

# **Project at a Glance**

ACTIVITY NAME: Lao PDR - Background analysis and design of health impact RBF mechanism for Clean Stove Initiative

COUNTRY: Lao People's Democratic Republic

WORLD BANK PROJECT ID: P130355

| Activity Details                       |  |                          |  |  |  |
|--|--|--------------------------|--|--|--|
| Region:                                | East Asia and Pacific  | Project ID:              | P130355  |  |  |
| Country(s):                            | Lao People's Democratic Republic   | Product Line:            | Technical Assistance (TA) (non-lending)  |  |  |
| Responsible Unit(s):                   | EASTS  | Activity Approval Date:  | 11/24/2013   |  |  |
| Status:                                | Active   | Task Team Leader:        | Yabei Zhang  |  |  |
| ESMAP Reviewer:                        | Nicolina Angelou   | Fiscal Year of Approval: | 2014   |  |  |
| Sector:                                | General Energy, Other Renewable Energy , Other Sector  | Theme:                   | Climate Change, Environment and natural resources management , Gender, Rural Services and Infrastructure |  |  |
| Program:                               | Results-Based Funding Approaches Sub-program:  |                          |  |  |  |
| Relevance of Social/Gender<br>Aspects: | High  High: Social/Gender aspects are highly relevant and should be incorporated at the PCN stage  Medium: There is scope to consider social/gender aspects and the PCN should address them  Low: Minimal opportunity to incorporate specific social/gender aspects  |                          |  |  |  |
| Activity Description:                  | Key components of the proposed activity are outlined below.  (1) Field trials of sample households with selected improved high efficiency wood burning cookstoves (ICS). The activity will involve two-week trials at households, in order to identify clean efficient cooking technologies that are compatible with the Lao cooking culture and cuisine and to estimate the health benefits in terms of averted DALYs of full adoption of these technologies compared to the baseline of open fire cooking. ICS will be selected based on field observations of cooking practices in the target regions in Lao PDR. ICS will include imported rocket stoves, forced draft "gasifier" stoves that provide secondary combustion of volatiles in smoke, as well as locally made low cost clay ICS. The key outcome from this component is selection of a short list of consumer preferred stoves based on consumer's willingness to switch all or almost all of their cooking to the ICS provided;  (2) Household air pollution assessment in the baseline of open-fire cooking and for the preferred ICS interventions for households in the target populations for short listed ICS to assess the burden of disease associated with biomass smoke levels experienced with and without the intervention. Household level monitoring will account for PM2.5 and CO levels. Particular attention will be focused on the fraction of time the preferred ICS is utilized as a proportion of total cooking time. In parallel, household fuel expenditures and the weight of fuels used per day on average will be documented in the baseline and for successful cookstove interventions in order to estimate the direct economic benefits through reduction in fuel purchases for households that buy firewood. In addition, fuel savings will be translated into CO2 emissions reductions and estimates made of the reduction in Short-Lived Climate Pollutants (SLCPs) from the use of new cookstove technologies;  (3) Assessment of the attributable health burden and averted burden for each ICS intervention and the cost-eff |                          |  |  |  |

- (3) Assessment of the attributable health burden and averted burden for each ICS intervention and the cost-effectiveness of the intervention taking into account capital and maintenance costs. The burden of disease will be assessed as the relative risk for each disease using proxies from the Global Burden of Disease Study, or local data if available, and the population attributable fractions for each disease at each exposure level associated with each ICS. The analysis will use a pioneering Household Air Pollution Intervention Tool (HAPIT) developed by the Household Energy, Climate, and Health Research Group at the University of Berkeley, California. Willingness to pay for the preferred ICS will have been assessed in components (1) and (2) when households are asked to return or purchase the ICS concerned. These data will provide a proxy of the capital cost of the intervention;
- (4) Assessment of the cost effectiveness of the ICS interventions in reducing the burden of disease expressed as cost of DALYs saved or averted, comparative analysis of known cost of reducing burden of disease in Lao PDR by other interventions for other common diseases, and if cost-effective; and
- (5) Preparation of a draft plan for presenting bilateral donors and other potential financiers of health improvements with a proposal for results based financing on the basis of delivered averted DALYs from large scale ICS interventions. Issuance and monetization of averted DALYs will be based on third party verification of Certified Emissions Reductions (CERs) from preferred ICS interventions where indices of averted DALYs per CER for specific preferred ICS interventions have been validated. Based on the results of the above tasks 1-4, detailed health impact result based financing mechanism will be prepared, which will also incorporate international experience in clean cookstove promotion and various types of RBF mechanisms, as well as in the early experiences gained from Nigeria, Malawi and Zambia, which have been implemented the similar studies to explore the potential of health impact results based financing mechanism will be presented within and outside the Bank. At the same time, these studies and findings will be formally published in a main report, brief note and academic journals.

#### Outputs

| Output Name  | Category    | Туре                              | Output<br>Target<br>Group | Delivered |
|--|-------------|-----------------------------------|---------------------------|-----------|
| 1. Design of Health Impact Result Based Financing Mechanism and Final Reports including academic journal publictions                             | Planned     | Implementation<br>Advisory Report | Government<br>LAO         | No        |
| Output Details: Design of Health Impact Result Base Financing Metchanism, a draft plan for presenting potential financiers, final reports (e.g., | a main repo | ort, brief note and a             | cademic journal           | s).       |

| 2. Health Impact Study Report | Planned | Implementation  | Government | No | 7 |
|-------------------------------|---------|-----------------|------------|----|---|
|                               |         | Advisory Report | LAO        |    |   |

Output Details: Health Impact Study Report

| 3. Social Acceptabiliy Study Report | Planned | Implementation<br>Advisory Report | Government<br>LAO | No |
|-------------------------------------|---------|-----------------------------------|-------------------|----|
|                                     | ll .    | Advisory Report                   | 150               |    |

Output Details:
Field trials of sample households with selected improved high efficiency wood burning cookstoves (ICS). The activity will involve two-week trials at households, in order to identify clean efficient cooking technologies that are compatible with the Lao cooking culture and cuisine and to estimate the health benefits in terms of averted DALYs of full adoption of these technologies compared to the baseline of open fire cooking

# Outcomes

| Outcome Name                         | Indicator(s)                                | Amount<br>Financing<br>Informed | Category | Baseline Value                 | Baseline<br>Value Date | Target Value   | Target<br>Value Date | Date<br>Measured |
|--------------------------------------|---|---------------------------------|----------|--------------------------------|------------------------|--|----------------------|------------------|
| 1. Development<br>Financing Informed | Mobilization of non-Bank resources informed | 1                               | Planned  | No funds<br>mobilized/informed | 11/24/13               | Mobilization of non-Bank resources in support of a result based financing scheme to promote efficient and clean cookstoves | 12/31/16             |                  |

Outcome Details: Development Finance Informed

# Financial Data

|           |            | Current Fiscal Year |              |  |
|-----------|------------|---------------------|--------------|--|
| ProjectID | Allocation | Total Disbursements | Committments |  |
| P130355   | 62,000.00  | 38,242.15           | 0.00         |  |

# Impl. Progress

| Last Updated By: Miki Endo | <b>Date:</b> 07/01/15 | Rating: On Track |
|----------------------------|-----------------------|------------------|
| Last Updated By: Miki Endo | <b>Date:</b> 02/10/15 | Rating: On Track |

# Dissemination Notes

| Last Updated By: Nicholas Andrew Keyes | <b>Date:</b> 07/09/14 | Rating: D - Country Level Dissemination |
|--|-----------------------|---|
|  |                       |   |