



## Key Project Information

- 1. Biogas Support Program-Nepal (BSP-Nepal) Activity-1**
- 2. Biogas Support Program-Nepal (BSP-Nepal) Activity-2**
- 3. Biogas Support Program-Nepal Activity-3**
- 4. Biogas Support Program-Nepal Activity-4**

### **1. Description of project activities**

The Biogas Support Program-Nepal (BSP-Nepal) Activity-1, Biogas Support Program-Nepal (BSP-Nepal) Activity-2, Biogas Support Program-Nepal Activity-3 and Biogas Support Program-Nepal (BSP-Nepal) Activity-4 are registered with the UNFCCC CDM executive board as a CER project. The project activities mentioned above are originally registered with the UNFCCC CDM executive board. The Biogas Support Program-Nepal (BSP-Nepal) Activity-1 and Biogas Support Program-Nepal (BSP-Nepal) Activity-2 are registered in CDM on 27/12/2005 and completed their second crediting period successfully. Whereas Biogas Support Program-Nepal Activity-3 and Biogas Support Program-Nepal Activity-4 are registered on 13/12/2011 and both the activities completed their 1<sup>st</sup> crediting period successfully. These projects consist of the dissemination of household biogas digesters in Nepal, managed by Alternative Energy Promotion Center (AEPC). Additionally, the project activities have particular focus on sustainable development benefits. The detail of biogas digesters promoted under these project activities are described below:

#### **Biogas Support Program-Nepal (BSP-Nepal) Activity-1**

The digesters are located in various regions of Nepal. Each digester is uniquely identified through a plant code in the database. The table below summarizes the plants included in the project in terms of their sizes as well as their locations in various ecological regions of the country.

**Table 1: Summary of Plants with Different Sizes and Constructed in Different Ecological Regions**

Project Activity 1 (1 Nov 2003 to 15 June 2004)					
Location	4 m3	6 m3	8 m3	10 m3	Total
Hill	1,284	3,121	106	6	4,517
Remote Hill	19	44	7	-	70
Terai	199	3,807	988	111	5,105
Total	1,502	6,972	1,101	117	9,692

#### **Biogas Support Program-Nepal (BSP-Nepal) Activity-2**

The table below summarizes the plants included in the project in terms of their sizes as well as their locations in various ecological regions of the country.

**Table 2: Summary of Plants with Different Sizes and Constructed in Different Ecological Regions**

Project Activity 2 (16 June 2004 to 06 April 2005)					
Location	4 m <sup>3</sup>	6 m <sup>3</sup>	8 m <sup>3</sup>	10 m <sup>3</sup>	Total
Hill	1,168	2,961	134	9	4,272
Remote Hill	42	41	1		84
Terai	216	4,178	847	91	5,332
Total	1,426	7,180	982	100	9,688

**Biogas Support Program-Nepal Activity-3**

Table 3 provides an overview of the digesters, categorised according to their size and location.

**Table 3: Summary of Plants with Different Sizes and Constructed in Different Ecological Regions**

Project Activity 3 (07/04/2005 to 08/05/2006)					
Location	4 m <sup>3</sup>	6 m <sup>3</sup>	8 m <sup>3</sup>	10 m <sup>3</sup>	Total
Hill	2,184	5,721	205	19	<b>8,129</b>
Remote Hill	74	97	1	0	<b>172</b>
Terai	420	9,442	1,884	207	<b>11,953</b>
Total	2,678	15,260	2,090	226	<b>20,254</b>

**Biogas Support Program-Nepal Activity-4**

The project activity includes 20,318 digesters which were implemented between 9 May 2006 and 21 June 2007. Table 4 provides an overview of the digesters, categorised according to their size and location.

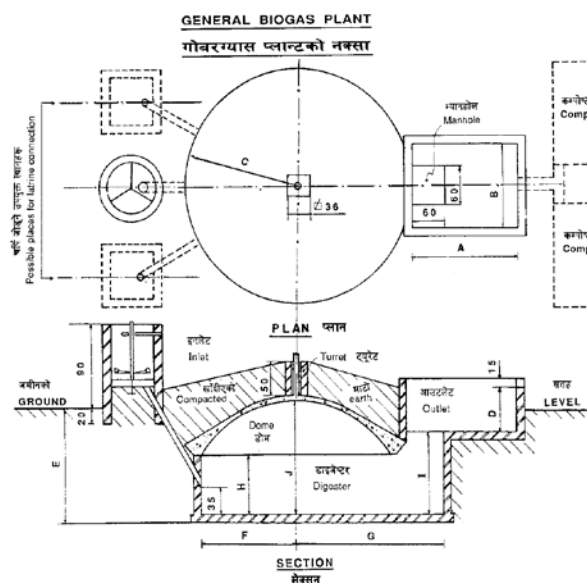
**Table 4: Summary of Plants with Different Sizes and Constructed in Different Ecological Regions**

Project Activity 4 (09/05/2006 to 21/06/2007)					
Location	4 m <sup>3</sup>	6 m <sup>3</sup>	8 m <sup>3</sup>	10 m <sup>3</sup>	Total
Hill	2,408	5,944	177	28	<b>8,557</b>
Remote Hill	16	117	4	0	<b>137</b>
Terai	408	9,604	1,503	109	<b>11,624</b>
Total	2,832	15,665	1,684	137	<b>20,318</b>

These project activities are implemented within the geographical boundary of Nepal. The type of the digesters included received the subsidies as governed by the subsidy policy and subsidy delivery mechanism of the Government of Nepal.

Large number of Nepalese households depends on firewood to fulfill their basic energy requirements related to cooking. Continuous extraction of firewood leads to deforestation and ultimately interferes with the firewood availability in future. This is the reason that 86% of the firewood used for cooking in Nepal comes from the non-renewable sources. Implementation and use of biogas digesters therefore substitutes the non-renewable biomass from the baseline. Digesters generate biogas from cow manure; the gas can be used for cooking just as LPG. On weighted average basis, each biogas digester can prevent around of 3 tons of carbon-dioxide equivalent attributable to the non-renewable biomass to be

emitted in the atmosphere. This reduction of emission can be traded to earn revenue which helps in propagating the digester implementation further.



**Fig: Plan and Section View of Biogas Plant**



**Fig: Biogas Digester in Operation**

## 2. Responsible Parties

### **Alternative Energy Promotion Centre**

Alternative Energy Promotion Centre (AEPC) is Project Developer (PD) for these project activities. AEPC is a government institution to promote renewable energy in Nepal. AEPC provides subsidies to install the biogas plants in households and the biogas plants owners transfer the right on potential emission reduction/emission reduction generated to AEPC.

### **atmosfair gGmbH**

atmosfair is a German not-for-profit company providing voluntary offsets for greenhouse gas emissions e.g. from air travel by CDM Gold Standard projects. AEPC & atmosfair has the contractual agreement for the retroactive registration of the PAs at the moment. atmosfair has been supporting AEPC in retroactive registration under the Gold Standard as a project participant.

## 3. Social, economic and environmental benefits and impacts

The project activities contribute towards the sustainable development on following aspects:

- i. Environmental Benefits:
  - a. Prevents deforestation and forest soil degradation caused by the harvest of firewood.



- b. Prevents the emission of Greenhouse Gases from non-renewable biomass and that attributable to the anaerobic decomposition of the cattle dung that would have been left over for decay.
  - c. The byproduct of the digestion process, bio-slurry, can be used as fertilizer which maintains the soil quality and avoids the possible soil pollution due to use of synthetic fertilizers.
  - d. Improves indoor air quality by avoiding the smoky kitchen environment due to firewood use.
- ii. Social Benefits:
- a. Reduces the drudgery in women caused due to tasks related to firewood collection and utensil cleaning and thereby saves time.
  - b. Improves sanitation by triggering the toilet construction at household level as the toilet can also be used as feeding material for the biogas digesters.
  - c. Improves the technical skills of the masons and other construction workers working in the sector.
- iii. Economic Benefits:
- a. The use of the bio-digesters at households makes the households self-reliant on the energy for cooking and thereby saves the investment for energy sources in long run.
  - b. The jobs created by the sector help in the increased economic activity locally and nationally.
  - c. The bio-slurry produced from the digestion process saves the investment required to source synthetic fertilizers.

This demonstrates that the project activities contributes positively towards sustainable development.

**For more detail information and feedback:**

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