

**Project on Converting Waste Agricultural Biomass into Resource**

a Project supported by:

**United Nations Environment Programme (UNEP)  
Division of Technology, Industries and Economics (DTIE)  
International Environmental Technology Centre (IETC)**

and Executed by:

**Society for Environment and Economic Development Nepal (SEED Nepal)  
in Joint Collaboration with  
Madhyapur Thimi Municipality (MTM)**

**Report of Procurement and Implementation of  
Environmentally Sustainable Technology (EST)**

Prepared By

**Society for Environment and Economic Development Nepal (SEED Nepal)**

**39 Siddharth Marg, Anamnagar  
Ward 32, Kathmandu Metropolitan City  
Nepal**

**Tel: +977 1 4228 555**

**Fax: +977 1 4239 338**

**Email: [seednepal@mos.com.np](mailto:seednepal@mos.com.np)**

**September 2010**

## Table of Content

1. Background .....	1
2. Steps Followed for the Procurement .....	1
2.1 <i>Requesting for Quotation</i> .....	1
2.2 <i>Negotiating with the Supplier</i> .....	1
2.3 <i>Placing of Order and Sending Advance Payments</i> .....	1
2.4 <i>Deciding on the Carrier</i> .....	2
2.5 <i>Custom Duty Rebate</i> .....	2
2.6 <i>Arrival of the Plant</i> .....	2
2.7 <i>Installation</i> .....	2
3. Implementation Steps.....	3
3.1 <i>Interaction on Technology Selection</i> .....	3
3.2 <i>Decision on Plant Location</i> .....	3
3.3 <i>Operator Decision</i> .....	3
3.4 <i>MOU for Operation</i> .....	3
3.5 <i>Preparation of Site for Plant</i> .....	3
3.6 <i>Training of the Operators</i> .....	4
3.7 <i>Inauguration</i> .....	5
4. Conclusion .....	7

## Abbreviation

%	-	Percentage
AEPC	-	Alternate Energy Promotion Center
BSP	-	Biogas Support Program
CWABR	-	Converting Waste Agricultural Biomass into Resource
DTIE	-	Division of Technology, Industry and Economics
ESAP	-	Energy Sector Assistance Programme
EST	-	Environmentally Sustainable Technology
IETC	-	International Environmental Technology Center
kg	-	Kilogram
Kg/day	-	Kilogram per day
LDO	-	Local Development Officer
LPG	-	Liquid Petroleum Gas
MEPL	-	Mailhem Engineers Pvt. Ltd.
MOLD	-	Ministry of Local Development
MT	-	Metric Tonne
MTM	-	Madhyapur Thimi Municipality
SAT	-	Sustainability Assessment of Technologies
SEED Nepal	-	Society for Environment and Economic Development Nepal
SWMRMC	-	Solid Waste Management and Resource Mobilization Center
UNEP	-	United Nations Environment Programme
WAB	-	Waste Agricultural Biomass

## **1. Background**

With the support of United Nations Environment Programme (UNEP), Division of Technology, Industry and Economics (DTIE), International Environmental Technology Centre (IETC), Society for Environment and Economic Development Nepal (SEED Nepal) in collaboration with Madhyapur Thimi Municipality (MTM) is implementing a Project on Converting Waste Agricultural Biomass into Resource (CWABR). A training package was prepared and a two-day training programme was conducted at the initial stage to all the stakeholders. Then survey was carried out for the preparation of Baseline on the Characterization and Quantification of Waste Agricultural Biomass in the MTM and its present Management System. The issues of concern were identified by having consultation workshops among the stakeholders and taking into consideration of these issues, technology for the conversion of Waste Agricultural Biomass (WAB) was explored and Sustainability Assessment of Technology (SAT) was carried out. Portable Biogas Plant was selected and report on the pilot demonstration project was prepared. This report has been prepared for the Procurement and Implementation of the selected Environmentally Sound Technology (EST). This report highlights all the steps taken for the procurement and implementation of the technology.

## **2. Steps Followed for the Procurement**

### ***2.1 Requesting for Quotation***

The request for offer of quotation was done for the preparation of the Technology Selection and Preparation of the report on the pilot project. The offer sent by Mailhem Engineers Pvt. Ltd. (MEPL) was selected as the Environmentally Sustainable Technology (EST) for the case for the demonstration of the converting WAB into resource. The offer sent by MEPL has been included as Annex – 1.

### ***2.2 Negotiating with the Supplier***

After studying the offer quotation, the manufacturing and supplying company was requested to provide some discount so that it is within the budget allocation. It was informed that the Chairperson of Mailhem was visiting Kathmandu in connection with some meeting. Mr. Amar B. Manandhar and Mr. Govinda Tiwari could meet Mr. Suresh Rege in the evening to discuss on the final terms of the offer. A team of two directors namely Mr. Govinda Tiwari and Mr. Durga B. Karanjit visited Pune, India from 26 to 29 May 2010 to observe the operational plants and to negotiate on the price as well as the terms and conditions. After this, SEED Nepal was able to get the final offer with the price of INR 700,000 reduced from original INR 750,000 plus transportation and INR 25,000 for the installation. The capacity of the plant was also increased to 200 kg per day from 150 kg per day.

### ***2.3 Placing of Order and Sending Advance Payments***

After getting the final offer and pro-forma invoice as given in the Annex - 2, a demand draft of INR 350,000 i.e. 50% of the plant cost was prepared from the Bank of SEED Nepal and was sent to Mailhem Engineers Pvt. Ltd. in Pune, India along with the a letter to place the order for the plant as per the terms and conditions of the Offer. After Mailhem confirmed that the manufacturing of the plant is completed and ready for transport from Pune to Kathmandu, SEED Nepal prepared the second demand draft for the second installment of 30% (INR 210,000) payment on 13 August 2010 according to the terms of the offer from Mailhem.

#### **2.4 Deciding on the Carrier**

Dooars Carrier Pvt. Ltd. and Pashupati Transport were explored for the transfer of the plant from Pune to Kathmandu. The terms of transportation were better with Dooars Carrier. However, they quoted INR 120,000/- for the transport with additional amounts for the loading and unloading at the border, unloading charges at Kathmandu, custom duty and clearing charges as per actual. Negotiations were carried out to get some discount and to agree under the terms as given in the authorization letter to Dooars Carrier as given in the Annex – 3.

#### **2.5 Custom Duty Rebate**

The Department of Customs was visited to find out the prevailing custom duty. The meeting with the Director confirmed that the prevailing rate of custom duty is 4 percent. It was also found out that the custom duty can be rebated by approaching the Alternate Energy Promotion Center (AEPC). A recommendation letter from AEPC was needed to get the rebate. SEED Nepal prepared a request letter to AEPC with all the details on the import of the plant. In a few days, the recommendation letter was obtained. With this letter, the custom duty will be charged at 1 percent only and the Value Added Tax is to be waived.

#### **2.6 Arrival of the Plant**

The Plant arrived at the Nepal border on Monday 30<sup>th</sup> August 2010 and in the Kathmandu Valley on the Saturday 4<sup>th</sup> September 2010. Dooars Carrier informed SEED Nepal about the arrival in the Valley on Friday. SEED Nepal informed officials of MTM about it. The whole team of SEED Nepal and MTM was ready to receive the plant in the early morning of Saturday. The photographs of downloading of the plant are given below:



Plant on the truck before unloading



Plant being unloaded

The plant was downloaded at the planned site of the MTM owned premise at Gathghar near to the Nepal Army Barrack.

#### **2.7 Installation**

For the installation of the plant, a team of two personnel namely Environmental Scientist Mr. Vikas Kumar and Operator Mr. Kanhaiya Roy from Mailhem Engineers Pvt. Ltd (MEPL) arrived on 19 September 2010. The installation work was carried out and by 22<sup>nd</sup> September it was completed including the loading of Cow dung and the culture brought from Pune. The feeding of WAB started on 23<sup>rd</sup> September and Mr. Vikash Kumar left on 26<sup>th</sup> immediately

after the theoretical training programme. Mr. Kanhaiya Roy stayed for the operation and for the on-the-job training for the operators of MTM.

### **3. Implementation Steps**

#### **3.1 Interaction on Technology Selection**

A meeting was held at the MTM for discussing the status and location of the technology or the plant to be imported for converting the WAB into resource. The Minutes of meeting at MTM has been attached as Annex – 4. An interaction programme was also held at MTM so that all the officials and staffs were briefed on the technology and operational aspects. It was very important for all the staff of MTM to know about the project and also the plant so that there is ownership.

#### **3.2 Decision on Plant Location**

Before placing order for the plant, SEED Nepal wanted to ensure about the location of the proposed plant and who would operate it. A number of meetings were held. MTM officials discussed among themselves and offered that the plant may be located either in the premises of the MTM office or at the area in front of the Nepal Army Barrack at Gatthaghar. After inspection of the sites, the land area owned by MTM at the Gatthaghar was selected as the site.

#### **3.3 Operator Decision**

Between the partners of the Project, it was discussed on which organization should be entrusted to operate the plant. The choices were the local community organizations, interested NGOs and the Office of MTM itself. Since this plant is first of its kind and is being placed as a demonstration unit, Office of MTM opted for operating by itself to start with and after successful operation, it can decide to hand over to some other interested and capable organization.

#### **3.4 MOU for Operation**

Before the arrival of the plant, SEED Nepal entered into a MOU with the MTM on Sunday the 6<sup>th</sup> June 2010 on the modality to operate the plant. The scanned copy of the signed MOU is given in the as Annex – 5. The MOU clarified on the roles of SEED Nepal and MTM. The procurement of the technology or the plant is the responsibility of SEED Nepal. MTM will identify and allocate the place for the installation and operation of the plant. MTM will also be responsible for the 3 phase line connection and water supply connection. SEED Nepal will train the persons to operate the plant and will also prepare the operation & maintenance manual. SEED Nepal will monitor and provide advice on the operation of the plant. SEED Nepal will have the authority to visit the plant even if MTM appoints other operators for the plant and other interested organizations and personnel interested to replicate the plant will be provided opportunity to visit the plant. SEED Nepal will have to take responsibility of maintenance of the plant for a period of one year.

#### **3.5 Preparation of Site for Plant**

SEED Nepal and MTM held many meetings to discuss on the operation of the Plant. Different available locations were considered and finally a plot of land with a shade in front of the

Army Barrack at Gathghar was selected. There was a need for the extension of the shade to house the plant. SEED Nepal delivered the size (length x breadth x height) of the plant to the MTM and the preparation required was discussed. MTM had allocated NPR 400,000/- for the preparation works. Three phase electricity was applied for with the Nepal Electricity Authority Office in Madhyapur Thimi Municipality. Water supply line was also applied for with the Water Supply Office. The land was prepared and the platform for installing the plant was prepared. MTM also constructed a shade for housing the plant after downloading the plant. The initial and after preparation can be seen clearly in the two photographs given below:



MTM owned land area before preparation



Giving instruction for preparation



Same land area after preparation



Land with shade after plant unloading

### **3.6 Training of the Operators**

Right from the start of installation by the Mailhem personnel, selected persons from MTM were involved so that they are familiar with the plant and its operation. A theoretical training was also organized on 26<sup>th</sup> September 2010 and many personnel from MTM and SEED Nepal had participated in the orientation training programme. Mr. Vikas Kumar, Environmental Officer and Project Manager of Nepal Project from the Plant supplier, was the instructor for the theoretical training. The training was organized at the Municipality Meeting Hall. The list of participants is given as Annex – 6. For the on-the-job training, three selected persons have been attached to the plant along with the installation and commissioning persons from Mailhem. Mr. Kanhaiya Ray was the person responsible for the operation and maintenance of the plant and for providing on-the-job training on the operation and Maintenance. The participants from MTM for on-the-job training are:

- a. Mr. Dil Bahadur Rajbahak, Supervisor
- b. Mr. Moti Bahadur Pode, Waste Mobilizer
- c. Mr. Bhimsen Mijar, Waste Mobilizer

### **3.7 Inauguration**

After the installation of the plant and feeding of the initial amount of Cow dung, the culture and operation of the plant for 8 days, as the biogas generation was noticed, the plant was inaugurated on 29<sup>th</sup> of September 2010. The inauguration was done by the Dr. Sumitra Amatya, General Manager of Solid Waste Management and Resource Mobilization Centre (SWMRMC), Ministry of Local Development (MOLD). The programme of inauguration has been attached as Annex – 7.

Mr. Ram Prasad Pathak, Executive Officer of Madhyapur Thimi Municipality (MTM) welcomed all the participants of the inaugural Ceremony. He mentioned that MTM was planning for putting up biogas plant using waste bio-degradable items and the project supported in this objective. He also said that this plant will be able to demonstrate to other Municipalities and other organizations to utilize the wastes and thereby keep the areas clean on one hand and reduce the expenses in the Management of solid waste. The list of participants is given as Annex – 8.

Mr. Amar Bahadur Manandhar, Executive Director of SEED Nepal on his briefing on the project welcomed the participants from the side of SEED Nepal. He introduced the SEED Nepal as an NGO involved in the promotion of preventive environmental approach and use of wastes as resources. He briefly introduced the project mentioning that UNEP, DTIE and International Environmental Technology Centre (IETC), Osaka, Japan has provided the support for the demonstration of the conversion of Waste Agricultural Biomass into resources. He suggested people to change the perception towards waste from useless items to be disposed to valuable resource that is useful. He also described that the installed plant is a proven technology manufactured by an ISO 9001:2008 certified company. It can use 200 kg per day of the waste agricultural biomass to produce biogas equivalent to 12 cylinders of LPG per month along with 6.5 MT of valuable bio-fertilizer per annum. The bio-fertilizer will be good to promote organic farming. The waste to be used must be organic WAB from farm, vegetable market and households. The plant can also utilize the kitchen wastes but non-bio-degradable items like plastic and metals must not be used.

This was followed by the inauguration of the plant By Dr. Sumitra Amatya by turning on the compressor and also lighting of the burner with a lighted candle. The participants were given a tour of the operating plant. Mr. Deepak Kumar Singh, Director of SEED Nepal explained the participants on the operation of the plant.

Dr. Sumitra Amatya, in her inaugural speech, expressed a glimpse of hope that the present technology will be useful in managing organic waste (60% of the total waste), though in small scale. She emphasized on 'Reuse' instead of 'Landfill' and raising awareness about waste segregation at the Household level. Apart from Biogas generation, she also explained the importance of compost, the other byproduct of the plant. She added that the project should be replicated in other locations too and suggested to inform about the project to all the Environmental Departments in all Municipalities of the country. LDO Ms. Prabha Pandey thanked Dr. Sumitra Amatya and others. On behalf of MTM she also handed over a token of memory to Dr. Sumitra Amayta.

SEED Nepal and MTM also presented about the Project and the Plant for the participating press persons. The press has covered about the programme in the television and in the daily national newspaper. The coverage in the daily news paper is given in the Annex – 9.

Some photographs from the inauguration programme is given below:





Mr. Pathak giving welcome remarks



Mr. Manandhar briefing on Plant



Inaugural burner



During Inaugural function



Mr. Singh explaining about operation



Dr. Amatya giving inaugural speech



View of the participants



Ms. Pandey presenting token to Dr. Amatya

#### **4. Conclusion**

Only procurement, installment and training of the operator and maintenance personnel have been completed. The plant has been operated only for 10 days after installation. The biogas generation has taken place. However, there will be a need to operate and maintain the plant carefully; and monitoring and supervision will be necessary to operate the plant successfully. The full capacity operation will take some more days. Last installment of 20 percent INR 140,000/- is to be paid soon to the plant supplier Mailhem Engineers Pvt. Ltd., Pune.

Annex – 1: Initial Offer from Mailhem

Ref: MH/PWD P/09-10/039

Dt. 13/02/2010



39, Siddhartha Marg, Anamnagar,  
Ward No. 32, Kathmandu, Nepal  
P. O. Box 8973 NPC 410

Kind Attn: Mr. Amar Manandhar, Executive Director

**Sub: Techno-commercial offer for setting up of Portable Waste Disposer  
Plant for treatment of 150 kg/day of organic waste.**

Dear Sir,


Ref: Your email dated 8<sup>th</sup> Feb 2010 Project Site: Kathmandu, Nepal

We, at Mailhem™ are pioneers in the Biomethanation field especially in Organic Waste Management for more than two decades and ISO Certified for Waste Management. We thank you for your enquiry and your interest in setting up a Bio – Gas Plant at your desired premises. Our philosophy is based on the dictum that **"Nothing Should Go Waste"** and that all organic waste products should be put to such a good use, so as to give you **good returns** in terms of Biogas and Bio-compost. All this is achieved, even as you are ensured a healthy and a clean environment. We have extensive experience of installation and operations, having established large number of Waste Management plants throughout India.

We are now attaching our best techno-commercial offer for setting up of Portable Waste Disposer Plant for treatment of 150 kg/day of Organic Waste as per your requirement. Please feel free to revert back to us in case you need further clarifications.

Looking forward to further interaction with you regarding this techno-commercial offer.

Yours truly,  
For Mailhem Engineers Pvt. Ltd.

  
Sankar Rege  
Managing Director

Enclosed: Techno- commercial offer.

**Part M - Commercial Terms and Conditions:**

S.No.	Description	Value INR
I	<b>Portable Waste Disposer Plant (PWDP) supply</b>	
1.	Estimated Equipment cost as per Part F, above	7,50,000/-
2.	Taxes extra as applicable – presently VAT/CST it is 4 %	30,000/-
3.	<b>Total Estimated cost for Portable Waste Disposer Plant</b>	<b>7,80,000/-</b>
II	<b>Allied Services for Portable Waste Disposer Plant (PWDP)</b>	
4.	Erection and Installation Charges for PWDP	50,000/-
5.	Transportation including Loading, Unloading and Transit Insurance at actuals - estimated cost is	75,000/-
6.	Excise Duty as on date of proposal	Not applicable
7.	Service Tax extra as applicable - Presently it is @10.30%	12,875/-
8.	<b>Total Estimated Allied Services Cost for Portable Waste Disposer Plant is</b>	<b>1,37,875/-</b>

**Part N – Payment Terms & Conditions**

<b>Commercial Bid based on Total Purchase Order Value including taxes</b>	
50%	As ADVANCE along with clear Techno-commercial Purchase Order to enable procurement of material & fabrication.
40%	Against proforma invoice before delivery or inspection at our works / godown.
10 %	Retention for 2 months from the date of installation

Annex – 2: Pro-forma Invoice



**MAILHEM**<sup>TM</sup>  
ENGINEERS PVT. LTD.  
AN ISO 9001 : 2000 COMPANY

**Proforma Invoice**

<i>Customer information</i>	<i>Invoice information</i>
Customer name : Society for Environment and Economic Development Nepal (SEED Nepal) 39, Siddhartha Marg, Anamnagar, Ward No. 32, Kathmandu, Nepal P. O. Box 8973 NPC 410 K.Attn : Mr. Amar Manandhar,( Executive Director	Proforma Invoice      Date :18 <sup>th</sup> June 2010 Our Ref: MH/PWDP/09-10/039 Rev 02 Dt. 11/06/2010

ACCOUNT: Supply of Biogas Plant

DESCRIPTION	QTY	RATE	TOTAL AMOUNT (INR)	
<b>Supply of :</b>				
Portable Waste Disposer Plant for treatment of organic waste upto a capacity of 200 kg/day.	1		<b>700000</b>	<b>00</b>
<b>TOTAL</b>			<b>700000</b>	<b>00</b>

**In Words : (Rupees Seven Lac Only)**

Service Tax No. 717153178 / MEPL - 16 / 03  
 VAT TIN NO. 27640345013 V w.e.f. 1/4/2006  
 CST TIN NO. 27640345013 C w.e.f. 1/4/2006

For Mailhem Engineers Pvt. Ltd.



*[Signature]*  
 Authorised Signatory

Regd. No. 654/061/062  
SWC Regd. No. 18279/062/063

वातावरण तथा आर्थिक विकास समाज – नेपाल  
Society for Environment & Economic Development – Nepal  
(SEED - Nepal)



Date: 12 August 2010  
Ref: 100812 letter Dooars

Mr. N. S. Khandka  
General Manager  
Dooars Carrier Pvt. Ltd.  
Bhotebahal, Pipal Bot,  
Kathmandu, Nepal

**Subject: Transportation and Clearance of a Portable Waste Disposal cum Biogas Plant**

Dear Mr. Khandka,  
This is in reference to your letter dated 1 August 2010 and series of discussions thereafter and as you have agreed to reduce the transportation charge for the Portable Waste Disposer cum Biogas Plant from Pune to Madhyapur Thimi in Kathmandu Valley to INR 100,000/- and transfer, clearance and handling charges at the India – Nepal Boarder to INR 10,000/-, we request you to contact Mr. B. L. Pandey at Mailhem Engineers Pvt. Ltd., Pune, India for the transport of the Plant. According to Mailhem Engineers, the plant is ready for dispatch.

Please do not forget to take necessary documents from the suppliers. We also request you to collect the custom duty rebate documents and any other document necessary from our office for the transportation, clearance and processing of the custom duty rebate at the boarder Custom Offices.

Thank you and with best regards,

Sincerely yours'

Amar B. Manandhar  
Executive Director

cc. – Mailhem Engineers Pvt. Ltd., Pune, India

P.O. Box: 8973 NPC 410, Siddhartha Marga, Anamnagar, Ward No. 32, Kathmandu, Nepal  
Telephone: +977 1 4228 555; Fax: 977 1 4239 338; Email: seednepal@mos.com.np, URL: www.seednepal.org

## Annex – 4: Minutes of the Meeting

### **Minutes of the Meeting**

A meeting was held on the Thursday the 22 April 2010 between the Officials of Madhyapur Thimi Municipality (MTM) and the Officials of Society for Environment and Economic Development Nepal (SEED Nepal) at the Office of the Executive Officer of MTM on the Project on "Converting Waste Agriculture Biomass into Resource (CWABR)". The meeting was chaired by Mr. Ram Prasad Pathak, Executive Officer, MTM and was attended by the following personnel:

### **Attendance**

1. Mr. Ram Prasad Pathak, Executive Officer, MTM - Chairman
2. Mr. Tulsi Bhakta Tako, Chief, Community Development Officer, MTM
3. Mr. Dhana Krishna Shrestha, Officer, Administration, MTM
4. Mr. Amar B. Manandhar, Executive Director, SEED Nepal
5. Mr. Govinda Tiwari, Director, SEED Nepal; and
6. Mr. Durga B. Karanjit, Director, SEED Nepal.

### **Discussion and Resolution**

Mr. Manandhar briefed on the status of the project. He mentioned that as the technology selection and the pilot project formulation have been completed and the installment for the installation of the technology has been already requested to International Environment Technology Center (IETC), Osaka, Japan, as soon as the fund is released, the order can be placed and now it is needed that the location and operator of the plant / technology is finalized. Mr. Manandhar also provided the final copies of the quotation from Mailhem Engineers of India on the plant for the conversion of the waste Agricultural Biomass (WAB) and briefed on the financial aspects. As the quotation for the 200 kg per day waste utilizing plant is INR 750,000/- plus INR 25,000/- for installation and INR 75,000/- approximately for transportation, the total amount needed is INR 850,000/- (equivalent to NPR 1,372,750/-). He also pointed out the need to draw three phase electrical line, panel board and installation of a water pump and an overhead tank. There may be a need to prepare some construction alteration at the shade for the location of the plant. Besides, the installation person from the Mailhem Engineer will be required to be provided with fooding and lodging facilities during the installation and training period.

Mr. Pathak mentioned that there is need to expedite the installation of the technology as the media persons are always asking him, on the status of the project and when the technology will come into operation.

Mr. Pathak assured that the location can be finalized immediately after the placing of the order for the plant and the operator may also be decided that time. All party committee has already decided to go ahead with the installation of the technology and the operator will be decided by a transparent process and to start with the municipality will be operating the plant at the beginning. MTM has already allocated NPR 200,000/- for the technology and this amount could be used to make alterations of the shade for the plant, installation of the pump and overhead water tank and also for boring for water.

It was also discussed that the MTM and SEED Nepal should try to obtain waiver for the custom duties and taxes on the import of the plant. SEED Nepal will discuss with the Alternate Energy Promotion Center (AEPC) and the Department of Customs and MTM will also discuss with the Ministry of Local Development (MOLD) to waive the duties and taxes.

Mr. Pathak assured that the location and operation will be easily taken care of once the order for the importation of the plant is done. He also thanked everyone in the meeting before adjourning the meeting for the day.



Annex – 5: MOU of SEED Nepal and MTM for the Operation of the Plant

मध्यपुर थिमि नगरपालिका र वातावरण तथा आर्थिक विकास समाज नेपाल बीचमा भएको  
समझदारीपत्र

आज मिति २०६६/०२/२३ गते आइतवारको दिन मध्यपुर थिमि नगरपालिकामा कृषिजन्य जैविक फोहरमैलालाई श्रोतमा परिणत गर्ने (Converting Waste Agricultural Biomass into Resource) परियोजना अन्तर्गत मध्यपुर थिमि नगरपालिका मातहतमा एक उपयुक्त प्रविधि सहितको प्लान्ट स्थापना एवं संचालन गर्ने सम्बन्धमा मध्यपुर थिमि नगरपालिका (यस पछि नगरपालिका भनिने) तथा वातावरण तथा आर्थिक विकास समाज नेपाल (यस पछि सीड नेपाल भनिने) बीच देहायवमोजिमको सहमति भई यो समझदारीपत्रमा हस्ताक्षर गरियो ।

सहमति भएका बुँदाहरू यस प्रकार छन् :

- परियोजना संचालनको लागि आवश्यक मुख्य प्रविधि र प्लान्ट फिकाउने कार्य सबै सीड नेपालले गर्नेछ । सो सम्बन्धमा पर्ने सबै खर्च सीड नेपालले परियोजनाबाटै व्यहोर्नु पर्नेछ ।
- प्लान्ट जडान गर्ने स्थान नगरपालिकाले पहिचान तथा छनौट गरिने छ ।
- प्लान्ट जडान गरिने स्थानमा प्लान्ट सप्लायरले पठाएको विवरण बमोजिम प्लान्ट जडान गर्ने स्थान तयार गर्ने, वायुरिष्ट सहित ३ फेजको लाइन र प्यानेलबोर्ड जडान गर्ने, पानी आपूर्तिको व्यवस्था गर्ने कार्य नगरपालिकाले गर्नेछ ।
- प्लान्ट संचालन गर्ने सम्बन्धमा नगरपालिकाले तोकेका व्यक्तिहरूलाई सीड नेपालबाट तालिम प्रदान गरिदिने तथा संचालन गर्ने सम्बन्धमा संचालन म्यानुअल (operation manual) उपलब्ध गराइने छ ।
- उक्त प्रविधि वा प्लान्ट शुरुमा नगरपालिका आफैले संचालन गर्न सक्नेछ वा सहमति बमोजिम सार्वजनिक, समुदाय वा सहकारी संस्था वा मुनाफारहित गैर सरकारी निकायबाट संचालन गर्ने गरी हस्तान्तरण गर्न सकिनेछ ।
- सीड नेपालबाट बेला बढतमा उक्त प्रविधि ठीक संग संचालन भइरहेको एकिन गर्ने सिलसिलामा अनुगमन एवं सरसल्लाह प्रदान गर्नेछ । नगरपालिकाले उक्त प्लान्ट संचालन गर्न अन्य निकायलाई लगाइएको अवस्थामा पनि अनुगमन गर्न सकिने व्यवस्था र नमूनाको रूपमा अन्य यस्तै प्लान्ट संचालन गर्न इच्छुक व्यक्ति, संघ संस्थालाई पूर्व सूचना गरी निरीक्षण गर्न दिने व्यवस्था मिलाइनेछ ।
- प्लान्ट संचालनमा आएको मितिले कम्तिमा १ बर्षसम्म सिड नेपालले प्लान्ट मर्मत संभारको जिम्मेवारी लिनु पर्ने छ । साथै आवश्यकता अनुसार प्राविधिक सहयोग समेत गर्नु पर्नेछ ।

सीड नेपालको तर्फबाट



अमर बहादुर मानन्धर  
कार्यकारी निर्देशक,  
वातावरण तथा आर्थिक विकास समाज नेपाल

साक्षी :

  
नाम : गोविन्द थिवारी



नगरपालिकाको तर्फबाट



राम प्रसाद पाठक  
कार्यकारी अधिकृत,  
मध्यपुर थिमि नगरपालिका

साक्षी :

  
नाम : तुलसी भक्त तको

Annex – 6: List of Participants Theoretical Training on Plant Operation

PAGE: 20  
DATE: 2010

## Attendance Sheet

Training Programme (Biogas Plant Operation)  
Date: 26 September 2010, Sun (2067-6-10)

<u>S.N.</u>	<u>Name</u>	<u>Organization</u>	<u>Signature</u>
1.	Ram Prasad Pathak	M.T. Municipality	
2.	Amer B. Manandhar	SEED - Nepal	
3.	Govinda Tiwari	SEED - Nepal	
4.	Govinda Khanal	SEED - Nepal	
5.	Dhama Krishna Sureshta	M.T. Municipality	
6.	Suman Khalka	M.T.M. Thimi	
7.	Niraj Chakraborty	"	
8.	Krishna Shukla	"	
9.	Deepak Kumar Singh	SEED Nepal	
10.	Durga B. Karanjik	"	
11.	Bhishan Bishkne	MTM - Arimi	
12.	Moti Bahadur Poudel	"	
13.	Dil Bahadur Rajbhal	"	
14.	Kanhaiya Roy	Coates, India	

**Converting Waste Agriculture Biomass into Resource**

**A joint project of SEED Nepal and Madhyapur Thimi Municipality**



(SEED Nepal)

Supported by



MTM

**UNEP, DTIE, International Environmental Technology Centre (IETC)**

**Programme for the Inauguration of the Biogas Plant**

**Date: 29<sup>th</sup> September 2010**

**Venue: Gatthaghar Plant Site MTM, Gatthaghar**

**Programme Details:**

- 10:00 – 10:30 : Arrival and Registration**
- 10:30 – 10:35 : Chairing**
- 10:35 – 10:45 : Welcome address by Executive Officer, MTM**
- 10:45 – 11:00 : Project Highlight and Objectives by Executive Director, SEED-Nepal**
- 11:00 – 11:15 : inauguration of the Plant and briefing about the Biogas Plant**
- 11:15 – 11:30 Inaugural Address by the Chief Guest**
- 11:30 – 11:35 : Vote of thanks**
- 11:35 – 11:45 : Press Meet – Press note to be handed**
- 11:45 – 12:00 : Refreshment**

Annex – 8: List of Participants for Inauguration of the Plant

**Converting Waste Agriculture Biomass into Resource**



(SEED Nepal)

**A joint project of SEED Nepal and Madhyapur Thimi Municipality**



Supported by



UNEP, DTIE, International Environmental Technology Centre (IETC)

**Attendance for the Inauguration Programme of the Technology**

**Date: 29<sup>th</sup> September 2010**

**Venue: Gathghar Plant Site MTM, Gathghar**

S. No.	Name	Designation	Office	Contact Telephone
1	Ms. Prabha Pandey	LDO	DDC, Bhaktapur	9851031281
2	Dr. Sumitra Amatya	GM	SWMRMC	9851027527
3	Bindu P. Guragain	Executive Officer	Bhaktapur	9851016539
4	Dipendra B. Ale	Legal Officer	SWMRMC	9851012925
5	Dr. Tri Ratna Bajracharya	Director	CES/IOE/TU	9851037988
6	Prakash Lamichhane	Manager	BSP-Nepal	9851069784
7	Govinda Khanal	Env. Officer	PACE-Nepal	9841433957
8	Dinesh P. Shah	Director	SEED-Nepal	9751005091
9	Dr. Baidya Narayan Mahato	Chief Planning Officer	Nepal Agriculture Research Council	9841363750
10	Tulsi Tako	CDS	MTM	6630048
11	Ganesh Devi Prajapati	Ass. Town Planner	MTM	6630048
12	Madan Krishna Shrestha	Ex-Mayor	Madhyapur Thimi Municipality	9851001818
13	Ms. Chandru Shrestha	President	Creative Women Welfare Society	9841652858
14	Ms. Sulochana Pokharel	Secretary	Creative Women Welfare Society	9841702678

S. No.	Name	Designation	Office	Contact Telephone
15	Dharma Sundar Bajracharya	President	Lyayhma Pucha Thimi	9851105505
16	Radheshyam BK		White Films	9841275743
17	Biku Ram Tajate	Camera-man	NEFEJ	9841950159
18	Avanish Sharma	Program Officer	SEED-Nepal	9841743380
19	Kiran Basnet		Gatthaghar Army Unit	9849463753
20	Lt. Col. Ganga Khadka	Lt. Col.		9841609001
21	Lt. Babita Panthi	Lt.	Gatthaghar Army Unit	9841887071
22	Ram Bahadur		Gatthaghar Army Unit	9841415879
23	Pancha Krishna P.	Manager	Nepal Ceramic C. S.	9841430211
24	Ms. Krishna Shrestha	Office Staff	MTM	9841097332
25	Ms. Nanu Devi Shrestha		Ama Samuha	01632329
26	Dashrath Joshi	Director	ADBL, CTI, Bode	9849255129
27	Ms. Indra Laxmi Shrestha		Ama Samuha	5639292
28	Ms. Subarna Laxmi Shrestha		Ama SAMuha	630644
29	Ms. Prem Sundari Shrestha		Ama Samuha	9841715731
30	Ishwor Kaji Khaiju	Reporter	Annapurna Post	9841273000
31	Asha Hari Prajapati			
32	Ramesh Kumar Shrestha		Tol Sudhar Samiti	6630905
33	Dilip Thapa Magar		Nepal Television	9851050224
34	Pushkar Budhathoki		National Television	9841582983
35	Bikash		The Rising Nepal	9841324807
36	Hira Kaji Sayaju			9841430414
37	Tanka			9841449826
38	Govinda Tiwari	Director	SEED-Nepal	9751006987
39	Deepak Kumar Singh	Director	SEED-Nepal	9841213020
40	Durga Bahadur Karanjit	Director	SEED-Nepal	9751009316
41	Gopal K. Shrestha	Director	SEED-Nepal	9751005067
42	Amar Bahadur Manandhar	Director	SEED-Nepal	9751005079

व्यक्तिपुर | तिथि: २४ सितम्बर, २०१० (Thursday, September 30, 2010)

# फोहोरबाट ग्यास

**३३** **सुन्दर सिंह**

काठमाडौं - सफ्टवेयर विकासकर्ता सुन्दर सिंहले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्।

**सुन्दर सिंह**  
फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्।



फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्।

फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्।

**जम्पन दिने सार्वजनिक फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्।**

**सुन्दर सिंह**

Gorkhapatra 2017/06/14

# फोहोरमैला व्यवस्थापनका लागि वायोग्यास प्लान्ट स्थापना

**सुन्दर सिंह**

काठमाडौं - सफ्टवेयर विकासकर्ता सुन्दर सिंहले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्।

**सुन्दर सिंह**  
फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्।



फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्।

फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्। उनले फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्।

**जम्पन दिने सार्वजनिक फोहोरबाट ग्यास उत्पादन गर्न सफल भएका छन्।**

**सुन्दर सिंह**

# बायोग्यास प्लान्ट सञ्चालन



तस्विर : ईश्वरकाजी खाइन्

जैविक फोहोरबाट बायोग्यास र प्रांगरिक मल उत्पादन गर्ने प्लान्ट सञ्चालन विधिबारे जानकारी दिँदै सिङ नेपालका प्राविधिक ।

## अन्नपूर्ण समाचारदाता

**भक्तपुर, १३ असोज :** मध्यपुर धिमौ नगरपालिकाले जैविक फोहोरबाट बायोग्यास र प्रांगरिक मल उत्पादन गर्न बायोग्यास प्लान्ट सञ्चालनमा ल्याएको छ। उक्त प्लान्टले जैविक फोहोरलाई ब्याक्टिरियामार्फत कुहाएर खाना पकाउने एलपी ग्यास र जैविक मल उत्पादन गर्छ।

उक्त प्लान्टको बुधबारे एक कार्यक्रमबीच फोहोरमिला व्यवस्थापन तथा स्रोत परिचालन केन्द्रकी महानिर्देशक सुमित्रा अमात्यले उद्घाटन गरिन्। उक्त प्लान्ट मध्यपुर धिमौ-१७ स्थित गड्डुघरमा स्थापना गरिएको छ।

देशभरका नगरपालिकालाई फोहोर व्यवस्थापनका लागि प्लान्टफिल्ड साइट निर्माणभन्दा त्यसलाई पुनर्प्रयोग गर्न उनले सुझाव दिइन्।

काठमाडौं उपत्यकामा निस्कने फोहोरको दीर्घकालीन व्यवस्थापनका लागि केन्द्रले विदेशी आयोजनासँग मिलेर काम गर्ने प्रक्रिया अघि बढाइरहेको जानकारी पनि उनले दिइन्।

यातावरण तथा आर्थिक विकास समाज (सिङ) नेपालका कार्यकारी निर्देशक अमरबहादुर मानन्धरले

प्लान्टले दैनिक दुई सय जैविक फोहोर व्यवस्थापन गर्ने र त्यसबाट मासिक १२ सिलिन्डर खाना पकाउने एलपी ग्यास र वार्षिक ६.५ टन जैविक मल उत्पादन गर्ने जानकारी दिए।

उनले कम विद्युतबाट काम चिन सकिने उक्त प्लान्टलाई नमुनाका रूपमा सञ्चालनमा ल्याउने दाबी गरे। उनले फोहोर व्यवस्थापनसँगै एलपी ग्यास तथा कृषिमा प्रयोग हुने जैविक मल उत्पादन गर्ने उक्त प्लान्ट देशका अन्य नगरपालिकाले पनि स्थापना गर्नसक्ने बताए। मध्यपुर धिमौ नगरपालिकाले यातावरण तथा आर्थिक विकास समाज (सिङ) नेपालसँगको सहकार्यमा कृषिजन्य जैविक फोहोरलाई स्रोतमा परिणत गर्ने परियोजनाअन्तर्गत उक्त प्लान्ट सञ्चालनमा ल्याएको हो।

नगरपालिकाका कार्यकारी अधिकृत रामप्रसाद पाठकले मध्यपुर नगर सरकारीमा अग्रपंक्तिमा रहेकाले त्यसबाट निस्कने फोहोर व्यवस्थापन गर्ने प्लान्ट स्थापना गरिएको बताए। नगरेस्थित तरकारी बजारमा ठसार्न हुने जैविक फोहोरले नपुगे नगरवासीका घरघरमा गई जैविक फोहोर संकलन गरिने उनले बताए।