduct baseline survey(s) on target communities, institutions and the private sectors of the 1st phase pilot project site.</p> <p>2-6. Conduct capacity & needs assessment of target communities, institutions and the private sectors in dealing with the operation and maintenance of renewable energy facilities and the management of energy supply services.</p> <p>2-7. Conduct capacity & needs assessment of officers in relevant ministries, agencies and local governments in dealing with sensitization and education of communities, users, and service providers on renewable energy matters.</p> <p>2-8. Apply for procedures of Environmental and Social Considerations including gender consideration for rural electrification projects using PV.</p> <p><PP Phase 1></p>	<p>Inputs (Means and Cost)</p> <p>Japanese Side</p> <p>A. Dispatch of Experts < Short-term Experts></p> <ul style="list-style-type: none"> • Team leader / Wind power generation • Sub leader / Rural electrification / Micro-hydro power • Photovoltaic power generation • Biomass/gas power generation • Financial management • Socio-economic survey and community mobilization • Development of local industry and business skill training / Project coordinator / Support of procurement and supervision of pilot project • Procurement and supervision of pilot projects • Environmental and Social Considerations <p>B. Training of Kenyan personnel (in Japan, in the third country)</p> <ul style="list-style-type: none"> • Counterpart Training, and/or • Group Training Course for Rural Electrification by Renewable Energy <p>C. Provision of Equipment.</p> <ul style="list-style-type: none"> • Equipment for pilot projects of health service institutions • Equipment for pilot projects of schools • Equipment for pilot projects of industrial development <p>Other equipment will be specified depending on the requirement for effective implementation of the Project.</p> <p>D. Local Cost (Seminars, meetings, trainings, local and international consultants, etc.)</p> <p>Kenyan Side:</p> <p>A. Assignment of counterpart personnel</p> <p>B. Provision of office space and facilities at REA (office for JICA experts and Working group members.)</p> <p>C. Allocation of counterpart budget</p>	<p>MOE and REA continue to be responsible for rural electrification in Kenya.</p> <p>Related ministries (MOPHS, MOE, MOI), agencies and local governments take part in the Project actively.</p> <p>Target communities, institutions, and private sectors agree the Project Purpose and take part in the Project actively. EIA procedures do not take longer than planned.</p> <p>Security is maintained</p> <p>Pre-conditions</p> <p>Related ministries (MOPHS, MOE, MOI), agencies and local governments agree the Project Purpose and accept their roles in the Project implementation.</p> <p>Counterpart, budget, office space and facilities necessary for the Project are allocated</p>
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<p>2-9 to 2-13: Same as activities for Output 1: 1-9 to 1-13 (please replace “health service institutions” with “schools”)</p> <p>2-14. Conduct awareness raising activities for 1st phase, 3 times x 2 sites.</p> <p><PP Phase 2></p> <p>2-15. Examine lessons learnt from the 1st phase projects.</p> <p>2-16. Select 2 schools for 2nd phase pilot projects</p> <p>2-17 to 2-23: Same as activities for Output 1: 1-17 to 1-23 (please replace “health service institutions” with “schools”)</p> <p>2-24. Conduct awareness raising activities for 2nd phase, 2 times at 3 sites.</p> <p>2-25 to 2-28: Same as activities for Output 1: 1-25 to 1-28 (please replace “health service institutions” with “schools”)</p> <p><u>For Output 3 (Business/industry model)</u></p> <p>3-1. Review policies, studies, surveys and projects related to utilization of renewable energy use for rural (village scale) business/industrial development.</p> <p>3-2. Establish site selection criteria and procedures</p> <p>3-3. Select candidate sites for pilot projects (Biogas, Micro-Hydro and Wind).</p> <p>3-4. Implement field survey and finalize 3 pilot project sites (Biogas, Micro-Hydro and Wind).</p> <p>3-5. Clarify major components of “System design,” “Sustainable O&M” and “Sustainable financial plan” to constitute business/industry model(s).</p> <p>3-6. Organize stakeholders meetings at candidate sites including community leaders and the private sector to explore the possibility of finding capable association(s) of private businesses to join the Project as users or service providers.</p> <p>3-7. Conduct baseline survey(s) on target communities, institutions and the private sectors of pilot project sites.</p> <p>3-8. Conduct capacity & needs assessment of target communities, institutions and the private sectors in dealing with the operation and maintenance of renewable energy facilities and the management of energy supply services.</p> <p>3-9. Conduct capacity & needs assessment of officers in relevant ministries, agencies and local governments in dealing with sensitization and education of communities, users, and service providers on renewable energy matters.</p> <p>3-10. Apply for procedures of Environmental and Social Considerations including gender consideration for rural electrification projects using renewable energy.</p> <p>3-11. Prepare detailed plans of the pilot projects consisting of “System design,” “Sustainable O&M” and “Sustainable financial plan.”</p> <p>3-12. Organize stakeholders meetings to verify the detailed plans</p> <p>3-13. Formulate the implementation plans, including procurement, information & knowledge dissemination, and stakeholders’ training.</p> <p>3-14. Implement and monitor the projects’ activities.</p> <p>3-15. Compile the results and lessons learnt of the pilot projects including benefits for users and communities</p> <p>3-16. Examine the components of business/industry model(s) to formulate guidelines and manuals on the model(s).</p> <p>3-17. Prepare policy recommendations with institutional framework to promote the business/industry model(s).</p> <p>3-18. Monitor and report the progress of indicators to achieve Output 3.</p> <p>3-19. Conduct awareness raising activities for business / industry, 2 times at 3 sites.</p> <p><u>For Output 4 (Policy recommendations)</u></p> <p>4-1. Implement and monitor the preparation activities of policy recommendations: 1-27, 2-27, and 3-17.</p> <p>4-2. Organize workshop on rural electrification models using renewable energy for information sharing with other stakeholders and donors in the energy sector of Kenya and East Africa.</p> <p>4-3. Conduct a training for 45 engineers of related ministries and agencies by the Project.</p> <p>4-4. Compile the policy recommendations.</p> <p>4-5. Monitor and report the progress of indicators to achieve Output 4.</p>		
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appendix 1

PDM Version 1.4

Date:2012/11/24

Project Title: The Project for Establishment of Rural Electrification Model Using Renewable Energy**Implementing Agency:** Rural Electrification Authority (REA) and Ministry of Energy (MoEn)**Target Group: [Direct beneficiaries]** Staff of REA and MoEn, Staff of MoEd, MoPHS, District Education/Medical Officers in pilot project sites, Staff and users of public facilities of pilot projects in pilot project sites, other stakeholders to be confirmed**[In-direct beneficiaries]** Local PV suppliers and technicians, power users in rural areas**Project Site:** Kenya (Pilot project sites to be identified and confirmed)**Project Period:** 2012– 2015 (3 years)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Overall Goal: Rural electrification models using renewable energy are disseminated in the country to improve the quality of Kenyan's life.</p>	<ul style="list-style-type: none"> Number of public facilities who apply and follow the model has increased all over the non-electrified areas in Kenya. 	<ul style="list-style-type: none"> Official reports of MoEn/REA Financial management reports of the target facilities. O&M records of the target facilities User survey Household survey 	<p>There will be no drastic policy change in rural electrification in Kenya.</p> <p>Recommendations are adopted by relevant organizations.</p>
<p>Project Purpose: Rural electrification models using renewable energy are established</p>	<ol style="list-style-type: none"> The developed guidelines and manuals are adopted for the projects implemented by the REA and MoEn. The Outputs of the Project are incorporated into the Rural Electrification Master Plan (REMP) Renewable energy facilities installed by the Project are operated and maintained properly with sustainable manners. 		REMP is regularly updated.
<p>Outputs: 1. A practical model for PV electrification of health service institutions in non-electrified areas is developed through pilot projects.</p>	<ol style="list-style-type: none"> 1-1. Target benefits of consumer/users are achieved at health service institutions of the pilot projects. <ul style="list-style-type: none"> The quality of night health service is improved by judgment of nurses and community people. The expenditure for kerosene and LPG gas of the health institutions decrease by X %.(X will be fixed after cost calculation) The target health institutions receive revenue from power provision service. The target health institutions feel satisfaction with the electrification. The number of households who charge up their LED lantern using the power provision service of the dispensary is up to Y. (Y will be fixed after detailed interview). The inhabitants in surrounding community feel satisfaction with the electrification of the dispensary in general. 1-2. Number of awareness raising activities on installed solar PV system at target health institutions and community, at least 3 times for each Lot 1 sites and 2 times for Lot 2 sites. 1-3. Number of trained staff in target health institution. At least 3 staff have accurate understanding and able to conduct proper O&M of PV facilities. 1-4. Number of periodical monitoring carried out by the monitoring team which formulated by counterpart agencies. 1-5. Condition of management by health service institutions. <ul style="list-style-type: none"> Maintenance condition of pilot facilities and quality of O&M report Condition of balance sheet of pilot institutions and quality of account book 1-6. Number of financial reports which submitted to District Medical Officer(s) of the project sites. 	<ul style="list-style-type: none"> Project reports; Records of institutions Periodical monitoring report prepared by the monitoring team Reports to District Medical Officer(s); Questionnaire survey 	Cooperation with related ministries, agencies and local governments is maintained.
<p>2. A practical model for PV electrification of schools in non-electrified areas is developed through pilot projects.</p>	<ol style="list-style-type: none"> 2-1. Target benefits of consumer/users are achieved at schools of the pilot projects. <ul style="list-style-type: none"> The quality of education is improved by judgment of teacher and students. The expenditure for kerosene and LPG gas of the schools decrease by X %. (X will be fixed after cost calculation) The target schools receive revenue from power provision service. The target schools feel satisfaction with the electrification. The number of households who charge up their LED lantern using the power provision service of the dispensary is up to Y. (Y will be fixed after detailed interview). The inhabitants in surrounding community feel satisfaction with the electrification of the school in general. 2-2. Number of awareness raising activities on installed solar PV system at target school and community, at least 3 times for each Lot 1 sites and 2 times for Lot 2 sites. 2-3. Number of trained staff in target school. At least 3 staff have accurate understanding and able to conduct proper O&M of PV facilities. 2-4. Number of periodical monitoring carried out by the monitoring team which formulated by counterpart agencies. 2-5. Condition of management by schools. <ul style="list-style-type: none"> Maintenance condition of pilot facilities and quality of O&M report Condition of balance sheet of pilot facilities and quality of account book 2-6. Number of financial reports which submitted to District Education Officer(s) of the project sites. 	<ul style="list-style-type: none"> Project reports; Records of institutions Periodical monitoring report prepared by the monitoring team Reports to District Education Officer(s); Questionnaire survey 	
<p>3. The Capacity of REA / MoEn to undertake project using MHP, Biogas and Wind technologies is</p>	<ol style="list-style-type: none"> 3-1. The number of trained staff of REA / MoEn on renewable energy through manual development works. 3-2. XX officers of the related ministries, agencies and local governments recognize and are able to use the manuals. 3-3. The number of conducted technical transfer training and seminar. 	<ul style="list-style-type: none"> Periodical monitoring report prepared by the monitoring team 	

enhanced.	3-4. The number of technical recommendation for rural electrification using MHP, Biogas and Wind.		
4. Necessary policy and institutional frameworks for spreading the models for rural electrification using renewable energy are recommended.	4-1. Number of international workshop to share the model is held more than one (EAC conference). 4-2. Number of technical transfer workshop given for engineers of MoEn and REA is held more than one. 4-3. Number of recommendation that MoEn and REA make for the effective dissemination of RE is more than XX during the pilot project period. 4-4. The number of the policies and regulations has increased to support the dissemination of the model.	<ul style="list-style-type: none"> • Project reports, • Periodical monitoring reports prepared by the monitoring team; 	

<p>Activities: For Preparation 0-1. Set up a Working Group (WG) consisting of 3 sub-groups for Outputs 1, 2 and 3, with clarified roles and functions of the counterpart personnel.</p> <p>For Output 1 (The health service institution model) 1-1. Review policies, studies, surveys and projects related to electrification of health service institutions using Solar PV. 1-2. Select 5 health institutions for pilot projects. 1-3. Conduct capacity & needs assessment of target communities, institutions and the private sectors in dealing with the operation and maintenance of renewable energy facilities and the management of energy supply services. 1-4. Conduct capacity & needs assessment of officers in relevant ministries, agencies and local governments in dealing with sensitization and education of communities, users, and service providers on renewable energy matters. 1-5. Prepare detailed plans of the pilot projects consisting of “System design,” “Sustainable O&M” and “Sustainable financial plan.” 1-6. Organize stakeholders meetings to verify the detailed plans. 1-7. Formulate the implementation plans of the pilot projects, including procurement, information & knowledge dissemination, and stakeholders’ training. 1-8. Implement and monitor the projects’ activities, and prepare policy recommendations with institutional framework to promote the health institution model(s). 1-9. Monitor and report the progress of indicators to achieve Output 1.</p> <p><u>For Output 2 (School model)</u> 2-1. Review policies, studies, surveys and projects related to electrification of schools using Solar PV. 2-2. Select 5 school sites for pilot projects. 2-3. Conduct capacity & needs assessment of target communities, institutions and the private sectors in dealing with the operation and maintenance of renewable energy facilities and the management of energy supply services. 2-4. Conduct capacity & needs assessment of officers in relevant ministries, agencies and local governments in dealing with sensitization and education of communities, users, and service providers on renewable energy matters. 2-5. Prepare detailed plans of the pilot projects consisting of “System design,” “Sustainable O&M” and “Sustainable financial plan.” 2-6. Organize stakeholders meetings to verify the detailed plans. 2-7. Formulate the implementation plans of the pilot projects, including procurement, information & knowledge dissemination, and stakeholders’ training. 2-8. Implement and monitor the projects’ activities, and prepare policy recommendations with institutional framework to promote the school model(s). 2-9. Monitor and report the progress of indicators to achieve Output 2.</p> <p><u>For Output 3 (MHP, Biogas and Wind)</u> 3-1. Conduct inventory survey and review of existing renewable energy project (MHP, Biogas, Wind). 3-2. Prepare manuals for rural electrification using renewable energy (MHP, Biogas, Wind) 3-3. Conduct technical training for REA / MoEn staff on MHP, Biogas and Wind. 3-4. Prepare technical recommendation for rural electrification using MHP, Biogas and Wind.</p> <p><u>For Output 4 (Policy recommendations)</u> 4-1. Implement and monitor the preparation activities of policy recommendations of Output 1,2 and 3. 4-2. Organize workshop(s) on rural electrification models using renewable energy for information sharing with other stakeholders and donors in the energy sector of Kenya and East Africa. 4-3. Formulate guidelines and manuals for the components of the health facilities and schools. 4-4. Initiate and strengthen the concept of Academic-Private Sector Platform in collaboration with JICA Experts of “the Project for Capacity Development for Promoting Rural Electrification Using Renewable Energy.” 4-5. Monitor and report the progress of indicators to achieve Output 4.</p>	<p>Inputs (Means and Cost)</p> <p>Japanese Side</p> <p>A. Dispatch of Experts < Short-term Experts></p> <ul style="list-style-type: none"> • Team leader / Wind power generation • Sub leader / Rural electrification / Micro-hydro power • Photovoltaic power generation • Biomass/gas power generation • Financial management • Socio-economic survey and community mobilization • Procurement and supervision of pilot projects • Environmental and Social Considerations <p>B. Training of Kenyan personnel (in Japan, in the third country)</p> <ul style="list-style-type: none"> • Counterpart Training, and/or • Group Training Course for Rural Electrification by Renewable Energy <p>C. Provision of Equipment.</p> <ul style="list-style-type: none"> • Equipment for pilot projects of health service institutions • Equipment for pilot projects of schools • Equipment for pilot projects of industrial development <p>Other equipment will be specified depending on the requirement for effective implementation of the Project.</p> <p>D. Local Cost (Seminars, meetings, trainings, local and international consultants, etc.)</p> <p>Kenyan Side:</p> <p>A. Assignment of counterpart personnel B. Provision of office space and facilities at REA (office for JICA experts and Working group members.) C. Allocation of counterpart budget</p>	<p>MOE and REA continue to be responsible for rural electrification in Kenya.</p> <p>Related ministries (MOPHS, MOE, MOI), agencies and local governments take part in the Project actively.</p> <p>Target communities, institutions, and private sectors agree the Project Purpose and take part in the Project actively. EIA procedures do not take longer than planned.</p> <p>Security is maintained</p> <p>Pre-conditions</p> <p>Related ministries (MOPHS, MOE, MOI), agencies and local governments agree the Project Purpose and accept their roles in the Project implementation.</p> <p>Counterpart, budget, office space and facilities necessary for the Project are allocated</p>
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appendix 1

PDM Version 2.1

Date:2012/12/01

Project Title: The Project for Establishment of Rural Electrification Model Using Renewable Energy**Implementing Agency:** Rural Electrification Authority (REA) and Ministry of Energy (MoEn)**Target Group: [Direct beneficiaries]** Staff of REA and MoEn, Staff of MoEd, MoPHS, District Education/Medical Officers in pilot project sites, Staff and users of public facilities of pilot projects in pilot project sites, other stakeholders to be confirmed**[In-direct beneficiaries]** Local PV suppliers and technicians, power users in rural areas**Project Site:** Kenya (Pilot project sites to be identified and confirmed)**Project Period:** 2012– 2015 (3 years)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Overall Goal: Rural electrification models using renewable energy are disseminated in the country to improve the quality of Kenyan's life.	<ul style="list-style-type: none"> Number of public facilities who apply and follow the model has increased all over the non-electrified areas in Kenya. 	<ul style="list-style-type: none"> Official reports of MoEn/REA Financial management reports of the target facilities. O&M records of the target facilities User survey Household survey 	<p>There will be no drastic policy change in rural electrification in Kenya.</p> <p>Recommendations are adopted by relevant organizations.</p>
Project Purpose: Rural electrification models using renewable energy are established	<ol style="list-style-type: none"> The developed guidelines and manuals are adopted for the projects implemented by the REA and MoEn. The Outputs of the Project are incorporated into the Rural Electrification Master Plan (REMP) Renewable energy facilities installed by the Project are operated and maintained properly with sustainable manners. 		REMP is regularly updated.
Outputs: 1. A practical model for PV electrification of health service institutions in non-electrified areas is developed through pilot projects.	<ol style="list-style-type: none"> 1-1. Target benefits of consumer/users are achieved at health service institutions of the pilot projects. <ul style="list-style-type: none"> The quality of night health service is improved by judgment of nurses and community people. The expenditure for kerosene and LPG gas of the health institutions decrease by X %.(X will be fixed after cost calculation) The target health institutions receive revenue from power provision service. The target health institutions feel satisfaction with the electrification. The number of households who charge up their LED lantern using the power provision service of the dispensary is up to Y. (Y will be fixed after detailed interview). The inhabitants in surrounding community feel satisfaction with the electrification of the dispensary in general. 1-2. Number of awareness raising activities on installed solar PV system at target health institutions and community, at least 3 times for each Lot 1 sites and 2 times for Lot 2 sites. 1-3. Number of trained staff in target health institution. At least 3 staff have accurate understanding and able to conduct proper O&M of PV facilities. 1-4. Number of periodical monitoring carried out by the monitoring team which formulated by counterpart agencies. 1-5. Condition of management by health service institutions. <ul style="list-style-type: none"> Maintenance condition of pilot facilities and quality of O&M report Condition of balance sheet of pilot institutions and quality of account book 1-6. Number of financial reports which submitted to District Medical Officer(s) of the project sites. 	<ul style="list-style-type: none"> Project reports; Records of institutions Periodical monitoring report prepared by the monitoring team Reports to District Medical Officer(s); Questionnaire survey 	Cooperation with related ministries, agencies and local governments is maintained.
2. A practical model for PV electrification of schools in non-electrified areas is developed through pilot projects.	<ol style="list-style-type: none"> 2-1. Target benefits of consumer/users are achieved at schools of the pilot projects. <ul style="list-style-type: none"> The quality of education is improved by judgment of teacher and students. The expenditure for kerosene and LPG gas of the schools decrease by X %. (X will be fixed after cost calculation) The target schools receive revenue from power provision service. The target schools feel satisfaction with the electrification. The number of households who charge up their LED lantern using the power provision service of the dispensary is up to Y. (Y will be fixed after detailed interview). The inhabitants in surrounding community feel satisfaction with the electrification of the school in general. 2-2. Number of awareness raising activities on installed solar PV system at target school and community, at least 3 times for each Lot 1 sites and 2 times for Lot 2 sites. 2-3. Number of trained staff in target school. At least 3 staff have accurate understanding and able to conduct proper O&M of PV facilities. 2-4. Number of periodical monitoring carried out by the monitoring team which formulated by counterpart agencies. 2-5. Condition of management by schools. <ul style="list-style-type: none"> Maintenance condition of pilot facilities and quality of O&M report Condition of balance sheet of pilot facilities and quality of account book 2-6. Number of financial reports which submitted to District Education Officer(s) of the project sites. 	<ul style="list-style-type: none"> Project reports; Records of institutions Periodical monitoring report prepared by the monitoring team Reports to District Education Officer(s); Questionnaire survey 	
3. The Capacity of REA / MoEn to undertake project using MHP, Biogas and Wind technologies is	<ol style="list-style-type: none"> 3-1. Number of trained REA / MoEn staff on renewable energy through manual development. 3-2. Manuals are adopted and utilized by related ministries, agencies and local governments. 3-3. Number of conducted seminar and training for technical transfer. 	<ul style="list-style-type: none"> Periodical monitoring report prepared by the monitoring team 	

enhanced.			
4. Necessary policy and institutional frameworks for spreading the models for rural electrification using renewable energy are recommended.	4-1. Number of international workshop to share the model is held more than one (EAC conference). 4-2. Number of technical transfer workshop given for engineers of MoEn and REA is held more than one. 4-3. Number of recommendation that MoEn and REA make for the effective dissemination of RE is more than XX during the pilot project period. 4-4. The number of the policies and regulations has increased to support the dissemination of the model.	<ul style="list-style-type: none"> • Project reports, • Periodical monitoring reports prepared by the monitoring team; 	

<p>Activities: For Preparation 0-1. Set up a Working Group (WG) consisting of 3 sub-groups for Outputs 1, 2 and 3, with clarified roles and functions of the counterpart personnel.</p> <p>For Output 1 (The health service institution model) 1-1. Review policies, studies, surveys and projects related to electrification of health service institutions using Solar PV. 1-2. Select 5 health institutions for pilot projects. 1-3. Conduct capacity & needs assessment of target communities, institutions and the private sectors in dealing with the operation and maintenance of renewable energy facilities and the management of energy supply services. 1-4. Conduct capacity & needs assessment of officers in relevant ministries, agencies and local governments in dealing with sensitization and education of communities, users, and service providers on renewable energy matters. 1-5. Prepare detailed plans of the pilot projects consisting of “System design,” “Sustainable O&M” and “Sustainable financial plan.” 1-6. Organize stakeholders meetings to verify the detailed plans. 1-7. Formulate the implementation plans of the pilot projects, including procurement, information & knowledge dissemination, and stakeholders’ training. 1-8. Implement and monitor the projects’ activities, and prepare policy recommendations with institutional framework to promote the health institution model(s). 1-9. Monitor and report the progress of indicators to achieve Output 1.</p> <p><u>For Output 2 (School model)</u> 2-1. Review policies, studies, surveys and projects related to electrification of schools using Solar PV. 2-2. Select 5 school sites for pilot projects. 2-3. Conduct capacity & needs assessment of target communities, institutions and the private sectors in dealing with the operation and maintenance of renewable energy facilities and the management of energy supply services. 2-4. Conduct capacity & needs assessment of officers in relevant ministries, agencies and local governments in dealing with sensitization and education of communities, users, and service providers on renewable energy matters. 2-5. Prepare detailed plans of the pilot projects consisting of “System design,” “Sustainable O&M” and “Sustainable financial plan.” 2-6. Organize stakeholders meetings to verify the detailed plans. 2-7. Formulate the implementation plans of the pilot projects, including procurement, information & knowledge dissemination, and stakeholders’ training. 2-8. Implement and monitor the projects’ activities, and prepare policy recommendations with institutional framework to promote the school model(s). 2-9. Monitor and report the progress of indicators to achieve Output 2.</p> <p><u>For Output 3 (MHP, Biogas and Wind)</u> 3-1. Conduct inventory survey and review of existing renewable energy project (MHP, Biogas, Wind). 3-2. Prepare manuals for rural electrification using renewable energy (MHP, Biogas, Wind) 3-3. Conduct technical training for REA / MoEn staff on MHP, Biogas and Wind. 3-4. Prepare technical recommendation for rural electrification using MHP, Biogas and Wind.</p> <p><u>For Output 4 (Policy recommendations)</u> 4-1. Implement and monitor the preparation activities of policy recommendations of Output 1,2 and 3. 4-2. Organize workshop(s) on rural electrification models using renewable energy for information sharing with other stakeholders and donors in the energy sector of Kenya and East Africa. 4-3. Formulate guidelines and manuals for the components of the health facilities and schools. 4-4. Initiate and strengthen the concept of Academic-Private Sector Platform in collaboration with JICA Experts of “the Project for Capacity Development for Promoting Rural Electrification Using Renewable Energy.” 4-5. Monitor and report the progress of indicators to achieve Output 4.</p>	<p>Inputs (Means and Cost)</p> <p>Japanese Side</p> <p>A. Dispatch of Experts < Short-term Experts></p> <ul style="list-style-type: none"> • Team leader / Wind power generation • Sub leader / Rural electrification / Micro-hydro power • Photovoltaic power generation • Biomass/gas power generation • Financial management • Socio-economic survey and community mobilization • Procurement and supervision of pilot projects • Environmental and Social Considerations <p>B. Training of Kenyan personnel (in Japan, in the third country)</p> <ul style="list-style-type: none"> • Counterpart Training, and/or • Group Training Course for Rural Electrification by Renewable Energy <p>C. Provision of Equipment.</p> <ul style="list-style-type: none"> • Equipment for pilot projects of health service institutions • Equipment for pilot projects of schools • Equipment for pilot projects of industrial development <p>Other equipment will be specified depending on the requirement for effective implementation of the Project.</p> <p>D. Local Cost (Seminars, meetings, trainings, local and international consultants, etc.)</p> <p>Kenyan Side:</p> <p>A. Assignment of counterpart personnel B. Provision of office space and facilities at REA (office for JICA experts and Working group members.) C. Allocation of counterpart budget</p>	<p>MOE and REA continue to be responsible for rural electrification in Kenya.</p> <p>Related ministries (MOPHS, MOE, MOI), agencies and local governments take part in the Project actively.</p> <p>Target communities, institutions, and private sectors agree the Project Purpose and take part in the Project actively. EIA procedures do not take longer than planned.</p> <p>Security is maintained</p> <p>Pre-conditions</p> <p>Related ministries (MOPHS, MOE, MOI), agencies and local governments agree the Project Purpose and accept their roles in the Project implementation.</p> <p>Counterpart, budget, office space and facilities necessary for the Project are allocated</p>
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Project Title: The Project for Establishment of Rural Electrification Model Using Renewable Energy

Implementing Agency: Rural Electrification Authority (REA) and Ministry of Energy and Petroleum (MoE&P)

Target Group: Staff of REA and MoE&P, MoEST, MoH, County/Sub-County Education/Medical Officers in pilot project sites, Members of pilot project school and dispensary management committee, Operators of charging business at pilot project facilities, Local PV suppliers and technicians, Staff and users of public facilities of pilot projects in pilot project sites, power users in rural areas

Project Site: Kijiado Central (1), Narok North (1), Narok South (2), Samburu Central (1), Samburu North (5)

Project Period: 2012– 2015 (3 years)

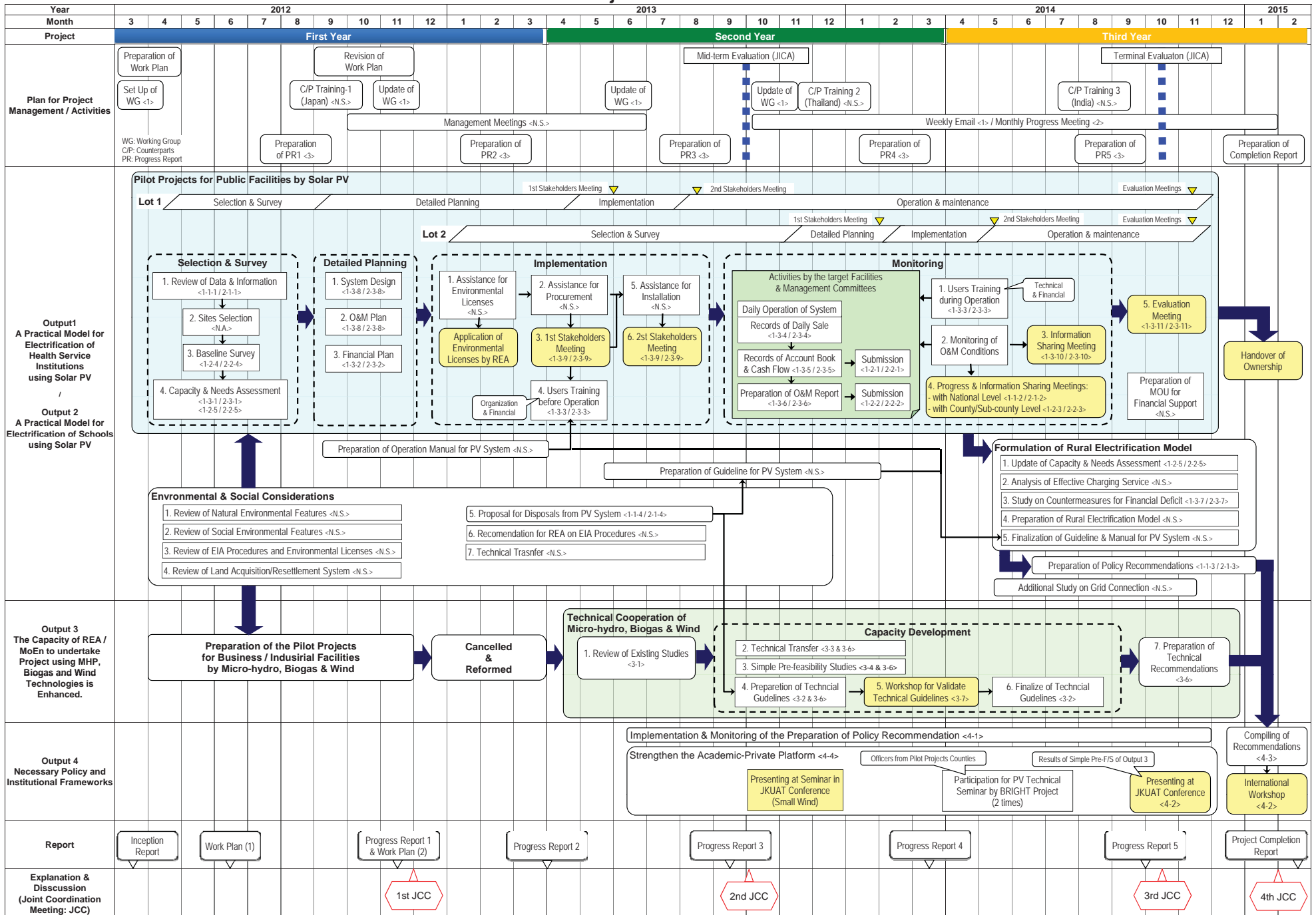
NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Overall Goal: Rural electrification models using renewable energy are disseminated in the country to improve the quality of Kenyan's life.</p>	<ol style="list-style-type: none"> 1. Number of public facilities who apply and follow the model has increased all over the non-electrified areas in Kenya. 2. Dissemination structure of national and county governmental agencies is established. 	<ul style="list-style-type: none"> • Official reports of MoE&P/REA 	<p>Promotion measures and policies for rural electrification by renewable energy will be maintained,</p> <p>There will be no major changes in national and county government structures.</p> <p>Recommendations are adopted by relevant organizations.</p>
<p>Project Purpose: Rural electrification models using renewable energy are established</p>	<ol style="list-style-type: none"> 1. The developed guidelines and manuals are applied to the projects implemented by the REA and MoE&P (C/P). 2. The Outputs of the Project are incorporated into implementation of REA Annual Renewable Energy Work Programme (Performance Contract). 3. Renewable energy facilities installed by the Project are operated and maintained properly with sustainable. 4. Implementation structures of national/county governmental agencies and local stakeholders are established. 5. Variety of expertise in renewable energy is increased among members of C/P (C/Ps). 	<ul style="list-style-type: none"> • Financial reports of the target facilities. • O&M records of the target facilities • User survey • Household survey • Numbers of expertise of C/Ps 	<p>REA Annual Renewable Energy Work Programme (Performance Contract) are prepared and implemented</p> <p>Involvement of relevant national and county government is maintained.</p>
<p>Outputs: 1. A practical model for PV electrification of health service institutions in non-electrified areas is developed through pilot projects.</p>	<ol style="list-style-type: none"> 0. All level 0-0 All sub-group working members for Output 1 participate in monitoring at least twice as a monitoring team member. 0-1 Monitoring trainings for the monitoring team members including both technical and environmental/community development staff at REA and MoE&P are provided based on their Objective & Achievement Sheet through OJT; On the Job Training. 0-2 At least 3 monitoring team members achieve their objectives through trainings. Achievements are confirmed by trainee's self-assessment and evaluation by Japanese Experts (JEs). 0-3 PV electrification, operation and maintenance manual for health service institutions with battery charging business is prepared for C/Ps including user manual and accounting manual. 0-4 At least 2 people from health institution and management committee as well as the operator of charging center are trained to have accurate understanding and to be able to conduct proper O&M of PV facilities including disposal of solar panels, batteries and toxic materials. 1. National Level 1-1 Collaboration among relevant governmental agencies is started and maintained at national level to support the establishment and dissemination of the model. 1-2 Key criteria of the site selection are analyzed and established and sites for Lot 1 and Lot 2 are selected accordingly. 2. County/Sub-county Level 2-1 Collaboration among C/Ps, County and Sub-county medical officers is initiated and maintained to support the establishment, operation and maintenance of the model. 3. Local/Institutional Level 3-1. The target health institutions secure the money from battery charging business and other financial source(s) for sufficient maintenance cost such as future purchase of batteries. 3-2. Periodical monitoring is carried out by the monitoring team at least 3 times for Lot 1 and twice for Lot 2. Satisfaction for the system is 	<ul style="list-style-type: none"> • Project reports • Account book • Cash flow statement • Financial reports • O&M reports • Periodical monitoring report prepared by the monitoring team • Questionnaire survey • Objective & Achievement sheets of monitoring team members • PV electrification, operation and maintenance manual for health service institutions • Minutes of the meetings with relevant governmental agencies and County/Sub-county Medical officers. 	<p>There will be no major changes in national and county government structures.</p>

	<p>conformed through monitoring.</p> <p>3-3. Awareness raising activities on installed solar PV system at target health institutions and community are held at least 3 times for each Lot 1 sites and 2 times for Lot 2 sites.</p>		
<p>2. A practical model for PV electrification of schools in non-electrified areas is developed through pilot projects.</p>	<p>0. All level</p> <p>0-0 All sub-group working members for Output 1 participate in monitoring at least twice as a monitoring team member.</p> <p>0-1 Monitoring trainings for the monitoring team members including both technical and environmental/community development staff at REA and MoE&P are provided based on their Objective & Achievement Sheet through OJT.</p> <p>0-2 At least 3 monitoring team members achieve their objectives through trainings. Achievements are confirmed by trainee's self-assessment and evaluation by JEs.</p> <p>0-3 PV electrification, operation and maintenance manual for schools with battery charging business is prepared for C/Ps including user manual and accounting manual.</p> <p>0-4 At least 3 people from school and management committee as well as the operator of charging center are trained to have accurate understanding and to be able to conduct proper O&M of PV facilities including disposal of solar panels, batteries and toxic materials.</p> <p>1. National Level</p> <p>1-1 Collaboration among relevant governmental agencies is started and maintained at national level to support the establishment and dissemination of the model.</p> <p>1-2 Key criteria of the site selection are analyzed and established and sites for Lot 1 and Lot 2 are selected accordingly.</p> <p>2. County/Sub-county Level</p> <p>2-1 Collaboration among C/Ps, County and Sub-county education officers is initiated and maintained to support the establishment, operation and maintenance of the model.</p> <p>3. Local/Institutional Level</p> <p>3-1. The target schools secure the money from battery charging business and other financial source(s) for sufficient maintenance cost such as future purchase of batteries.</p> <p>3-2. Periodical monitoring is carried out by the monitoring team at least 3 times for Lot 1 and twice for Lot 2. Satisfaction for the system is conformed through monitoring.</p> <p>3-3. Awareness raising activities on installed solar PV system at target schools and community are held at least 3 times for each Lot 1 sites and 2 times for Lot 2 sites.</p>	<ul style="list-style-type: none"> • Project reports • Account book • Cash flow statement • Financial reports • O&M reports • Periodical monitoring report prepared by the monitoring team • Questionnaire survey • Objective & Achievement sheets of monitoring team members • PV electrification, operation and maintenance manual for schools • Minutes of the meetings with relevant governmental agencies and County/Sub-county Education officers. 	
<p>3. The Capacity of REA / MoE&P to undertake project using MHP, Biogas and Wind technologies is enhanced.</p>	<p>3-1. Training is conducted for at least 2 C/Ps for each renewable energy technology.</p> <p>3-2. Guidelines are established for each renewable technology (MHP, Biogas and Wind).</p> <p>3-3. Guidelines are utilized by relevant ministries, governmental agencies and County/Sub-county offices.</p> <p>3-4. Seminar and training for technical transfer are conducted for C/Ps based on their Objective & Achievement sheets.</p> <p>3-5. At least 6 C/Ps achieve their objective through training. Achievements are confirmed by trainee's self-assessment and evaluation by JEs.</p> <p>3-6. At least one pre-feasibility study document for future practical model for MHP, Biogas and Wind is prepared.</p>	<ul style="list-style-type: none"> • Prepared Guidelines • Project reports • Objective & Achievement sheets of trainees at REA and MoE&P 	
<p>4. Necessary policy and institutional frameworks for rural electrification using renewable energy are recommended.</p>	<p>4-1. International workshop is held to share the results of the project (e.g. EAC conference).</p> <p>4-2. Technical transfer workshops for C/Ps are held 3 times.</p> <p>4-3. Recommendations for C/P to implement the effective electrification by renewable energy are provided to be reflected on their rural electrification policy.</p>	<ul style="list-style-type: none"> • Project reports • Presentation materials for International workshop. • Rural electrification policy of REA and MoE&P 	

<p>Activities:</p> <p>For Preparation</p> <ol style="list-style-type: none"> Set up a Working Group (WG) consisting of 3 sub-groups for Outputs 1, 2 and 3, with clarified roles and functions of the counterpart personnel. <p>For all Outputs</p> <ol style="list-style-type: none"> A weekly project status report is prepared and shared by both C/Ps and JEs. Monthly project meeting is held by REA. Progress report is prepared by JEs including the progress summary table according to PDM to monitor and report the progress of indicators to achieve outputs. <p>For Output 1 (The health service institution model)</p> <p>1-1 National Level</p> <ol style="list-style-type: none"> 1-1-1 Review policies, studies, surveys and projects related to electrification of health service institutions using Solar PV. 1-1-2 Organize a progress and information sharing meetings with REA, MoE&P, and MoH at least twice to discuss on model establishment and dissemination at national level. 1-1-3 Prepare policy recommendations with institutional framework to promote the health institution model(s). 1-1-4 Prepare a proposal for the disposal of solar panels, batteries and toxic materials according to the current conditions and regulations. <p>1-2 County/Sub-county Level</p> <ol style="list-style-type: none"> 1-2-1 Account book and cash flow statement are submitted to County Medical Officer(s) of the project sites at least twice for Lot 1 and once for Lot 2. 1-2-2 O&M reports are submitted to County Medical Officer(s) twice for Lot1 and once for Lot 2. 1-2-3 Organize a progress and information sharing meetings with REA, MoE&P (monitoring team members), and County and Sub-county medical officers at least twice to discuss on model establishment and dissemination at County/Sub-county level. 1-2-4 Conduct the baseline survey at the target facilities and surrounding communities 1-2-5 Conduct capacity & needs assessment of County/Sub-county medical officers in terms of renewable energy utilization and dissemination. <p>1-3 Local/Institutional Level</p> <ol style="list-style-type: none"> 1-3-1 Conduct capacity & needs assessment of target communities and other stakeholders. 1-3-2 Sustainable financial plan is prepared. 1-3-3 Sufficient financial trainings for the operator of charging center, staff of health institution, and members of management committee are provided through lectures and OJT. 1-3-4 The operator of the charging center accurately records daily sale. 1-3-5 Assigned nurse, a treasurer and a chairperson of the management committee accurately records an account book and cash flow statement. 1-3-6 Assigned nurse and a chairperson of the management committee prepare O&M reports. 1-3-7 Identify and manage to obtain agreement with the agencies and/or organization to provide financial support to sustain the model according to the income by battery charging system. 1-3-8 Prepare detailed plans of the pilot projects including "System design" and "Sustainable O&M" with staff of REA and MoE&P through OJT. 1-3-9 Organize a stakeholder meeting with the members of management committee and owners of facility to discuss on operation and maintenance at least once for each pilot facility. 1-3-10 Organize an information sharing meeting with users of pilot facility and County/Sub-county medical officer(s) at least once for each pilot facility. 1-3-11 Organize an evaluation meeting with the members of management committee and owners and users of facility, County and Sub-county medical officers at the end of the project period at least once for each pilot facility. <p>For Output 2 (School model)</p> <p>2-1 National Level</p> <ol style="list-style-type: none"> 2-1-1 Review policies, studies, surveys and projects related to electrification of schools using Solar PV. 2-1-2 Organize a progress and information sharing meetings with REA, MoE&P, and MoEST at least twice to discuss on model establishment and dissemination at national level. 2-1-3 Prepare policy recommendations with institutional framework to promote the school model(s). 2-1-4 Prepare a proposal for the disposal of solar panels, batteries and toxic materials according to the current conditions and regulations. <p>2-2 County/Sub-county Level</p> <ol style="list-style-type: none"> 2-2-1 Account book and cash flow statement are submitted to County Education Officer(s) of the project sites at least twice for Lot 1 and once for Lot 2. 2-2-2 O&M reports are submitted to County Education Officer(s) twice for Lot1 and once for Lot 2. 2-2-3 Organize a progress and information sharing meetings with REA, MoE&P (monitoring team members), and County and Sub-county education officers at least twice to discuss on model establishment and dissemination at County/Sub-county level. 2-2-4 Conduct the baseline survey at the target facilities and surrounding communities 2-2-5 Conduct capacity & needs assessment of County/Sub-county education officers in terms of renewable energy utilization. <p>2-3 Local/Institutional Level</p> <ol style="list-style-type: none"> 2-3-1 Conduct capacity & needs assessment of target communities and stakeholders. 2-3-2 Sustainable financial plan is prepared. 2-3-3 Sufficient financial trainings for the operator of charging center, staff of school, and members of management committee are provided. 2-3-4 The operator of the charging center accurately records daily sale. 2-3-5 Head teacher, a treasurer and a chairperson of the management committee accurately record an 	<p>Inputs (Means and Cost)</p> <p>Japanese Side</p> <p>A. Dispatch of Experts < Short-term Experts></p> <ul style="list-style-type: none"> Team leader / Wind power generation Sub leader / Rural electrification / Micro-hydro power Photovoltaic power generation Biomass/gas power generation Financial management Community Development and Monitoring Procurement and supervision of pilot projects Environmental and Social Considerations <p>B. Training of Kenyan personnel (in Japan, in the third country)</p> <ul style="list-style-type: none"> Counterpart Training, and/or Group Training Course for Rural Electrification by Renewable Energy <p>C. Provision of Equipment.</p> <ul style="list-style-type: none"> Equipment for pilot projects of health service institutions Equipment for pilot projects of schools <p>Other equipment will be specified depending on the requirement for effective implementation of the Project.</p> <p>D. Local Cost (Seminars, meetings, trainings, local and international consultants, etc.)</p> <p>Kenyan Side:</p> <p>A. Assignment of counterpart personnel</p> <p>B. Provision of office space and facilities at REA (office for JICA experts and Working group members.)</p> <p>C. Allocation of counterpart budget</p>	<p>MoE&P and REA continue to be responsible for rural electrification in Kenya.</p> <p>Related ministries (MoH, MoEST), agencies and county governments take part in the Project actively.</p> <p>Target communities, institutions, and private sectors agree the Project Purpose and take part in the Project actively.</p> <p>Security is maintained</p> <p>Pre-conditions</p> <p>Related ministries (MoH, MoEST), agencies and county governments agree the Project Purpose and accept their roles in the Project implementation.</p> <p>Counterpart, budget, office space and facilities necessary for the Project are allocated</p>
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<p>account book and cash flow statement.</p> <p>2-3-6 Head teacher and a chairperson of the management committee prepare O&M reports.</p> <p>2-3-7 Identify and manage to obtain agreement with the agencies and/or organization to provide financial support to sustain the model according to the income by battery charging system.</p> <p>2-3-8 Prepare detailed plans of the pilot projects including “System design” and “Sustainable O&M” with staff of REA and MoE&P through OJT.</p> <p>2-3-9 Organize a stakeholder meeting with the members of management committee and owners of facility to discuss on operation and maintenance at least once for each pilot facility.</p> <p>2-3-10 Organize an information sharing meeting for the users of the pilot facility and County and Sub-county education officer(s) at least once for each pilot facility.</p> <p>2-3-11 Organize an evaluation meeting with the members of management committee and owners and users of facility, County and Sub-county education officers at the end of the project period at least once for each pilot facility.</p> <p><u>For Output 3 (MHP, Biogas and Wind)</u></p> <p>3-1. Conduct inventory and review of existing studies on MHP, Biogas and Wind.</p> <p>3-2. Prepare guidelines for rural electrification using renewable energy (MHP, Biogas, Wind) according to the contents of the technical trainings in terms of planning, design, procurement, monitoring and maintenance.</p> <p>3-3. Conduct technical training for REA / MoE&P staff on MHP, Biogas and Wind.</p> <p>3-4. Carry out simple pre-feasibility study focusing on technical examination for MHP, Biogas and Wind.</p> <p>3-5. Prepare technical recommendation for rural electrification using MHP, Biogas and Wind.</p> <p>3-6. Collect necessary data and equipment for technical trainings and development of the guidelines.</p> <p>3-7. Hold workshops for stake holders to validate guidelines on MHP, Biogas and Wind.</p> <p><u>For Output 4 (Policy recommendations)</u></p> <p>4-1 Implement and monitor the preparation activities of policy recommendations of Output 1,2 and 3.</p> <p>4-2 Organize workshop(s) on rural electrification models using renewable energy and/or present the results of the project by C/Ps at the domestic or international conference for information sharing with other stakeholders and donors in the energy sector of Kenya and East Africa.</p> <p>4-3 Compile policy recommendations.</p> <p>4-4 Initiate and strengthen the concept of Academic-Private Sector Platform in collaboration with JICA Experts of “the Project for Capacity Development for Promoting Rural Electrification Using Renewable Energy.”</p>		
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Project Work Flow



Note: Number in the mark of <> shows the number of activities in PDM, and <N.S.> means "Not Specified".

 **NIPPON KOEI CO.,LTD.**

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**The Project for
Establishment of Rural Electrification Model using Renewable Energy in Kenya**

To: Eng. Kamweru
Chief Manager
Renewable Energy Department
Rural Electrification Authority
The Chancery 6th Floor, Valley Road, Nairobi, Kenya

Your ref. -

Our ref. **LARE-15-013**

Date: 19th February, 2015

TITLE: HANDOVER OF EQUIPMENT

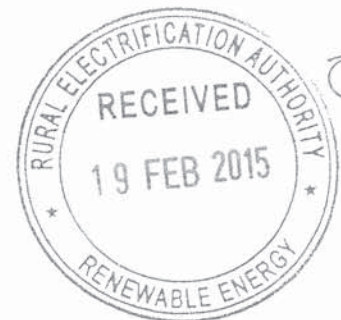
Dear Sir,

We hereby hand over the equipment for office and monitoring purchased under the captioned Project to Rural Electrification Authority (REA) at the end of the captioned Project.
The list of the equipment is as in the Attachment.
You are kindly requested to keep and utilize the equipment under your due management

Yours Faithfully



Tsutomu DEI
Project Leader, JICA Expert Team
The Project for Establishment of Rural Electrification Model
Using Renewable Energy



Attachment: List of Equipment handed over from JICA Expert Team to REA

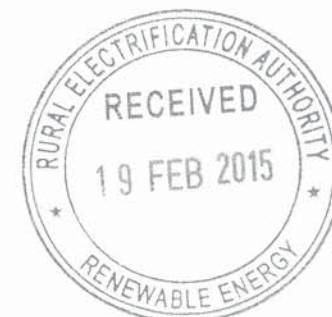
Cc:
(1) NK Tokyo (2) JICA HQ, (3) JICA Kenya Office
File to: Project Office

Project for Establishment of Rural Electrification Model Using Renewable Energy

Attachment to the Letter Reference No. LARE-15-013

List of Equipment handed over from JICA Expert Team to REA

Item	Nos. of	Model	Serial No.	Cost in KSh.	Cost in JPY	Date of Purchase
Desktop Computers (computers with anti-virus software)	3	HP	TRF1360026 TRF136001G	342,000		29th May 2012
Photocopy Machine (with A3/A4 laser printing and scanner function)	1	S/NFAJ11641 (2020L)	FAJ11641	380,000		30th May 2012
Auto CAD	1	LT 2013	-	95,000		31st May 2012
Projector	1	Epson ES01 2600 Lume	-	56,000		29th May 2012
UPS	3	1500KVA Mercury Smart	110514M1500N00112/ 110514M1500N00696/ 110514M1500N00685	42,000		29th May 2012
GPS	1	Garmin eTrex30	2DV214946		29,907	5th June 2014
Satellite Phones	2	Thuraya XT	IMEI35697802-208171-2 IMEI35697802-208741-2	255,351		24th March 2014
Refractometer (for density measurement)	2	RHA-200ATC	-		13,889	28th June 2014
Refractometer (for density measurement,	2	B-012	-		9,574	29th Sep 2014
Current Meter	1	UC-200V	2329		427,464	27th June 2014
AC/DC Digital Clamp meter	2	KEW MATE 2012R	0348509 0343189		27,709	20th June 2014
pH Meter	1	M610T	19248		5890	19th May 2014
ORP Meter	1	RM-30P	745895		58,500	27th June 2014
Methane Gas Detector	1	XP-3140	14007419		158,400	5th June 2014
Laser Distance Meter	1	GLM 80	402465369		19,395	19th May 2014



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