



**CLEAN DEVELOPMENT MECHANISM
SMALL-SCALE PROGRAMME OF ACTIVITIES DESIGN DOCUMENT FORM
(CDM-SSC-PoA-DD) Version 01**

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NOTE:

- (i) This form is for the submission of a CDM PoA whose CPAs apply a small scale approved methodology.
- (ii) At the time of requesting registration this form must be accompanied by a CDM-SSC-CPA-DD form that has been specified for the proposed PoA, as well as by one completed CDM-SSC-CPA-DD (using a real case).



SECTION A. General description of small-scale programme of activities (PoA)

A.1 Title of the small-scale programme of activities (PoA):

Sichuan Province Rural Efficient Biomass Cooking Stoves Programme Project
Version 5.1
Data: 18/12/2012

A.2. Description of the small-scale programme of activities (PoA):

General operating and implementing framework of PoA

The purpose of this small scale Programme of Activities (SSC-PoA) is the dissemination of efficient cooking systems in Sichuan Province, China. The Programme will install new efficient cooking stoves or retrofit the traditional cooking stoves to reduce the annual consumption of biomass.

The new cooking stoves in the project are defined as all the biomass cooking stoves whose efficiency is more than traditional stoves ("three stone" cooking stoves, or a conventional system with no improved combustion air supply of flue gas ventilation). The new cooking stoves installed under this PoA are more efficient in transferring heat from the fuel to the pot than the so called traditional stoves. The gap of traditional stoves between the raised upper ends and the pot works as a flue gas exit and is generally too large, thereby reducing the heat transfer into the cooking pot. On the other hand, the fire of traditional stoves is not able to be concentrated on pots. As a result, traditional stoves are extremely inefficient in transferring heat from fuel to the cooking pot, demanding the use of high quantities of fuel for cooking. The efficient cooking stoves have been designed to increase heat transfer, while also matching the traditional utensils and cooking habits with the people in Sichuan Province.

Retrofitting the traditional cooking stoves in the project is to replace the core of traditional cooking stove made of bricks and mud to improve the efficiency of traditional stoves. So the biomass consumption of stoves retrofitted will be reduced.

The combustion of the non-renewable fraction of woody biomass of the cooking fuel generates a variety of gases including Carbon Dioxide (CO₂), one of the Greenhouse Gases (GHG) covered under the Kyoto Protocol (KP).

The proposed programme project improves heat transfer, hence reducing the total amount of fuel required for cooking and reducing the amount of GHG emitted into the atmosphere. Emission Reductions are calculated following the methodology AMS.II.G Version 04 on the basis of the mass of non-renewable woody biomass saved by the project.

The PoA will be managed, implemented, operated and monitored by Sichuan Wuhai Environmental Protection & Bioengineering Co., Ltd. (Wuhai Company). Wuhai Company will take care of all CDM related tasks. This includes the writing of all related documents, quantitative calculation of emission reductions, and the management of CDM related procedures like validation, registration and verification.

The technical implementation of the stoves, as well as all necessary surveys and monitoring will be undertaken by Sichuan Rural Energy Office (SREO) and their subsidiaries, the city, county and village level of Rural Energy Offices. After the CER revenue has been provided by the CME, SREO also ensure the distribution of the revenues to the individual households.

SREO as the operator as well as owner of each CPA, contracting with CME to authorize CME to develop



the PoA, will accept the training about CDM from CME, organize the target households to participated in the PoA and distribute CER revenues to the households.

Policy/measure or stated goal of the PoA

During the course of the next 28 years, the goal of the PoA is to install the efficient cooking stoves or retrofit traditional stoves in rural households of Sichuan Province. The project will have multiple benefits of reducing global greenhouse gas emissions, reducing pressure on forests and woody biomass resources, and also reducing indoor air pollution associated with use of traditional stoves.

Confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity

There are no laws, policies in Sichuan Province mandating the adoption of efficient cooking stoves or retrofitting traditional stoves. This proposed SSC-PoA is a voluntary action by the CME.

Contribution of the proposed PoA to sustainable development

Environmental benefits:

Air quality: Children and mothers will be exposed to fewer air pollutants through reduced emission of not only CO₂, but also carbon monoxide and particulate matter. Air pollution from cooking with biomass is a key risk factor for childhood pneumonia as well as many other respiratory diseases and cancer.

Biodiversity: Biodiversity will be improved as the programme reduces pressure on remaining forest reserves in Sichuan Province.

Social and Economic benefits:

Employment: The programme gives rise to employment opportunities for the implementation of the project and other related jobs in Sichuan Province.

Livelihood of the poor: Reduction in wood consumption implies relief from drudgery and more opportunity for productive activity, arising from less time spent collecting fuel. So the income of local people will be increased for the implementation of the proposed programme project.

Access to energy services: The efficient cooking stoves and traditional stoves retrofitted will be more convenient and shorten the cooking time for the rural households participated in the PoA.

Human and institutional capacity: Human and institutional capacity is raised through business development component of the project. The programme as part of its large-scale promotion and advertising has facilitated capacity development among the employed staff through trainings and workshops.

A.3. Coordinating/managing entity and participants of SSC-POA:

Name of Party Involved (host) indicates a host Party)	Private and/or public entity(ies) project participants (as applicable)	Kindly indicate if the Party involved wishes to be considered as project participant (Yes/No)
P.R. China	Sichuan Wuhai Environmental Protection & Bioengineering Co., Ltd.	Yes

A.4. Technical description of the small-scale programme of activities:

A.4.1. Location of the programme of activities:

A.4.1.1. Host Party(ies):



P.R.China

A.4.1.2. Physical/ Geographical boundary:

The PoA is located within the geographical boundaries of Sichuan Province of China.



Figure1: The geographic boundary of the PoA

A.4.2. Description of a typical small-scale CDM programme activity (CPA):

A typical CPA consists of a group of efficient cooking stoves or traditional stoves retrofitted in the geographical boundary of the proposed SSC-PoA and the total thermal energy savings from one CPA will not exceed 180 GWh per year¹. If the traditional stoves are difficult to retrofitted, for example, “three stone” stoves, they will be replaced by higher efficient stoves. If the traditional stoves have the potentiality to improve the heat efficiency by economical means, for example, replacing the stove core to

¹ According to clarification by the CDM dated 4/11/2008: “The SSC WG agreed to clarify therefore AMS-II.G is applicable to project activities with maximum thermal energy savings of 180 GWh per year.”

http://cdm.unfccc.int/filestorage/A/M/_/AM_CLAR_VIIC5MTUWUR9PRPJL0EXOT3G2CKSFQ/Response%20SSC%20WG%20provided.pdf?t=QWJ8bHV1Z2xsfdAcy6_cQ4myfpxzRoBZsXYp



get the higher efficiency, they will be retrofitted.

The efficient cooking stoves or traditional stoves retrofitted will reduce the consumption of non-renewable biomass from local woodland, thereby reducing GHG emissions. In addition, the project will relieve the labor of collecting biomass and protect wood resources.

A.4.2.1. Technology or measures to be employed by the SSC-CPA:

The PoA will be implemented using the approved methodology AMS. II.G. *Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass*, Version 04, hence falling under Type II project activities: *energy efficiency improvement projects*.

The technologies employed by CPAs are as follows:

- **Efficiency improvement via stove replacement**

High energy efficient cooking stoves will be provided to rural households to replace the traditional stoves. The stove type might be different for by CPA depending on various locations, climates, and traditions demand. High efficient cooking stoves are prefabricated by domestic manufacturers and purchased and distributed by SREO. The biomasses will combust in the efficient cooking stoves without any electricity.

- **Efficiency improvement via stove retrofitted**

The traditional stoves, whose cores can be replaced by a new kind of stove cores to improve the efficiency, will be retrofitted. The new kind of stove cores made by domestic manufacturers will improve the efficiency of cooking stoves by concentrating the fire. Then the energy of biomass is used economically to cook. The distribution and purchase of stove cores will be charged by SREO.

The emission reductions will be achieved via saved consumption of non-renewable biomass in the PoA. Each CPA in the PoA will result in thermal energy savings less than 180GWh/year.

A.4.2.2. Eligibility criteria for inclusion of a SSC-CPA in the PoA:

SSC-CPAs to be included under this SSC-PoA must present the following characteristics:

<i>a</i>	The SSC-CPA shall be located within the geographical boundary set in the PoA (Sichuan Province, China).
<i>b</i>	The SSC-CPA shall be clearly identified through unique identification of biomass fired cook stoves with serial number to avoid double counting of emission reductions. It shall be ensured that the CPA is not registered as another CDM project activity or included in another registered PoA.
<i>c</i>	The SSC-CPA shall involve the installation of high efficient biomass fired cook stove or energy efficiency improvement of existing traditional stoves
<i>d</i>	Start date of the SSC-CPA shall be determined as signed date of biomass fired cook stove purchase contract or stove core purchase contract. CPA start date shall be after the PoA Validation start date.
<i>e</i>	<p>The SSC-CPA shall comply with applicability of the valid version of AMS-II.G: Energy Efficiency Measures in Thermal Applications of Non-renewable Biomass:</p> <ul style="list-style-type: none"> • The SSC-CPA comprises appliances involving the efficiency improvements in the thermal application of non-renewable biomass. • For SSC-CPA, project participants are able to show that non-renewable biomass has been used since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.
<i>f</i>	The SSC-CPA shall meet the requirements pertaining to the valid version of “Guidelines on the Demonstration of Additionality of Small-Scale Project Activities”:



	<ul style="list-style-type: none"> For project activities solely composed of isolated units where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs) and where the size of each unit is no larger than 5% of the small-scale CDM thresholds, project activities are defined as automatically additional. <p>If the size of each biomass fired cook stove is no greater than 5% of thermal energy savings of 180 GWh per year, i.e. 9 GWh per year, the SSC-CPA is considered to be additional automatically.</p>
g	For each SSC-CPA, local stakeholder consultations will be conducted; Environmental impact analysis is carried out at the PoA level.
h	No funding from Annex I parties is provided for the SSC-CPA.
i	Target group of each SSC-CPA will be rural households using traditional cook stoves of low efficiency, and SREO is in charge of direct distribution and installation.
j	Sampling plan of the SSC-CPA shall follow requirements specified in “ <i>Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities</i> ”, “ <i>Guidelines for Sampling and Surveys for CDM Project Activities and Programme of Activities</i> ” and methodology AMS. II.G.
k	The SSC-CPA meets small-scale threshold criteria (thermal energy saving of 180 GWh per year) and remains within those thresholds throughout the crediting period of CPA.
l	<p>Debundling check shall be carried out for the SSC-CPA as per “<i>Guidelines on Assessment of Debundling for SSC Project Activities</i>”:</p> <ul style="list-style-type: none"> <i>If each of the independent measures (biomass fired cook stove) included in the CPA of a PoA is no larger than 1% of the small scale thresholds defined by the methodology AMS II.G, which is 1.8 GWh per year, then that CPA of PoA is exempted from performing de-bundling check.</i>

A.4.3. Description of how the anthropogenic emissions of GHG by sources are reduced by a SSC-CPA below those that would have occurred in the absence of the registered PoA (assessment and demonstration of additionality):

How anthropogenic emissions of GHG are reduced by SSC-CPA registered under the PoA

The prevailing cook-stove technology in the target region of Sichuan Province is the traditional “three-stone stove” or “clay stove”. Most of target rural households of the PoA collect biomass fuel wood, cow dung, crop residues, tree leaves, and grass to cook their meals, using traditional stoves. The substitution of traditional stoves with efficient stoves or clay stoves retrofitted saves up to 50% of fuel. By reducing non-renewable biomass (e.g. fuel wood) consumption, the PoA will reduce anthropogenic GHG emissions. According to the approved methodology AMS II.G, in the absence of the project activity, the baseline scenario would be the use of fossil fuel for the community to meet its energy need. Therefore the emission reductions are calculated based on the annual savings of non-renewable biomass multiplied by an emission factor for fossil fuel mix.

i) The Proposed PoA is a Voluntary Coordinated Action

This proposed SSC-PoA is a voluntary action by the CME in collaboration with Sichuan Rural Energy Office. China has no laws, policies mandating the adoption of efficient cooking stoves or clay stoves retrofitted by households.



ii) If PoA is implementing a voluntary coordinated action, it would not be implemented in the absence of the PoA.

Based on previous experience from other small-scale and governmental initiatives, the CME together with SREO identified the barriers and SREO will be responsible for the implementation of a large-scale efficient cooking systems programme in Sichuan Province.

Although the central and provincial government will afford a big part of the purchasing cost of efficient cooking stoves or retrofitting the local clay stoves, the households don't think it is necessary for them to buy efficient cooking stoves to replace the traditional stoves or retrofit the traditional stoves with new stove cores for it is free for them to get biomass and keep using the existing stoves. Thus, the PoA is a voluntary coordinated action that would not be implemented in the absence of the PoA.

The SSC-CPA is automatically additional, as long as it meets eligibility criteria for the inclusion of PoA in section A 4.2.2 above.

iii) If the PoA is implementing a mandatory policy/regulation, this would/is not enforced;

Not Applicable

iv) If a mandatory policy/regulation is enforced, the PoA will lead to a greater level of enforcement of the existing mandatory policy/regulation.

Not Applicable

A.4.4. Operational, management and monitoring plan for the <u>programme of activities (PoA)</u>:

A.4.4.1. Operational and management plan:
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The operational and management arrangements established by CME for the implementation of the PoA, including:

i) A record keeping system for each CPA under the PoA

Each SSC-CPA will follow the record keeping stipulated in AMS II.G. In summary, the CME will ensure that each installed stove in a CPA will be recorded by setting up a "Stove Database", including information as below:

- Household's Name
- Type of efficient cooking stoves and serial number
- Location of the installation
- Installation date / Start date of use
- Name of the CPA to which the installation is included.

ii) A system/procedure to avoid double accounting e.g. to avoid the case of including a new CPA that has been already registered either as a CDM project activity or as a CPA of another PoA, Prior to include a new SSC-CPA into the proposed PoA, the CME will check "Stove Database" and UNFCCC website to check whether a CDM project activity or CPA of another PoA has already been registered in the same geographic area utilizing cook stoves of same serial number.

iii) The SSC-CPA included in the PoA is not a de-bundled component of another CDM programme activity (CPA) or CDM project activity,

The CME will check each new CPA against the de-bundling rules before the inclusion into the PoA, following "*Guidelines on assessment of debundling for SSC Project Activities*" (EB54 Annex 13):

"If each of the independent subsystems/measures (e.g. biogas digester, solar home system) included in the



CPA of a PoA is no greater than 1% of the small scale thresholds defined by the methodology applied, then that CPA of PoA is exempted from performing de-bundling check and considered as being not a de-bundled component of a large scale activity.”

- iv) The provisions to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA,
Contracts between CPA operator (SERO) and CEM have been signed confirming that operators are aware of and have agreed that their activity is being subscribed to the PoA.

Management system

According to *Standard for Demonstration of Additionality, Development of Eligibility Criteria and Application of Multiple Methodologies for Programme of Activities* (EB 65 Annex 3), the management systems should include the following aspects:

- a) A definition of the roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies
 - b) Records of arrangements for training and capacity development of personnel
 - c) Procedures for technical review of inclusion of CPAs
 - d) A procedure to avoid double counting
 - e) Records and documentation control process for each CPA under the PoA
 - f) Measures for continuous improvements of the PoA Management system.
 - g) Any other relevant elements
- a) A definition of the roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies
- The process of inclusion of CPAs:
- Organization of households
SREO will deal with the applications of households and choose to the applicable households according to their statuses, cooking biomass and tools.
 - Preparation of inclusion
When the number of applicable households is enough to compose a CPA, SREO, directed by CME, will carry out the baseline survey and complete the relevant documents according to the CDM rules. (including the documentary of stakeholder, avoiding double counting and list of households etc)
 - Review criteria for inclusion
CME will review the documents submitted by SREO about CPA against the eligibility criteria in the PoA DD, AMS II.G and CDM rules and provide the modification suggestions. Then SREO will revise the documents and conduct the installation or retrofitting of stoves.
 - Inclusion of CPA
CME will finish CPA-DD according to the documents provided by SREO and propose DOE to check the consistency of CPA. As per the consistency checked by DOE, CME will include the eligible CPA(s) under PoA.
 - Monitoring and report



SREO, under the help of CME, will carry out the monitoring according to the monitoring plan in the corresponding CPA-DD and record the results. CME will finish the monitoring report to be verified by DOE.

- Distribution of CER revenue

SREO will conduct the distribution of CER revenue to households timely, as will be testified by the records of bank.

Review of personnel competencies in the inclusion of CPA will be carried out by two means:

- Writing examination

As per the relevant personnel responsibilities in the inclusion of CPA, the targets, requirements and procedures of each step and basic knowledge about CDM will be answered by each role by writing examination.

- Practice examination

CME will choose some people randomly to examine their competencies by checking their work process on site.

Retraining will be conducted for the fails in the examinations to improve their competencies.

b) Records of arrangements for training and capacity development of personnel

SREO is responsible for ensuring that the sale contract of efficient stoves or record of stoves retrofitted is correct and complete. Train will be given to all employee of SREO on the management system to be put in place as part of the PoA. This will include:

- Details of the data to be recorded in the database
- How to complete and archive hardcopies needed in the validation and verification. (including how to ensure unique identification of each efficient stove through the serial numbers, how to record the location of stoves etc.)
- Monitoring procedures
- Procedures for dealing with a change in serial number, address of the efficient stoves

On completion of training the employee of SREO will be issued with a letter confirming their attendance, including the name, unit and contact details of all attendees, date of attendance and CPA number. All information will be provided to the DOE upon request. This will be used to confirm that training has been completed.

c) Procedures for technical review of inclusion of CPAs

The CME must ensure that all CPAs included under the PoA meet the eligibility criteria outlined in the PoA-DD, and record this information for each installation. All documentation will be kept in an organized and easy to access manner, such as sorting by either date or serial number with a clear division between CPAs.

d) A procedure to avoid double counting

Double counting can occur if (components of) a proposed CPA are already part of a registered CDM project or part of a different PoA. Double counting is avoided by recording the serial number of each efficient stove installed and by registering these numbers in the central database together with the address and contact details of the user. The database will restrict entry of repeated serial numbers and addresses. The location's address or the serial number constitutes the unique identification of the database.

e) Records and documentation control process for each CPA under the PoA



The database provides the backbone of the emission reduction calculation. Therefore the database should be complete and accurate. Any information in the database that is false puts the carbon credits from project at risk.

f) Measures for continuous improvements of the PoA Management system.

CME shall continually improve the effectiveness of the PoA management system through the use of quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review and if the methodology and standard are updated, the PoA management system should be improved too.

g) Any other relevant elements

In the future the CME may consider allowing other potential implementers such as manufacturers, corporations etc to join the PoA. These manufacturers and parties should closely follow the rules, procedures and criteria described in the PoA-DD. This is a complex task and most likely will need support from the CME to comply with these requirements and also develop the necessary background knowledge on the CDM.

A.4.4.2. Monitoring plan:

The “Stove Database” managed by the coordinating entity includes the following data-set that can be directly attributed to each of the CPAs within the PoA, thereby allowing unambiguous determination of the emission reductions attributable to each CPA:

A list of households participating in each CPA - including name, address, date of efficient cooking stove installation or completion of clay stoves retrofitted as well as the serial number;

- Metering data collected from the Project Sample Group households of each CPA relating to the ongoing usage of efficient cooking stoves or clay stoves retrofitted during each monitoring period;
- Data obtained from project double-check for households of each CPA indicating the proportion of projects efficient cooking stoves or clay stoves retrofitted operating during each monitoring period.

PoA record keeping procedures will prevent double counting across CPAs. The data-set corresponding to each CPA will be mutually exclusive of the data-set of another CPA under the PoA.

Project samples for households for each CPA will be unambiguously identified and assigned to a CPA, and the data will be used for the calculation of emission reductions for that CPA only. The list of households that participate in each CPA cannot contain any duplicated entries. This duplication rule applies within each CPA (i.e. a household cannot participate more than once during each CPA), and between CPAs (i.e. households cannot participate in more than one CPA).

Verification of each CPA will occur at the end of each monitoring period. The project database will record the start and end dates of each monitoring period, and record the emission reductions attributable to each monitoring period. Appropriate record keeping procedures will be implemented to ensure that each monitoring period data-set can be transparently attributed to its corresponding CPA, preventing any occurrences of double counting.

The CME will operate a monitoring plan during each verification period. As per AMS-II.G Version 04, monitoring will consist of checking the efficiency, η_{new} , of a representative sample of efficient stoves at least once every two years. The parameter η_{new} will be determined by the water boiling test (WBT) protocol.



As per paragraph 16 of AMS-II.G Version 04, monitoring will also check a representative sample of appliances, parameter P_y , representing the percentage of distributed cook stoves that are still operational. As per paragraph 20 of AMS-II.G Version 04, monitoring will also check a representative sample of appliances, parameter E_y , representing the percentage of baseline old stoves that are continued to be used. The fuel wood consumption of baseline stoves in households shall be excluded from B_{old} .

Parameters determined through a representative sample will perform sampling as specified by the valid version of “Guidelines for Sampling and Surveys for CDM Project Activities and Programme of Activities”, “Guidelines for Sampling and Surveys for CDM Project Activities and Programme of Activities” and methodology AMS. II.G. The sampling plan for P_y , E_y and η_{new} will be performed in respect of a specific CPA or group of CPAs and is the following:

A specific CPA

Sampling Plan

(a) Sampling Design:

- **Objectives and Reliability Requirements:**

The objective is determining the parameter values as follows:

- The mean yearly value of η_{new} inspected annually during the crediting period with a 90/10 confidence /precision.
- The proportion yearly value of P_y inspected annually during the crediting period with a 90/10 confidence /precision.
- The proportion yearly value of E_y inspected annually during the crediting period with a 90/10 confidence /precision.

- **Target Population:**

The target population of the sampling is the total households in a specific CPA.

- **Sampling Method:**

Simple random sampling is selected as the sampling method for the project.

- **Sample Size:**

The sample size of P_y can be calculated by the following formulae:

$$n_{P, sample} \geq \frac{1.645^2 N \times p(1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.645^2 p(1-p)}$$

Where:

$n_{P, sample}$	Minimum sample size of P_y by simple random sampling
N	Total number of households in the specific CPA
p	expected proportion of distributed more efficient stoves that are still in operation
1.645	Represents the 90% confidence required
0.1	Represents the 10% relative precision

The sample size of E_y can be calculated by the following formulae:



$$n_{E, sample} \geq \frac{1.645^2 N \times p(1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.645^2 p(1-p)}$$

Where:

$n_{E, sample}$	Minimum sample size of E_y by simple random sampling
N	Total number of households in the specific CPA
p	expected proportion of old baseline stoves that continue to be used
1.645	Represents the 90% confidence required
0.1	Represents the 10% relative precision

The sample size of η_{new} can be calculated by the following formulae:

$$n_{\eta, sample} \geq \frac{1.645^2 \times NV}{(N-1) \times 0.1^2 \times p^2 + 1.645^2 V}$$

. Where:

$$V = \left(\frac{SD}{mean} \right)^2$$

$n_{\eta, sample}$	Minimum sample size of η_{new} by simple random sampling
N	Total number of households in the specific CPA
$Mean$	Expected mean
SD	Expected standard deviation
1.645	Represents the 90% confidence required
0.1	Represents the 10% relative precision

The sample size will be determined by the largest value among $n_{P, sample}$, $n_{E, sample}$ and $n_{\eta, sample}$.

- **Sampling Frame:**

The households with the number of equal to realistic sample size will be selected by random choice included in a specific CPA. Sampling frame will be kept in hard copy or a computer file, and random numbers will be generated to be used to select samples.

(b) Data:

- **Field Measurements:**

η_{new} , determined using the WBT protocol, will be measured annually and the parameter of interest is not subject to seasonal fluctuations.

P_y and E_y , determined through household visits, will be measured annually and the parameter of interest are not subject to seasonal fluctuations.

- **QA/QC:**

- Training of field personnel will be conducted before sampling survey;
- Notice households to wait home before investigation;
- Considering that the expected response rate from the sampled households is 80%, the sample size is the calculated minimum sample size divided by 80%.



- The measurement data of η_{new} out of the confidence interval will be excluded as outliers. Once an outlier appeared, WBT will be conducted again in the household where the outlier appeared and all the procedures of test will be checked carefully. If the stove has a low efficiency actually, it will not be taken into account as efficient stoves in operation.

- **Analysis:**

The data will be converged and the average value of each parameter will be calculated.

(c) Implementation:

- **Implementation Plan:**

- Sampling targets: Identify the households to be investigated during the surveys;
- Schedule for implementing: arrange the time and routine for surveys;
- Qualifications and experience of personnel: All investigators will be trained prior to the surveys.
- The local rural energy offices with the assistance of experts and CME conduct data collection and the analyses.

A group of CPAs

In a group of CPAs, only one type of stoves will be employed. A single sampling plan covering a group of CPAs is undertaken applying 95/10 confidence/precision for the sample size calculation.

Sampling Plan

(a) Sampling Design:

- **Objectives and Reliability Requirements:**

The objective is determining the parameter values as follows:

- The mean yearly value of η_{new} during the crediting period with a 95/10 confidence /precision.
- The proportion yearly value of P_y during the crediting period with a 95/10 confidence /precision.
- The proportion yearly value of E_y during the crediting period with a 95/10 confidence /precision.

- **Target Population:**

The target population of the sampling are villages in a group of CPAs.

- **Sampling Method:**

Cluster sampling is selected as the sampling method for the project.

- **Sample Size:**

The households are ‘clustered’ or grouped into lots of villages. Instead of going to numerous individual households, we want to go to a number of villages and sample every household within each village.

In order to have some understanding of the proportion of cook stoves still operating and the variation in this proportion between villages, a small preliminary sample will be taken:

Village	Estimated proportion of cook stoves operation in each village
1	p_1
2	p_2



3	p_3
....
n	p_n
Average(\bar{p})	$\bar{p} = \sum_{i=1}^n \frac{p_i}{n}$
Variance SD_B^2	$SD_B^2 = \frac{1}{n-1} \sum_{i=1}^n (p_i - \bar{p})^2$

The sample size of P_y can be calculated by the following formulae:

$$C_{P,cluster} \geq \frac{1.96^2 MV}{(M-1) \times 0.1^2 + 1.96^2 V}$$

Where:

$$V = \frac{SD_B^2}{\bar{p}^2} = \frac{\text{variance between clusters (villages)}}{\text{average proportion}}$$

$C_{P,cluster}$ Number of clusters to be sampled

M Total number of clusters(villages – this must encompass the entire population)

1.96 Represents the 95% confidence required

0.1 Represents the 10% relative precision

In order to have some understanding of the proportion of baseline cook stoves that are continued to be used among villages, a small preliminary sample will be taken:

Village	Estimated proportion of baseline cook stoves in households
1	p_1
2	p_2
3	p_3
....
n	p_n
Average(\bar{p})	$\bar{p} = \sum_{i=1}^n \frac{p_i}{n}$
Variance SD_B^2	$SD_B^2 = \frac{1}{n-1} \sum_{i=1}^n (p_i - \bar{p})^2$

The sample size of E_y can be calculated by the following formulae:

$$C_{E,cluster} \geq \frac{1.96^2 MV}{(M-1) \times 0.1^2 + 1.96^2 V}$$

Where:



$$V = \frac{SD_B^2}{p^2} = \frac{\text{variance between clusters (villages)}}{\text{average proportion}}$$

$C_{E,cluster}$ Number of clusters to be sampled

M Total number of clusters(villages – this must encompass the entire population)

1.96 Represents the 95% confidence required

0.1 Represents the 10% relative precision

The sample size of η_{new} can be calculated by the following formulae:

$$C_{\eta,cluster} \geq \frac{1.96^2 \times MV}{(M-1) \times 0.1^2 + 1.96^2 V}$$

Where:

$$V = \left(\frac{SD}{\text{Cluster mean}} \right)^2$$

$C_{\eta,cluster}$ Number of clusters to be sampled

M Total number of clusters (villages)

SD Standard deviation

1.96 Represents the 95% confidence required

0.1 Represents the 10% relative precision

To perform the calculations we need information about η_{new} at the village level, rather than at the household level. If such information does not already exist, we could possibly collect it in a pilot study. Data will be collected from a pilot study by taking a sample of households in the village and scaling up from the sample to all households

Village	Total efficiency across all households in the village (number of households * mean efficiency per household in a village)
1	y_1
2	y_2
3	y_3
....
n	y_n
Cluster mean(\bar{y})	$\bar{y} = \sum_{i=1}^n \frac{y_i}{n}$
Standard deviation SD	$SD = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (y_i - \bar{y})^2}$

The sample village size will be determined by the largest value among $C_{P,cluster}$, $C_{E,cluster}$ and $C_{\eta,cluster}$.

- Sampling Frame:**



The villages will be selected by random choice included in a group of CPAs. Sampling frame will be kept in hard copy or a computer file, and random numbers will be generated to be used to select samples.

(b) Data:

- **Field Measurements:**

η_{new} , determined using WBT protocol, will be measured annually and the parameter of interest is not subject to seasonal fluctuations.

P_y and E_y , determined through household visits, will be measured annually and the parameter of interest are not subject to seasonal fluctuations.

- **QA/QC:**

- Training of field personnel will be conducted before sampling survey;
- Notice households to wait home before investigation;
- The measurement data of η_{new} out of the confidence interval will be excluded as outliers. Once a outlier appeared, WBT will be conducted again in the household where the outlier appeared and all the procedures of test will be checked carefully. If the stove has a low efficiency actually, it will not been taken into account as efficient stoves in operation.

- **Analysis:**

The data will be converged and the average value of each parameter will be calculated.

(c) Implementation:

- **Implementation Plan:**

- Sampling targets: Identify the villages to be investigated during the surveys;
- Schedule for implementing: arrange the time and routine for surveys;
- Qualifications and experience of personnel: All investigators will be trained prior to the surveys
- The local rural energy offices with the assistance of experts and CME conduct data collection and the analyses.

A.4.5. Public funding of the programme of activities (PoA):

No public funding from Annex 1 countries is provided for the proposed programme of activities (PoA).

SECTION B. Duration of the programme of activities (PoA)

B.1. Starting date of the programme of activities (PoA):

3/4/2012 - This is the starting date of the GSP.

B.2. Length of the programme of activities (PoA):

28 years



SECTION C. Environmental Analysis

C.1. Please indicate the level at which environmental analysis as per requirements of the CDM modalities and procedures is undertaken. Justify the choice of level at which the environmental analysis is undertaken:

Environmental Analysis is done at PoA level
Sichuan Environment Protection Department thinks that the project is exempt from an environmental analysis for its environment benefits at PoA level.

C.2. Documentation on the analysis of the environmental impacts, including transboundary impacts:

Sichuan Environment Protection Department approval shows that this type of project is exempted from an environmental analysis.

C.3. Please state whether in accordance with the host Party laws/regulations, an environmental impact assessment is required for a typical CPA, included in the programme of activities (PoA):

Normally environmental impact assessment shall be conducted for project development as per China regulations. However, because the SSC-CPA involves the distribution of high efficient cooking stoves or traditional stoves' retrofit, it would not cause significant environmental impact. The approval from Sichuan Environment Protection Department was issued on 20/3/2012, which exempts this type of project activity from an environmental impact assessment.

SECTION D. Stakeholders' comments

D.1. Please indicate the level at which local stakeholder comments are invited. Justify the choice:

The stakeholders' comments are evaluated at CPA level.

D.2. Brief description how comments by local stakeholders have been invited and compiled:

N/A

D.3. Summary of the comments received:

N/A

D.4. Report on how due account was taken of any comments received:

N/A

SECTION E. Application of a baseline and monitoring methodology

E.1. Title and reference of the approved SSC baseline and monitoring methodology applied to a SSC-CPA included in the PoA:

AMS-II.G. Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass Version 04, Sectoral Scope 03.



E.2. Justification of the choice of the methodology and why it is applicable to a SSC-CPA:

The methodology AMS II.G Version 04, “*Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass*” is applicable for the project because it fulfills all applicability criteria of this methodology:

Eligibility criteria	Justification
1. This category comprises appliances involving the efficiency improvements in the thermal applications of non-renewable biomass. Examples of these technologies and measures include the introduction of high efficiency biomass fired cook stoves or ovens or dryers and/or improvement of energy efficiency of existing biomass fired cook stoves or ovens or dryers.	The project activity consists of the dissemination of high efficiency biomass fired cooking stoves or clay stoves retrofitted. The project activity will save non-renewable biomass which would otherwise have been consumed by less efficient cooking appliances.
2. Project participants are able to show that non-renewable biomass has been used since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.	The condition that the people participating in the PoA must have been consuming non-renewable biomass since 31 December 1989 is included in eligibility criteria of CPA inclusion.

Limit of the Small-Scale Activity CPA

The threshold limit of the small-scale activity is 180 GWh annual thermal energy savings; no CPA will exceed this limit.

E.3. Description of the sources and gases included in the SSC-CPA boundary

Table 1 below illustrates the GHG emissions sources included in the SSC-CPA under the PoA:

Table 1 Emissions sources included in or excluded from the project boundary

Source		Gas	Included	Justification/Explanation
Baseline	Combustion of non-renewable biomass for cooking and heat	CO ₂	Yes	Major source of emissions
		CH ₄	No	Minor source of emissions and limited data available. Exclusion is conservative assumption.
		N ₂ O	No	Minor source of emissions and limited data available. Exclusion is conservative assumption.
Project activity	Combustion of non-renewable biomass for cooking and heat	CO ₂	Yes	Major source of emissions
		CH ₄	No	Minor source of emissions and limited data available.
		N ₂ O	No	Minor source of emissions and limited data available

The project boundary of each CPA is the physical, geographical area of households using biomass fired cook stoves.

E.4. Description of how the baseline scenario is identified and description of the identified baseline scenario:



As per paragraph 4 of AMS.II.G Version 04, it is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs.

E.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the SSC-CPA being included as registered PoA (assessment and demonstration of additionality of SSC-CPA): >>

E.5.1. Assessment and demonstration of additionality for a typical SSC-CPA:

As per Guidelines on the Demonstration of Additionality of Small-Scale Project Activities, Documentation of barriers is not required for the positive list of technologies and project activity types that are defined as automatically additional for project sizes up to and including the small-scale CDM thresholds (e.g. thermal energy saving of 180 GWh/year). The positive list comprises of:

- (c) Project activities solely composed of isolated units where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs) and where the size of each unit is no larger than 5% of the small-scale CDM thresholds;

The user of efficient stoves in each CPA will be households and each unit of each CPA will be no larger than 5% of the small-scale CDM thresholds.

E.5.2. Key criteria and data for assessing additionality of a SSC-CPA:

As is discussed in E.5.1, the key criterion of additionality is that the user of efficient stoves in each CPA will be households and each unit of each CPA will be no larger than 5% of the small-scale CDM thresholds.

E.6. Estimation of Emission reductions of a CPA:

E.6.1. Explanation of methodological choices, provided in the approved baseline and monitoring methodology applied, selected for a typical SSC-CPA:

A typical CPA under the PoA consists of the distribution of multiple efficient cooking stoves or clay stoves retrofitted units, which by definition are small appliances providing energy efficiency improvements in the thermal applications of non-renewable biomass, in accordance with AMS-II.G, Version 04. In accordance with the methodology, it is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs.

E.6.2. Equations, including fixed parametric values, to be used for calculation of emission reductions of a SSC-CPA:

According to the AMS II.G, the emission reductions per CPA that can be claimed using the following equation:

$$ER_y = B_{y,savings} * f_{NRB,y} * NCV_{biomass} * EF_{projected_fossilfuel} \quad (1)$$



Where:

ER_y	Emission reductions during the year y in tCO ₂ e
$B_{y,savings}$	Quantity of woody biomass that is saved in tonnes
$f_{NRB,y}$	Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass using survey methods or government data or default country specific fraction of non-renewable woody biomass (f_{NRB}) values available on the CDM website.
$NCV_{biomass}$	Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne)
$EF_{project_fossilfuel}$	Emission factor for the substitution of non-renewable woody biomass by similar consumers. Use a value of 81.6 tCO ₂ /TJ ²

Two parameters can be determined at PoA level, including $NCV_{biomass}$ and $EF_{project_fossilfuel}$. Default values from methodology AMS II.G. are used, which are 0.015 TJ/tonne for $NCV_{biomass}$ and 81.6 tCO₂/TJ for $EF_{project_fossilfuel}$.

Parameters $B_{y,savings}$ and $f_{NRB,y}$ shall be determined at CPA level. The estimation approach is provided below:

1) $B_{y,savings}$ is estimated using option 2 of paragraph 6 in AMS-II.G version 04.

Option 2:

$$B_{y,savings} = B_{old} \cdot \left(1 - \frac{\eta_{old}}{\eta_{new}}\right) \quad (2)$$

Where:

B_{old}	Quantity of woody biomass used in the absence of the project activity in tonnes
η_{old}	A default value of 0.10 is used, since the replaced system is a three stone fire, or a conventional system with no improved combustion air supply or flue gas ventilation system, i.e. without a grate or a chimney
η_{new}	Efficiency of the system being deployed as part of the project activity (fraction), as determined using the Water Boiling Test (WBT) protocol. Use weighted average values if more than one type of system is being introduced by the project activity.

B_{old} is determined using option (a) of paragraph 7 in AMS-II.G version 04.

Option (a): Calculated as the product of the number of systems multiplied by the estimated average annual consumption of woody biomass per appliance (tonnes/year). This can be derived from historical data or a survey of local usage. Thus, B_{old} is calculated as below:

² This value represents the emission factor of the substitution fuels likely to be used by similar users, on a weighted average basis. It is assumed that the mix of present and future fuels used would consist of a solid fossil fuel (lowest in the ladder of fuel choices), a liquid fossil fuel (represents a progression over solid fuel in the ladder of fuel use choices) and a gaseous fuel (represents a progression over liquid fuel in the ladder of fuel use choices). Thus a 50% weight is assigned to coal as the alternative solid fossil fuel (96 tCO₂/TJ) and a 25% weight is assigned to both liquid and gaseous fuels (71.5 tCO₂/TJ for Kerosene and 63.0 tCO₂/TJ for Liquefied Petroleum Gas (LPG)).



$$B_{old} = B_{average_use} \times N \times (P_y - E_y) \quad (3)$$

Where:

$B_{average_use}$	Average annual consumption of woody biomass per appliance in absence of the project activity (tonnes/year)
P_y	Proportion of high efficient stoves in operation during year y (determined by monitoring result).
E_y	Proportion of baseline traditional stoves continues to be used in households (determined by monitoring result).
N	Number of efficient stoves employed

$B_{average_use}$ will be derived from historical or a survey of local usage at CPA level.

P_y , E_y will be determined as per the monitoring sample plan in PoA-DD at CPA level.

N shall be determined by the actual installation record at CPA level.

η_{old} is using default value of 0.10 at PoA level according to AMS II.G., since the replaced system is a three stone fire, or a conventional system with no improved combustion air supply or flue gas ventilation system. η_{new} will be determined at CPA level using Water Boiling Test protocol as per the monitoring sample plan in PoA-DD.

2) $f_{NRB,y}$ will be determined at CPA level according to 8 to 12 paragraph of AMS II.G.

Project participants shall determine the shares of renewable and non-renewable woody biomass in B_{old} (the quantity of woody biomass used in the absence of the project activity) the total biomass consumption using nationally approved methods (e.g. surveys or government data if available) and then determine $f_{NRB,y}$ as described below. The following principles shall be taken into account:

Demonstrably renewable woody biomass³ (DRB)

Woody⁴ biomass is “renewable” if one of the following two conditions is satisfied:

- I. The woody biomass is originating from land areas that are forests⁵ where:
 - (a) The land area remains a forest;
 - (b) Sustainable management practices are undertaken on these land areas to ensure, in particular, that the level of carbon stocks on these land areas does not systematically decrease over time (carbon stocks may temporarily decrease due to harvesting); and
 - (c) Any national or regional forestry and nature conservation regulations are complied with.

³ This definition uses elements of annex 18, EB 23.

⁴ In cases of charcoal produced from woody biomass, the demonstration of renewability shall be done for the areas where the woody biomass is sourced.

⁵ The forest definitions as established by the country in accordance with the decisions 11/CP.7 and 19/CP.9 should apply.



- II. The biomass is woody biomass and originates from non-forest areas (e.g. croplands, grasslands) where:
- (a) The land area remains as non-forest or is reverted to forest;
 - (b) Sustainable management practices are undertaken on these land areas to ensure in particular that the level of carbon stocks on these land areas does not systematically decrease over time (carbon stocks may temporarily decrease due to harvesting); and
 - (c) Any national or regional forestry, agriculture and nature conservation regulations are complied with.

For each SSC-CPA, either Option I or Option II will be applied to demonstrate DRB component.

Non-renewable biomass (NRB)

NRB is the quantity of woody biomass used in the absence of the project activity (B_{old}) minus the *DRB* component, as long as at least two of the following supporting indicators are shown to exist:

- A trend showing an increase in time spent or distance travelled for gathering fuel-wood, by users (or fuel-wood suppliers) or alternatively, a trend showing an increase in the distance the fuel-wood is transported to the project area;
- Survey results, national or local statistics, studies, maps or other sources of information, such as remote-sensing data, that show that carbon stocks are depleting in the project area;
- Increasing trends in fuel wood prices indicating a scarcity of fuel-wood;
- Trends in the types of cooking fuel collected by users that indicate a scarcity of woody biomass.

For each SSC-CPA, any two of supporting indicators listed above will be selected to show increasing trend of woody biomass scarcity.

In line with the methodology, the fraction of woody biomass saved by the project activity in year y that can be established as non-renewable is:

$$f_{NRB,y} = \frac{NRB}{NRB + DRB}$$

Project participants shall also provide evidence that the trends identified are not occurring due to the enforcement of local/national regulations.

Leakage Emissions

Leakage related to the non-renewable woody biomass saved by the project is assessed by using option (c) of paragraph 22 in AMS.II.G.

Option (c): B_{old} is multiplied by a net to gross adjustment factor of 0.95 to account for leakages. No further survey is required.

All high efficient stoves or stove cores employed in the PoA are newly produced, which can be shown by the manufacturers. No equipment would be transferred from outside the boundary to the project activity. So leakage emissions associated with equipment transfer are not considered.



E.6.3. Data and parameters that are to be reported in CDM-SSC-CPA-DD form:	
Data / Parameter:	η_{old}
Data unit:	Fraction
Description:	Efficiency of the system being replaced, use 0.10 (i.e. 10%) as default value
Source of data used:	AMS-II. G Version 04
Value applied:	0.1
Justification of the choice of data or description of measurement methods and procedures actually applied :	The default value taken from the methodology AMS-II.G Version 04.
Any comment:	-

Data / Parameter:	NCV_{biomass}
Data unit:	TJ/tonne
Description:	Net calorific value of the non-renewable woody biomass that is substituted.
Source of data used:	AMS-II. G Version 04, page 2
Value applied:	0.015
Justification of the choice of data or description of measurement methods and procedures actually applied :	Default value as prescribed by methodology applied
Any comment:	-

Data / Parameter:	EF_{projected_fossilfuel}
Data unit:	tCO ₂ /TJ
Description:	Emission factor for the substitution of non-renewable biomass by similar consumers
Source of data used:	AMS-II. G Version 04, page 2
Value applied:	81.6
Justification of the choice of data or description of measurement methods and procedures actually applied :	Default value as prescribed by methodology applied
Any comment:	-

Data / Parameter:	LAF
Data unit:	Fraction
Description:	Net to gross Adjustment Factor to account for leakages
Source of data used:	AMS-II. G Version 04
Value applied:	0.95
Justification of the	Default value as prescribed by methodology applied



choice of data or description of measurement methods and procedures actually applied :	
Any comment:	-

E.7. Application of the monitoring methodology and description of the monitoring plan:

E.7.1. Data and parameters to be monitored by each SSC-CPA:

The following parameters shall be monitored:

Data / Parameter:	N
Data unit:	Number
Description:	Number of total high efficient stoves employed in the project activity
Source of data to be used:	Database records
Value of data applied for the purpose of calculating expected emission reductions in section B.5	N/A
Description of measurement methods and procedures to be applied:	The whole distribution of efficient cooking stoves or traditional stoves retrofitted is recorded. In summary, the CPA operator will ensure that each SSC-CPA will maintain appropriate records due to the database documenting the following variables: Date of delivery, Type of efficient cooking stoves and serial number or serial number of clay stoves retrofitted, Recipient's Name, address.
QA/QC procedures to be applied:	The value of N depending on the stoves installed or retrofitted actually, will be measured once during the crediting period. The CME supervises the activities of each local rural energy office, and provides training, guidelines and templates to facilitate accurate testing and record keeping.
Any comment:	-

Data / Parameter:	B_{average use}
Data unit:	Tonnes per year (tonnes/year)
Description:	Annual average biomass consumption per appliance
Source of data to be used:	Historical data or survey
Value of data applied for the purpose of calculating expected emission reductions in section B.5	N/A
Description of measurement methods	If survey method is chosen to determine B _{average use} , the survey will be carry out by qualified third party organizations.



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and procedures to be applied:	
QA/QC procedures to be applied:	$B_{average_use}$ determined will adopt either historical data or results of survey and remain fixed during crediting period.
Any comment:	-

Data / Parameter:	η_{new}
Data unit:	Fraction
Description:	Efficiency of the system deployed as part of the project activity
Source of data to be used:	As determined using the WBT protocol
Value of data applied for the purpose of calculating expected emission reductions in section B.5	The efficiency of the different efficient cooking systems to be distributed or clay stoves retrofitted will be included in each CPA-DD.
Description of measurement methods and procedures to be applied:	WBTs will be carried out for a sample of installed efficient cooking stoves or traditional stoves retrofitted in operation as per the monitoring sample plan in the PoA-DD.
QA/QC procedures to be applied:	η_{new} will be measured annually during the crediting period. The local rural energy offices conduct WBTs with expert assistance.
Any comment:	-

Data / Parameter:	P_v
Data unit:	proportion
Description:	Proportion of high efficient biomass fired cook stoves in operation in year y
Source of data to be used:	Survey method
Value of data applied for the purpose of calculating expected emission reductions in section B.5	Determined by the sample survey
Description of measurement methods and procedures to be applied:	The measurement method is household visit.
QA/QC procedures to be applied:	Measurement shall be conducted annually during the crediting period in accordance with the monitoring sample plan described in the PoA-DD.
Any comment:	-

Data / Parameter:	E_v
Data unit:	proportion
Description:	Proportion of baseline traditional stoves continuing to be used in year y
Source of data to be	Survey method



used:	
Value of data applied for the purpose of calculating expected emission reductions in section B.5	Determined by the sample survey
Description of measurement methods and procedures to be applied:	The measurement method is household visit.
QA/QC procedures to be applied:	Measurement shall be conducted once a year in accordance with the monitoring sample plan in the PoA-DD.
Any comment:	Only the stoves that are continued to be used will be taken into account where the high efficient stoves are in operation at the same time.

Data / Parameter:	$f_{NRB,y}$
Data unit:	Fraction
Description:	The fraction of woody biomass saved by the Project that can be established as non-renewable biomass
Source of data to be used:	survey methods or governmental data
Value of data applied for the purpose of calculating expected emission reductions in section B.5	
Description of measurement methods and procedures to be applied:	The fraction of non-renewable biomass will be determined as per AMS-II.G Version 04.
QA/QC procedures to be applied:	$f_{NRB,y}$ will be measured annually during the crediting period. The governmental data as the preferred option is used. In respect of survey methods, survey reports will be supplied by the qualified third organizations based on survey results, national and local statistics, studies, maps, and so on.
Any comment:	-

E.7.2. Description of the monitoring plan for a SSC-CPA:

1. Each county rural energy office keeps a record of the date and location of each efficient cooking stove installation or clay stove retrofitted for each SSC CPA.
2. Each county rural energy office places a stove serial number with a unique county rural energy office code in the stoves as well as in its records, in addition to a record of the location of the stove.
3. All county rural energy office records are screened by the CME together with cross-checks on the county rural energy office installation records in order to confirm that the installation record is authentic and that no double-counting occurs.



4. Monitoring system

Data collection procedures

(a) Data generation

These ex-post parameters monitored are listed in section E.7.1. The parameters determined by a sampling study will be supplied by local county rural energy offices conducting sample plans. Other parameter will be determined by the history data or report of third qualified organizations.

(b) Data aggregation, recording, calculation and reporting

The electronic data from the local rural energy offices will be collected and structured and forwarded to the CME.

Together with the hard copies that will be collected by the SREO and forwarded to the CME, all data and documents will be archived by the CME. The CME will calculate the emission reduction as per the data collated, finish the monitoring reports and provide reports to the verifying DOE on demand.

All data and documents will be archived by the CME until at least two years after the CPA crediting period is finished.

Organizational structure, roles and responsibilities of personnel

The organizational structure, roles and responsibilities of personnel are shown in Figure 2.

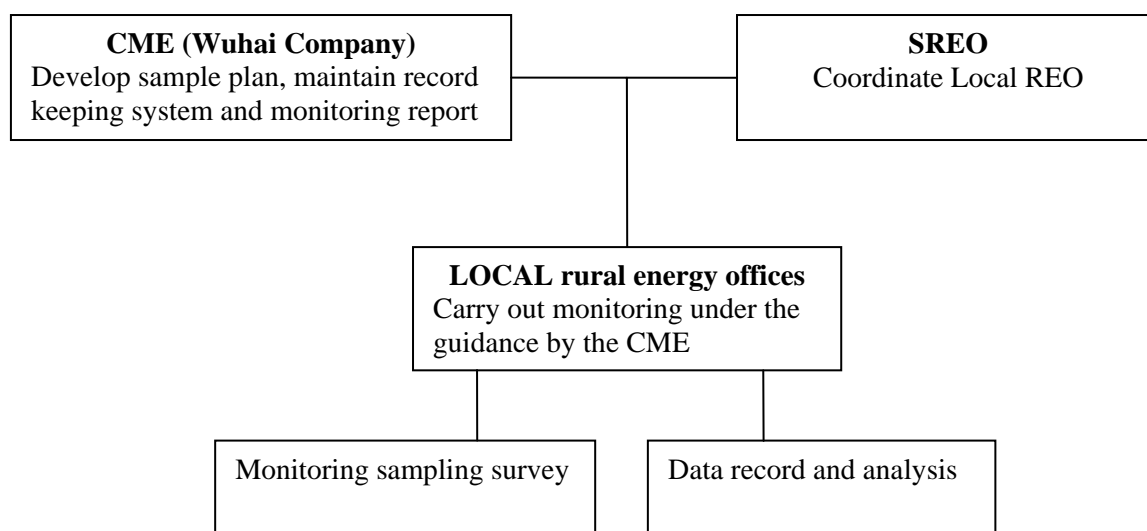


Figure 2 Structure, role and responsibilities for monitoring organization

The Sichuan Rural Energy Office will facilitate the CME to guide local rural energy office for carrying out monitoring of the CPAs. The data will be collected and recorded by local rural energy office and forwarded to the CME to complete record keeping system and based on which the monitoring report for each CPA will be prepared.

Emergency procedures for the monitoring system

If the CME checked correctness and consistency between information on the purchase contracts and the corresponding stove database record, the CME will instruct its team to search for the error source. If the error source could be found, the information was corrected accordingly, if not, the database record was removed from the database and did not count for this monitoring period.



5. QA/QC

Besides the QA/QC procedures described in the sampling plan of PoA-DD, The QA/QC for recording, maintaining and archiving data shall be improved as part of this project activity. This is an on-going process which will be ensured through the management system in terms of the need for verification of the missions on an annual basis according to this CPA-DD and the CDM manual.

E.8 Date of completion of the application of the baseline study and monitoring methodology and the name of the responsible person(s)/entity(ies)

Baseline study and monitoring methodology are completed on 23/11/2012 by:

Mr. Woods Zu
Sichuan Clean Development Mechanism Centre
zdwcdm@126.com



Annex 1

**CONTACT INFORMATION ON COORDINATING/MANAGING ENTITY and
PARTICIPANTS IN THE PROGRAMME of ACTIVITIES**

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Annex 2

INFORMATION REGARDING PUBLIC FUNDING

N.A.



Annex 3

BASELINE INFORMATION

N.A.



Annex 4

MONITORING INFORMATION

N.A.