

## Final Workshop “Rural Electrification Decentralized Energy Options (REDEO)

Asian Institute of Technology, Thailand

30 June 2005 – 1 July 2005

### Feedback from participants: A Summary

1. *What did you learn from the REDEO workshop? How useful was the workshop for you?*  
The objective of REDEO Project is clear, and REDEO tool is useful and important for rural electrification planning process.

2. *How was the workshop arrangements regarding:*

(a) <i>Accommodation:</i>	Excellent (1)	Very good (3)	Good (11)	OK (1)	Poor (0)
(b) <i>Catering:</i>	Excellent (4)	Very good (3)	Good (6)	OK (2)	Poor (0)
(c) <i>Conference room:</i>	Excellent (1)	Very good (2)	Good (11)	OK (1)	Poor (0)
(d) <i>Audio – Visual:</i>	Excellent (1)	Very good (2)	Good (11)	OK (1)	Poor (0)

3. *What do you think about the quality of the workshop presentation and workshop materials?*

Very good (7)      Good (7)      OK (1)      Poor (0)

4. *Does your organization need research and/or training in the field of rural electrification or any other discipline related to energy? If yes, suggest title of research and/or training, expected duration and the possible sponsor.*

Almost participants stated that they need training in each of countries in the field of rural electrification and GIS application. The suggestions title of research/or training, expected duration and possible sponsor is in below table.

Title of research and/or training	Expected duration	Possible sponsor	Country
Power Development Plan and Rural Electrification Planning	21days	EU – (ACE)	Cambodia
REDEO Model Application for Rural Electrification	15days	EU – (ACE)	Cambodia
Solar Home System Design, Operation Maintenance	2weeks	WB, ADB and others	Cambodia
Power System Planning and Development		EAEF	Cambodia
Northern Provinces Rural Electrification Planning	6months	EAEF or EU	Laos
Rural Electrification Planning		EAEF or EU	Laos
Technologies for implementing Renewable Energy for Rural Electrification	30days	UNDP	Laos
Rural Electrification Planning by using REDEO tool	45days	ACE, EC, UNDP	Laos
Advantage training course of REDEO Model	3 – 6 days		Vietnam

Title of research and/or training	Expected duration	Possible sponsor	Country
GIS	15days	IED/International donors	Indonesia
Forecasting and Economic Analysis	3days		Indonesia
Developing Rural Electrification in Indonesia	24days	WB	Indonesia

4. *In your opinion, do you think that REDEO model will contribute significantly in the planning process of grid/off-grid rural electrification program in your country?*

Participants stated that REDEO model will contribute in planning process by the planners in each of countries. The participants agree that REDEO tool's specifications can be enough to choose/evaluate the right energy system for rural electrification.

5. *Can REDEO model be a part of rural electrification planning process in your country?*

Participants appear to be very interested in REDEO model since they recognize its applications in detail for rural electrification process.

6. *Is there any barrier for its adoption? If Yes, what are the main barriers?*

Participants stated that main barriers are budget (Manifold is not free), knowledge in GIS application (Manifold is new software), and data availability as well (e.g. localities survey, budget for data development).

7. *What modifications/additions do you think is necessary in the REDEO model to suit the specific requirements of your country's rural electrification planning process?*

- Participants suggested that other renewable energy resources (e.g. wind, geothermal, solar etc.) needed to be added in REDEO model. Least cost optimization process is needed to be developed.
- Inclusion of load factor also was mentioned by participants. On the other hand, participants also were interested in additional load-flow module into REDEO model.
- Participants also suggested that daily load curves needed to be considered in the analysis. The participants suggested including financial indicators in the REDEO tool.

8. *Do you think REDEO model is complicated to be used in the real application for rural electrification planning process in your country? If Yes, please elaborate.*

Most of participants stated that it will not be difficult to use REDEO as the manual is available. However, a user manual should explain in more detail. In the case where GIS application concepts are not yet familiar, then one needs training on this before running REDEO.

9. *REDEO model requires application of GIS techniques. Is GIS mapping data of rural areas in your country available?*

Most of participants confirmed that there are GIS maps available in each of countries for study. However, the data inputs are needed to be developed to respond the requirements of REDEO model and the format by Manifold software as well.

*10. In your opinion, can other developing countries in ASEAN region benefit from the use of this model for rural electrification planning? If Yes, what countries.*

Participants stated that other developing countries in ASEAN region (e.g. Indonesia, Malaysia, Myanmar, Philippines) could benefit from REDEO model in the field of rural electrification.

*11. What are the other models/applications that you use in the rural electrification planning process in your country?*

There are no specific models used for rural electrification in Cambodia, Laos, and Vietnam. In Philippines, the planners have applied Markal, LEAP. In Indonesia, planners have used DKL model for demand forecasting only.

*12. Overall, how do you rate the REDEO model for rural electrification planning process in your country?*

Very useful (7)      Useful (7)      Not useful ()      Don't know ()      Not applicable ()

*13. What contribution can your organization/government make for the successful implementation of REDEO model for rural electrification planning?*

- Data sources
- Human resources