

GOLD STANDARD LOCAL STAKEHOLDER CONSULTATION REPORT

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SECTION A. PROJECT DESCRIPTION

A. 1. Project eligibility under the Gold Standard

[See Toolkit 1.2 and Toolkit Annex C]

Project title: Biogas Program for the Animal Husbandry Sector of Vietnam

Stakeholder report version: V3.1

Date of completion: 25 September 2012

Scale of the project activity (T 1.2.1)

The BP is a large scale project activity

Host Country or State (T.1.2.1)

Vietnam ratified the Kyoto protocol on 22 February 2002 and the date of enforcement is 16 February 2005¹.

Type of Project Activity (T.1.2.3)

The project party falls under the category '*Renewable energy supply*' as defined in GSv2.1_Requirements, resulting from the displacement of non-renewable cooking and lighting fuels by a renewable energy supply (biogas).

The project activities are therefore eligible for Gold Standard Registration.

Greenhouse gases (T.1.2.4)

GHG		GHG eligible under the GS	GHG eligible under the UNFCCC	GHG applied for the project activities
CO2	Carbon dioxide	Yes	Yes	Yes
CH4	Methane	Yes	Yes	Yes
N2O	Nitrous Oxide	Yes	Yes	Yes
PFCs		No	Yes	No
HFCs		No	Yes	No
SF6		No	Yes	No

The PDD elaborates on the emission claims of the GHGs in the baseline and project scenario.

Official Development Assistance (ODA, T 1.2.5)

Vietnam is included in the OECD Development Assistance Committee's ODA recipient list. The BP is donor funded by the Government of the Netherlands through SNV. This fund source is not received under the condition, directly or indirectly, that the credits coming out of BP are transferred to the Dutch government. The non-ODA declaration is included in the Gold Standard Passport (GSP) report.

¹ <http://maindb.unfccc.int/public/country.pl?country=VN>

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BP declares that it was never previously announced that the project would proceed without revenues from carbon credits.

Project timeframe (T.1.2.6)

Applicable project cycle: Retroactive project cycle.

BP is seeking retroactive registration as of 1st of May 2010 or the date of GS registration minus 2 years, whatever date is later; the project start date is 19/July/2006.

Credit period:

The chosen credit period is 7 years (renewable)

Retroactive crediting: The project is operational before it will be registered under the Gold Standard. Retroactive crediting is sought for the credits generated from the 1st of May 2010.

Avoid double counting: No credits related to GHG reduction activities are otherwise committed under another mechanism other than the Gold Standard. The PDD elaborates on the avoidance of double counting.

A. 2. Current project status

BP is implemented by the Biogas Project Division (BPD) since 2003. The project has sought carbon finance for the phase II activities which started on 1-1-2007. As of 30/04 around 80,964 units are built. The next table shows the estimated production for the first crediting period.

Crediting year		Estimated Units
01/05/2010	31/12/2011	89,176
01/01/2012	31/12/2012	92,300
01/01/2013	31/12/2013	95,708
01/01/2014	31/12/2014	99,116
01/01/2015	31/12/2015	102,524
01/01/2016	30/04/2017	107,078

Some of the units may be transferred to the CDM PoA once the PoA is validated and a new CPA

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for these units is developed, unless the VGS approach turns out to be more attractive. Anticipated PoA registration date is 1/6/2012². The PDD details the CDM-PoA development and includes procedures on how to avoid double counting.

²

<http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/FYHTWZ3QLWM91NKR9DB47YIHGQ5KSU/view.html>

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SECTION B. DESIGN OF STAKEHOLDER CONSULTATION PROCESS

B. 1. Design of physical meeting(s)

Two physical stakeholder meetings were held, one in Nghe An and one in Phu Tho province. Details of the Phu Tho meeting are added only when they differ from the Nghe An meeting, i.e. agenda, non-technical summary are the same and therefore not included twice.

i. Agenda

Detailed agenda, English version -



The Biogas Program for the Animal Husbandry Sector in Vietnam

Workshop “Biogas Stakeholders Consultation Workshop”

Workshop Agenda

Workshop objective: To seek comments from local stakeholders on the proposed second phase of the biogas program.

Time	Length	Agenda	PIC
1:30- 1:35	5'	1. Workshop Opening and Introduction ○ Introduce Workshop objective ○ Introduce representatives, participants and workshop chairperson ○ Introduce working agenda	Tu Anh
1:35 – 1:40	5'	2. Speech of commune leader	
1:40 – 1:45	5'	3. Explanation on biogas plant	Thu
1:45: 2:00	15'	4. Introduction on Program activities ○ Training ○ Quality control ○ Subsidy ○ CDM - Clean Development Mechanism ○ Quick analysis on cost vs. benefit on biogas plant investment ○ Main achievements up to date: ○ Plan for BP II 2007-2011	Thu
2:00-2:10	10'	5. Questions and Answers	Thu
2:10- 2:20	10'	6. Assessment of sustainable development indicators on biogas plant ○ <i>Impact on environment</i> ○ <i>Impact on society</i> ○ <i>Impact on economics</i> ○ <i>No-harm indicators</i>	Thu
2:20 - 3:20	60'	7. Group discussion on indicators	Thu, Tu Anh Tam, Binh
3:20 - 3:35	15'	8. Tea break	
3:35 - 4:10	35'	9. Group presentation in plenary	Group rep.

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4:10 - 4:20	10'	10. Evaluation forms	Thu, Tú Anh
4:20 - 4:30	10'	11. Any other business	Tú Anh
4:30 - 4:40	10'	12a. Workshop closing – PBPD 12b. Workshop closing - BPD	PBPD Nghe An Tú Anh

Detailed agenda, Vietnamese version



Chương trình Khí sinh học cho ngành chăn nuôi Việt Nam

Hội thảo

“Tham khảo ý kiến người hưởng lợi dự án khí sinh học”

Chương trình hội thảo

Mục đích của Hội thảo: tìm hiểu và thu thập các ý kiến nhận xét từ người hưởng lợi tại địa phương về Chương trình khí sinh học cho ngành chăn nuôi Việt Nam giai đoạn II.

Lịch biểu	Thời gian	Hoạt động	Điều Hành
1:30- 1:35	5'	1. Khai mạc và giới thiệu o Giới thiệu mục đích của hội thảo o Giới thiệu đại biểu, các đối tác và chủ tọa Hội thảo o Tóm tắt chương trình Hội thảo	Tú Anh
1:35 – 1:40	5'	2. Phát biểu của đại diện xã	
1:40 – 1:45	5'	3. Giới thiệu về công trình khí sinh học	Thu
1:45: 2:00	15'	4. Giới thiệu về các hoạt động của dự án o Đào tạo o Kiểm tra chất lượng o Trợ giá o CDM – cơ chế phát triển sạch o Đánh giá nhanh về chi phí và lợi ích xây dựng công trình KSH o Những thành tựu đã đạt được o Kế hoạch triển khai cho dự án Giai đoạn II 2007-2011	Thu
2:00-2:10	10'	5. Hỏi và trả lời	Tú Anh
2:10- 2:20	10'	6. Các chỉ tiêu đánh giá về công trình KSH với Phát triển bền vững o <i>Tác động về môi trường</i> o <i>Tác động về xã hội</i> o <i>Tác động về kinh tế</i> o <i>Các chỉ số không gây hại</i>	Thu
2:20 - 3:20	60'	7. Làm việc theo nhóm về các chỉ tiêu đánh giá	Thu, Tú Anh Tâm, Bình
3:20 - 3:35	15'	8. Nghỉ giải lao	
3:35 - 4:10	35'	9. Trình bày kết quả làm việc theo nhóm	Đại diện nhóm
4:10 - 4:20	10'	10. Đánh giá theo mẫu	Thu, Tú Anh
4:20 - 4:30	10'	11. Các vấn đề khác	Tú Anh

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4:30 – 4:40	10'	12a. Phát biểu kết thúc hội thảo – PBPD 12b. Phát biểu kết thúc hội thảo	PBPD Nghệ An Tú Anh
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ii. Non-technical summary

Domestic biogas installations for households involved in smallholder livestock keeping and agriculture brings benefits in the field of energy, agriculture, environment and health and sanitation.

The purpose of the BP II Vietnam CDM³ Project:

The purpose of the project activity is to (further) develop the commercial and structural deployment of domestic biogas in Vietnam. To that extent, the project will:

- Promote the long-term utilization of renewable energy produced in an environmentally compatible and economically viable way;
- Increase the awareness of prospective livestock smallholder households and extension workers on the full extent of the potential costs and benefits of domestic biogas installations;
- Strengthen the supporting capacity of involved Biogas Construction Teams (BCTs) and (non-) Government officials regarding all aspects of marketing, construction, after sales service and quality management of domestic biogas installations;
- Support the development of a commercially viable, market oriented domestic biogas sector in Vietnam;
- Strengthen the institutional infrastructure for coordination and implementation of sustained dissemination of domestic biogas at national, provincial and district level.

The project will build on the achievements of the “Support Project to the Biogas Programme for the Animal Husbandry Sector in some Provinces of Vietnam” (BP I). The project will cover 50 out of Vietnam’s 65 provinces, supporting the construction of 125,000 domestic biogas installations over the period January 2008 – December 2012⁴.

Elementary in the approach is the primary process; Biogas Construction Teams making a living by marketing domestic biogas installations to prospective households. To support the primary process, the programme will extend its operational network of Biogas Construction Teams, Biogas Technicians and Biogas Extension Workers. At the same time, the programme will invest heavily in capacity building of those directly involved in the primary process as well as the institutional supporting framework.

Participating households will be provided with adequate training on all the aspects of operation and maintenance of the biogas installation and all installations will be provided with a one-year guarantee by the constructing Biogas Construction Team. In addition, to lower the high up-front investment barrier, households will receive upon acceptance of the installation by the controlling technician an investment subsidy (VND 1.2 million, ~ 15% of the total investment) of the programme, whereby the investment subsidy will be channelled directly to the households.

To finance the programme’s support activities and investment subsidy, the programme will seek contributions from the participating provincial authorities, official development aid and carbon revenue.

iii. Invitation tracking table

List of participants of the Nghe Anh meeting

³ CDM is colloquial for any carbon finance project

⁴ The project however will continue after 2012 with another phase, phase III

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Category Code	Organisation	Name of invitee	Way of invitation	Date of invitation	Confirmation received?
A	Household	Nguyen Thi Mui	Verbal	01-04-2009	Yes
A	Household	Le Thi Huong	Verbal	01-04-2009	Yes
A	Household	Nguyen Van Danh	Verbal	01-04-2009	Yes
A	Household	Le Thi Vy	Verbal	01-04-2009	Yes
B	Vice Chairman CPC	Dang Ba Trong	Official document	01-04-2009	Yes
A	Biogas Mason	Dang Van Hung	Verbal	01-04-2009	Yes
B	Commune extensionist	Nguyen Van Triet	Official document	01-04-2009	Yes
A	Household	Nguyen Thi Thanh	Verbal	01-04-2009	Yes
A	Household	Le Thi Huong	Verbal	01-04-2009	Yes
A	Household	Nguyen Dinh Ly	Verbal	01-04-2009	Yes
B	Chairman CPC	Nguyen Dinh Hop	Official document	01-04-2009	Yes
A	Household	Dang Thi Thuy	Verbal	01-04-2009	Yes
A	Household	Tran Van Tuan	Verbal	01-04-2009	Yes
A	Household	Nguyen Dinh Tien	Verbal	01-04-2009	Yes
A	Household	Pham Thi Loan	Verbal	01-04-2009	Yes
A	Household	Dang Khac Nang	Verbal	01-04-2009	Yes
A	Household	Tran Ngoc Ngo	Verbal	01-04-2009	Yes
A	Household	Nguyen Duc Dung	Verbal	01-04-2009	Yes
A	Household	Tran Van Tinh	Verbal	01-04-2009	Yes
A	Household	Nguyen Van Canh	Verbal	01-04-2009	Yes
A	Household	Dang Thi Huy	Verbal	01-04-2009	Yes
A	Household	Nguyen Dinh Phuong	Verbal	01-04-2009	Yes
A	Household	Dang Thi Ha	Verbal	01-04-2009	Yes
B	Commune Party Committee	Le Van Hoa	Official document	01-04-2009	Yes
AA	Household	Dang To Lam	Verbal	01-04-2009	Yes
AA	Household	Tran Van Sam	Verbal	01-04-2009	Yes
A	Household	Le Thi Vinh	Verbal	01-04-2009	Yes
A	Household	Le Xuan Loc	Verbal	01-04-2009	Yes
A	Household	Nguyen Van Trieu	Verbal	01-04-2009	Yes
A	Household	Nguyen Van Huong	Verbal	01-04-2009	Yes
A	Household	Le Thi Xuan	Verbal	01-04-2009	Yes

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D	Chairman – WU	Hoang Thi Binh	Official document	01-04-2009	Yes
A	Biogas mason	Nguyen Van Trung	Verbal	01-04-2009	Yes
A	Household	Tran Van Trung	Verbal	01-04-2009	Yes
B	Provincial technical staff	Cao Xuan Tuan	Official document	29-03-2009	Yes

List of participants of the Phu Tho meeting

Category Code	Organisation	Name of invitee	Way of invitation	Date of invitation	Confirmation received?
A	Household	Nguyen Thi Thoa	Verbal	06-04-2009	Yes
A	Household	Bui Minh Sang	Verbal	06-04-2009	Yes
A	Biogas mason	Hoang Van Tam	Verbal	06-04-2009	Yes
A	Household	Tran Thi Mai	Verbal	06-04-2009	Yes
A	Household	Nguyen Van Lan	Verbal	06-04-2009	Yes
D	Secretary - Youth union	Nguyen Thi Thuy Dung	Official document	06-04-2009	Yes
A	Household	Truong Anh Dung	Verbal	06-04-2009	Yes
A	Household	Nguyen Thi Thiet	Verbal	06-04-2009	Yes
A	Household	Nguyen Anh Tuan	Verbal	06-04-2009	Yes
A	Biogas mason	Nguyen Duc Ca	Verbal	06-04-2009	Yes
A	Household	Tran Thi Ly	Verbal	06-04-2009	Yes
A	Household	Ngo Van Binh	Verbal	06-04-2009	Yes
A	Household	Trieu Thi Ha	Verbal	06-04-2009	Yes
A	Household	Duong Ngoc Bien	Verbal	06-04-2009	Yes
A	Household	Pham Thi Lan	Verbal	06-04-2009	Yes
A	Household	Hoang Trung Tien	Verbal	06-04-2009	Yes
A	Household	Hoang Thi Que	Verbal	06-04-2009	Yes
A	Household	Cao Thi Tue	Verbal	06-04-2009	Yes
A	Household	Nguyen Thi Yen	Verbal	06-04-2009	Yes
A	Household	Trieu Thi Tao	Verbal	06-04-2009	Yes
A	Household	Nguyen Anh Tu	Verbal	06-04-2009	Yes
A	Household	Nguyen Thi Thuy Duong	Verbal	06-04-2009	Yes
A	Household	Nguyen Manh Ha	Verbal	06-04-2009	Yes
A	Household	Pham Trong Thuy	Verbal	06-04-2009	Yes
B	Deputy head - district extension	Han Trung Ket	Official document	06-04-2009	Yes

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	center				
B	Provincial technical staff	Dinh Hong Tam	Official document	06-04-2009	Yes
B	Vice director - PBPD	Tu Anh Son	Official document	06-04-2009	Yes
B	Head of district extension centre	Vu The Dan	Official document	06-04-2009	Yes
B	Head - Phong chau town extension team	Nguyen Thi Yen	Official document	06-04-2009	Yes
B	Vice chairwomen - Phong chau town	Trieu Thi Tao	Official document	06-04-2009	Yes
D	Chairman – WU	Cao Thi Tue	Official document	06-04-2009	Yes
D	Chairman - farmer union	Hoang Thi Que	Official document	06-04-2009	Yes
F	WWF – Goldstandard NGO	Le Thuy Anh	Email	24.3.2009	Yes

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Please explain how you decided that the above organisations/ individuals are relevant stakeholders to your project. Also, please discuss how your invitation methods seek to include a broad range of stakeholders (e.g. gender, age, ethnicity).

The stakeholders invited are relevant to this project because that comprise of users directly affected by the project (biogas users and masons), indirectly affected (non-biogas users and NGO working in the rural areas), relevant authorities and extension workers.

A broad range has been sought for; the next table shows for example that around half of the participants were female. Age distribution is not recorded.

Invitees by category	GS Category code	Province			
		Nghe An		Phu Tho	
		Invitees	Attendees	Invitees	Attendees
Representatives of commune authorities, women union, farmer association youth union	D	1	1	3	3
GS NGO supporter	F	0	0	1	1
Provincial and district biogas technicians	B	3	3	5	5
Commune agriculture extensions	B	2	2	1	1
Local people impacted by the project	A	27	27	21	21
Mason	A	2	2	2	2
Sum		35	35	33	33
Facilitators/interpreters			4		3
Observers			5		3
Total			44		39
Analysis		Nghe An		Phu Tho	
Attendance rate		100%		100%	
Male		26		17	
%		59%		44%	
Female		18		22	
%		41%		56%	

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iv. Text of individual invitations

VIET NAM Department of Agriculture		THE NETHERLANDS SNV
BIOGAS PROJECT OFFICE Room: 104, 2G Bldg. The Diplomatic Corp Compound, 298 Kim Ma, Ba Dinh, Hanoi. Tel.: 84-4-3726.1771, Fax: 84-4-3726.1773, Email: ppovn@biogas.org.vn , Website: www.biogas.org.vn		
<i>Date 25/3/2009</i>		
Ref: 21 /09-BPD Re: Asking for Support to organize a Stakeholders Consultation Workshop		
To: Provincial Biogas Project Office - Nghe An province		
Under the framework of the project "Biogas Program for the Animal Husbandry Sector in Vietnam", the Biogas Project Office (BPD) would like to organize a "Stakeholder consultation Workshop" in order to seek stakeholders' comments and feed backs on the impacts from biogas plant in some provinces, including Nghe An province.		
In order to well organize the workshop, the BPD would like the PBPD Nghe An to support the preparation with the following details:		
Workshop date: April 3, 2009 in Nghe An		
Suggested workshop participants: see attachment		
Working agenda: (detail is attached)		
- Morning: Meeting with the PBPD Nghe An - Afternoon: Workshop		
We do hope to receive your good support and cooperation to ensure the Workshop's highest results.		
Sent to: - As above; - Project director (for reporting); - File	PROJECT COORDINATOR (signed) Nguyen Minh Tam	
Workshop participants		
- Representatives of commune authorities, Women Union, Farmer Association, Youth Union 4 persons		
- Provincial and district Biogas Technicians: 02 persons		
- Commune agriculture extensionist: 01 persons		
- Biogas users: 10 persons		
- Non-Biogas users: 10 persons		
- Mason : 02 persons		

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MINISTRY OF AGRICULTURE AND
RURAL DEVELOPMENT
Department of Livestock

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

Date 27/3/2009

Ref: 355 /CN-BPD

Re. Asking for Support to organize a Stakeholders Consultation Workshop

To: Provincial Biogas Project Office - Phu Tho province

In order to collect data for the development of Project Design Document (PDD) for CDM project, the Biogas Project Office (BPD) together with SNV specialists would like to organize a "Stakeholder consultation Workshop" in order to seek stakeholders' comments and feed backs on the impacts from biogas plant in some provinces, including Phu Tho province.

In order to well organize the workshop, the BPD would like the PBD Phu Tho to support the preparation with the following details:

Workshop date: April 8, 2009 in Phu Tho

Suggested workshop participants: see attachment

Working agenda: (detail is attached)

- Morning: Meeting with the PBD Phu Tho
- Afternoon: Workshop

We do hope to receive your good support and cooperation to ensure the Workshop's highest results.

Sent to:

- As above;
- File

ON BEHALF OF DIRECTOR
VICE DIRECTOR CUM PROJECT DIRECTOR
(signed)
Nguyen Thanh Son

Workshop participants

- Representatives of commune authorities, Women Union, Farmer Association, Youth Union
4 persons
- Provincial and district Biogas Technicians: 02 persons
- Commune agriculture extensionist: 01 persons
- Biogas users: 10 persons
- Non-Biogas users: 10 persons
- Mason : 02 persons

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VIỆT NAM
Cục Chăn nuôi – Bộ NN & PTNT



HÀ LAN
Tổ chức Phát triển Hà Lan (SNV)

Văn phòng Dự án Khí sinh học

P. 104, nhà 2G, Khu Ngoại giao đoàn Vạn phúc, 298 Kim mã, Ba đình, Hà nội.
Tel.: 84-4-3726.1771, Fax: 84-4-3726.1773, Email: bpovn@biogas.org.vn, Website: www.biogas.org.vn

Hà Nội, ngày 25 tháng 05 năm 2009

Số: 21 /09-BPD

V/v hỗ trợ tổ chức Hội thảo tham khảo ý kiến người hưởng lợi

Kính gửi: **Văn phòng Dự án Khí sinh học tỉnh Nghệ An**

Trong khuôn khổ dự án “Chương trình Khí sinh học cho ngành chăn nuôi Việt Nam”, Văn phòng Dự án Khí sinh học Trung ương dự định tổ chức “Hội thảo tham khảo ý kiến người hưởng lợi” nhằm tìm hiểu các ý kiến nhận xét và phản hồi về lợi ích của công trình khí sinh học tại một số tỉnh, trong đó có tỉnh Nghệ An.

Để hội thảo được tổ chức thành công tốt đẹp, Văn phòng Dự án Khí sinh học trung ương đề nghị Văn phòng Dự án Khí sinh học tỉnh Nghệ An hỗ trợ công tác chuẩn bị và tổ chức Hội thảo này.

Thời gian: ngày 3 tháng 4 năm 2009 tại Nghệ An

Thành phần đoàn công tác: theo phụ lục đính kèm

Chương trình làm việc: (theo phụ lục đính kèm)

- Buổi sáng: họp với PBPĐ
- Buổi chiều: tổ chức Hội thảo

Thành phần tham dự hội thảo (theo phụ lục đính kèm)

Rất mong nhận được sự hỗ trợ và hợp tác của Văn phòng Dự án Khí sinh học tỉnh Nghệ An để Hội thảo thành công tốt đẹp./.

Nơi nhận:

- Như trên;
- Giám đốc Dự án (để báo cáo);
- Lưu VT.

ĐIỀU PHỐI VIÊN DỰ ÁN

Nguyễn Minh Tâm

Gold Standard Local Stakeholder Consultation Report

BỘ NÔNG NGHIỆP
VÀ PHÁT TRIỂN NÔNG THÔN

CỤC CHĂN NUÔI

Số: 355 / CN-BPD

V/v hỗ trợ tổ chức Hội thảo tham khảo ý
kiến người hưởng lợi.

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

Hà Nội, ngày 27 tháng 3 năm 2009.

Kính gửi: Văn phòng Dự án Khí sinh học tỉnh Phú Thọ

Nhằm mục đích thu thập dữ liệu làm cơ sở xây dựng Tài liệu Phát triển Dự án (PDD) cho Dự án CDM, Văn phòng Dự án Khí sinh học Trung ương phối hợp cùng chuyên gia tư vấn của Tổ chức Phát triển Hà Lan (SNV) tổ chức “Hội thảo tham khảo ý kiến người hưởng lợi” nhằm tìm hiểu các ý kiến nhận xét và phản hồi về lợi ích của công trình khí sinh học tại một số tỉnh, trong đó có tỉnh Phú Thọ.

Để hội thảo được tổ chức thành công tốt đẹp, Văn phòng Dự án Khí sinh học trung ương đề nghị Văn phòng Dự án Khí sinh học tỉnh Phú Thọ hỗ trợ công tác chuẩn bị và tổ chức Hội thảo này.

Thời gian: ngày 8 tháng 4 năm 2009 tại Phú Thọ

Thành phần đoàn công tác: theo phụ lục đính kèm

Chương trình làm việc: (theo phụ lục đính kèm)

- Buổi sáng: họp với PBPD
- Buổi chiều: tổ chức Hội thảo

Thành phần tham dự hội thảo (theo phụ lục đính kèm)

Rất mong nhận được sự hỗ trợ và hợp tác của Văn phòng Dự án Khí sinh học tỉnh Phú Thọ để Hội thảo thành công tốt đẹp./.

Nơi nhận:

- Như trên;
- Lưu VT, BPD.

**KT. CỤC TRƯỞNG
PHÓ CỤC TRƯỞNG
KIỂM GIÁM ĐỐC DỰ ÁN**



Nguyễn Thanh Sơn

Next to the GS stakeholder workshop BPD organized a great number of other workshops. Hereunder two translated invitation of the promotion and preconstruction workshop, both of which were organized around

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4,000 times (see B2)

DARD THAI BINH PBPD	SOCIALIST REPUBLIC OF VIETNAM Independence – Freedom – Happiness <i>Thai Binh, January 01st 2010</i>
INVITATION	
Attn: Potential biogas user According to the <u>Workplan 2010</u> of Biogas Project Division – Department of Livestock Production; According to the approval of Thai Binh DARD, Provincial Biogas Project Division of Thai Binh holds a promotion workshop in cooperation with pre-construction training for potential biogas users in Thai Binh province. Timing: half day from 8 am to 11 am, January 5 th 2010 Location: Meeting hall of Nam Duong Tay village, Nam Cao commune, Kien Xuong district Participants: potential biogas households You are kindly requested to attend timely.	
<u>Recipients:</u> - As above - To be filed at admin	For DIRECTOR VICE DIRECTOR <i>(signed & sealed)</i> Pham Van Cang

DARD THAI BINH PBPD	SOCIALIST REPUBLIC OF VIETNAM Independence – Freedom – Happiness <i>Thai Binh, November 16th 2010</i>
INVITATION	
Attn: Biogas users According to the <u>Workplan 2010</u> of Biogas Project Division – Department of Livestock Production; According to the approval of Thai Binh DARD, Provincial Biogas Project Division of Thai Binh holds a promotion workshop in cooperation with post-construction training for biogas users in Thai Binh province. Timing: half day from 8 am to 10:30 am, November 20 th 2010 Location: Meeting hall of Bac Hung village, Phuoc Thanh commune, Vu Thu district Participants: households who have constructed bio-digester You are kindly requested to attend timely.	
<u>Recipients:</u> - As above - To be filed at admin	For DIRECTOR VICE DIRECTOR <i>(signed & sealed)</i> Pham Van Cang

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v. Text of public invitations

[See Toolkit 2.6 and Toolkit Annex J]

At time of stakeholder execution GS toolkit v2.0 and LSCR report V2.0 was the most recent version, which did not provide guidance on public invitations.

B. 2. Description of other consultation methods used

If individuals and/ or entities (e.g. NGOs) are unable to attend the physical meeting, please discuss other methods that were used to solicit their feedback/ comments (e.g. questionnaires, phone calls, interviews).

→ All participants were able to attend the physical meeting.

In addition to the GS stakeholder workshops, BPD organized a great number of other workshops (WS). These workshops convey information on working conditions, safety, proper usage and operation of the biodigesters, and inform participants on sustainable development and biogas, emission reductions etc. There is ample time for questions and feedback by participants during these WS. The number of people reached through these workshops is enormous (over 80,000/each workshop or almost 170,000 (!) with both Workshops).

Training Course/Workshop Title	2007		2008		2009		2010		2011		Total	
	# of crs	# of pax	# of crs	# of pax	# of crs	# of pax	# of crs	# of pax	# of crs	# of pax	# of crs	# of pax
National Opening and Closing WS	1	143	1	126	1	167	1	162	1	173	5	771
Mid-Term WS			1	149			1	176			2	325
Training of Trainer			1	11	3	24	2	37	2	48	8	120
International Study Tour	1	24			1	33					2	57
National Biogas Mason-Technician Exchange Workshop					1	143					1	143
Business Start-up Training			3	53	7	149	3	55			13	257
Effective Selling Skills Training							3	44	2	34	5	78

Training Course/Workshop Title	2007		2008		2009		2010		2011		Total	
	# of crs	# of pax	# of crs	# of pax	# of crs	# of pax	# of crs	# of pax	# of crs	# of pax	# of crs	# of pax
Provincial Opening and Closing WS	22	880	26	1,040	36	1,440	43	1,720	43	1,720	170	6,800
Provincial Biogas Exchange Workshop	36	911	47	1,021	60	1,034	76	1,520	65	1,300	284	5,786
Technician Refreshment Training									5	150	5	150
Mason Refreshment training									5	150	5	150
Biogas Technician Training	4	111	6	119	9	185	8	158	4	89	31	662
Biogas Mason Training	5	141	7	185	12	250	11	250	4	96	39	922
Pre- Construction Training	865	21,100	380	7,600	1,170	22,423	1,246	26,590	431	8,622	4,092	86,335
Post- Construction Training	607	17,233	710	14,207	1,100	22,000	1,202	23,559	263	5,251	3,882	82,250

Note, figures for 2011 are until September 2011

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The project is well known in both Vietnam and internationally. BP has received international acclaim by winning the prestigious Energy Globe Award in 2006⁵ and the Ashden Award in 2010⁶. Both awards recognize the tremendous contribution that the programme has achieved in sustainable development, tackling energy poverty and the treat of climate change. In the words of the judges: *“their highly successful partnership which has enabled the distribution of biogas technology across Vietnam on a massive scale in a way that is both sustainable and has the potential for further expansion. By popularizing the use of biogas among pig farmers, this programme has tackled Vietnam’s waste problem and has brought tremendous benefits to farming families.”*

This has led a lot of attention for this programme; in annex 3 some of the media coverage is pasted and the reports that were spread throughout the country. The media coverage made even more people aware of this programme, its contribution to sustainable development and the GHG emission reductions it realizes. Also people can contact the programme as telephone numbers and the website is included in much of the reports and media spread.

⁵ <http://www.snvworld.org/en/aboutus/news/Pages/Home-ASI-ENG-Biogasprogramwinsenergyprize.aspx>

⁶ <http://www.ashdenawards.org/winners/MARD10>

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SECTION C. CONSULTATION PROCESS

C. 1. Participants' in physical meeting(s)

i. List of participants

[See Toolkit 2.6.1 and Toolkit Annex J]

Please attach original participants' list (in original language) as Annex 1.

Participant list stakeholder consultation		
Date and time: April 3, 2009		
Location: Nghi Thuan commune, Nghi Loc district, Nghe An province.		
Name participant, job/position in the community	Male / Female	Organisation (if relevant)
Nguyen Thi Mui	Female	Household representative
Le Thi Huong	Female	Household representative
Nguyen Van Danh	Male	Household representative
Le Thi Vy	Female	Household representative
Dang Ba Trong	Male	Vice Chairman CPC
Dang Van Hung	Male	Biogas Mason
Nguyen Van Triet	Male	Commune extensionist
Nguyen Thi Thanh	Female	Household representative
Le Thi Huong	Female	Household representative
Nguyen Dinh Ly	Male	Household representative
Nguyen Dinh Hop	Male	Chairman CPC
Dang Thi Thuy	Female	Household representative
Tran Van Tuan	Male	Household representative
Nguyen Dinh Tien	Male	Household representative
Pham Thi Loan	Female	Household representative
Dang Khac Nang	Male	Household representative
Tran Ngoc Ngo	Male	Household representative
Nguyen Duc Dung	Male	Household representative
Tran Van Tinh	Male	Household representative
Nguyen Van Cat	Male	Household representative
Dang Thi Huy	Female	Household representative
Nguyen Dinh Phuong	Male	Household representative
Dang Thi Ha	Female	Household representative
Le Van Hoa	Male	Commune Party Committee
Dang To Lam	Female	Household representative
Tran Van Sam	Male	Household representative
Le Thi Vinh	Female	Household representative
Le Xuan Loc	Male	Household representative
Nguyen Van Trieu	Male	Household representative
Nguyen Van Huong	Male	Household representative
Le Thi Xuan	Female	Household representative
Hoang Thi Binh	Female	Chairman – WU
Nguyen Van Trung	Male	Biogas mason
Tran Van Trung	Male	Household representative

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Cao Xuan Tuan	Male	Provincial technical staff
Ms Tu Anh	Female	Facilitator
Ms Thu	Female	Facilitator
Ms Tam	Female	Interpreter
Ms Van	Female	Interpreter
Mr Binh	Male	Observer
Daniel Blank	Male	Observer
Zoran Kapor	Male	Observer
Martin Burian	Male	Observer
Elke Förster	Female	Observer

Participant list stakeholder consultation		
Date and time: April 8, 2009		
Location: Phong Chau town, Phu Ninh district, Phu Tho province.		
Name participant, job/position in the community	Male / Female	Organisation (if relevant)
Nguyen Thi Thoa	Female	Household representative
Bui Minh Sang	Male	Household representative
Hoang Van Tam	Male	Biogas mason
Tran Thi Mai	Female	Household representative
Nguyen Van Lan	Male	Household representative
Nguyen Thi Thuy Dung	Female	Secretary - Youth union
Truong Anh Dung	Male	Household representative
Nguyen Thi Thiet	Female	Household representative
Nguyen Anh Tuan	Male	Household representative
Nguyen Duc Ca	Male	Biogas mason
Tran Thi Ly	Female	Household representative
Ngo Van Binh	Male	Household representative
Trieu Thi Ha	Female	Household representative
Duong Ngoc Bien	Male	Household representative
Pham Thi Lan	Female	Household representative
Hoang Trung Tien	Male	Household representative
Hoang Thi Que	Female	Household representative
Cao Thi Tue	Female	Household representative
Nguyen Thi Yen	Female	Household representative
Trieu Thi Tao	Female	Household representative
Nguyen anh Tu	Male	Household representative
Nguyen Thi Thuy Duong	Female	Household representative
Nguyen Manh Ha	Male	Household representative
Pham Trong Thuy	Male	Household representative
Han Trung Ket	Male	Deputy head - district extension center

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Dinh Hong Tam	Male	Provincial technical staff
Tu anh Son	Male	Vice director - PBPD
Vu The Dan	Male	Head of district extension centre
Nguyen Thi Yen	Female	Head - Phong chau town extension team
Trieu Thi Tao	Female	Vice chairwomen - Phong chau town
Cao Thi Tue	Female	Chairman – WU
Hoang Thi Que	Female	Chairman - farmer union
Le Thuy Anh	Female	WWF – Goldstandard NGO
Nguyen Tu Anh	Female	Facilitator
Nguyen Kieu Vien	Female	Facilitator
Ms Tam	Female	Interpreter
Ms Huong	Female	Observer
Zoran Kapor	Male	Observer
Elke Förster	Female	Observer

Comments accompanying Annex 1:

No comments

Please find the original participant list with signatures attached in Annex 1. In Annex I, also the list of participant of one of the 4,000 promotion and one of the 4,000 biogas training workshops is pasted.

ii. Evaluation forms

In order to improve the proposed programme and to improve future workshop organization, you are kindly requested to give your feedback on the following questions. Thank you.

Questions	Participant's assessments
Name	
A. Workshop presentation:	
Please choose the face that that best reflect your opinion: 😊 😐 😞	
Part 1: What is your impression of the workshop?	😊 - all is fine
Part 2: Introduction on domestic biogas plant	😊
Part 3: Introduction on biogas project	😊
Part 4: Question & answer	😊
Part 5: SD indicators for biogas plant	😊

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Part 6: Group Discussion	😊
Part 7: Group presentation back into plenary	😊
B. Assessment example Nghe Anh	
Question 2: What do you like about the project? 😊	- The project has helped to bring about the biogas technologies with many benefits: + Provides gas for cooking, lighting is very economical, saving money + Helps to solve environment issues; improved sanitation, reduces air pollution, good for health; + Decreases time for house workload which can be used for other economic and social activities + Provides good fertilizer + Provides access to new technologies - The project subsidizes biogas users part of the investment in cash
Question 3: What do you not like about the project? 😞	- Technology is quite complex, this causes some efforts in case repairs are needed - Discussed, but not written: Subsidy rate is rather low in comparison to the high upfront investment
Signature	
B. Assessment: example Phu Tho	
Question 2: What do you like about the project? 😊	- The project has helped to bring about biogas technology with many benefits: + Limits the environmental pollution; + Improves the quality of life + The biogas plant looks good and many household benefitted from the biogas plant.
Question 3: What do you not like about the project? 😞	- No written comments
Signature	

Summary of evaluation forms

Nghe Anh:

Almost all participants were aware of biogas. Almost all participants' assessment appeared to be positive as farmers were highly appreciative of the biogas programme as well as the consultation. The following issues were identified in the evaluation:

- Many of them expressed their wishes to receive higher rate of subsidy. The key arguments were that construction labour and materials costs increased recently, while the original subsidy rate only changed slightly this year (by 20 %) after having been constant for the past 5 years;
- Some reported that they did not have a chance to attend trainings (as spouses had participated earlier courses), others were trained 3 times;

Most appreciated the plant design as it only takes ½ day to clean out scum

The original feedback forms unfortunately are not available.

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Phu Tho:

Note: Unfortunately the feedback of one of the two groups was lost. In total only 7 feedback forms are available. However, the Representative of the GS NGO (WWF – Goldstandard NGO Le Thuy Anh) can confirm that all relevant issues raised in the group discussion have been correctly reported.

All participants were aware of biogas. However, in contrast to the situation in Nghe An, farmers in this town are not living as closely together, with rolling hills and forests between hamlets. Thus there is a relative abundance of fuel sources (firewood, bamboo, agricultural residues).

During the field visit it was discussed that recently a new precast design of a biogas plant is distributed by a commercial company. The costs for this plant are lower, but as the first plants have only recently been installed it's operationally, and durability have yet to be confirmed. Also the after-sales service remains unclear. The Biogas Office in Hanoi was informed of this new development.

All the invited participants including farmers and masons have attended the workshop but some of them came a bit late. They seem to have been too busy to participate in the whole workshop. Some of those who participated had to rush home after the WS to attend to other economic activities.

Most of the participants' assessment appeared to be positive. However, some were critical, e.g. one farmer in Group 1 complained about the high initial investment costs, and also reported some problems with application of bio slurry to vegetables – the vegetables died. As his family is small he cannot make full use of the biogas and has to burn it off. (see further details in the minutes of the meeting).

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C. 2. Pictures from physical meeting(s)



Presentation of technology



Preparing the WS



Group 1 working



Group 2 working



Gas filter at mason's barn



Visiting biogas farmer & mason

Meeting in Phu Tho:

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C. 3. Outcome of consultation process

i. Minutes of physical meeting(s)

Minutes from the Stakeholder Consultation Workshop -SCW

Friday, April, 3, 2009, 14:00- 17:30 h

at Ny Thuan commune, Ny Loc district, Nghe An province.

The SCW in the framework of the development of a CDM⁷ project for the National Biogas Programme in Vietnam (MARD/SNV) was held in Ny Thuan commune, Ny Loc District of Nghe An province on April 3, 2009. The main objective of this workshop was to seek inputs and comments from local stakeholders in order to improve the design of the current domestic biogas programme. The Biogas Program Division and Nghe An Provincial Biogas Office provided support in arranging the event.

The Stakeholder workshop was attended by **44 participants**, including:

- Representatives from Biogas provincial office;
- Representatives of the district authorities;
- Representatives of mass organizations (Women's Union, Farmers Union, Youth Union);
- Commune extension workers;
- Smallholder farmers with and without biogas plants;
- Facilitation and observer team (9)

The key points of the workshop included: Explanation on domestic biogas technology; Introduction on the biogas programme activities; Introduction of the Sustainable Development Indicators; Group work to seek the participants' comments on the biogas programme, Presentations of the group work, and Evaluation of the workshop.

1. **The workshop was opened** by Ms. Nguyen Tu Anh (workshop facilitator). She introduced the workshop objectives, expected outputs and detailed agenda. It was emphasized that the participants' contributions and comments on the project and especially on sustainable development indicators would form an important part in the design of the future biogas programme in Vietnam.
2. On behalf of the local authorities and population, the Chairman of Nghi Thuan commune, Mr. Nguyen Dinh Hop, welcomed the participants. He expressed his special gratitude to the

⁷ CDM is by the layman used for any carbon project, including VGS

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Biogas programme which he stated has brought various practical benefits to the local farmers. He pointed out that biogas digesters were especially important here, given the restrictions in space and the crowded farming situation. Given the objectives of the consultation, he encouraged participants to participate actively and share their feedback in order to further expand this program.

3. **An explanation of biogas plant** was made using a biogas poster, and individual components projected in a Power Point Presentation. Ms. Le Thi Xuan Thu (technical facilitator in the workshop) showed the group the biogas plant design, and pointed out different benefits of biogas plants with regard to sustainable development in terms of economic, social and environment aspects. *Biogas plants contribute to economic development* because, amongst others, they reduce expenses for domestic energy; the labour required to maintain traditional energy systems (e.g. firewood collection) can be used in more directly economically productive ways; and application of bio-slurry increases the yield and reduces the need and expenses for synthetic fertilizer. Also, a vibrant biogas sector creates significant employment and related economic activities in rural areas.

Contributions of biogas digesters to social development include, e.g. reduction of domestic workload, particularly for women and children; increasing opportunities for education and other social activities; reduction of illnesses resulting from indoor air pollution and gastro-enteric diseases as a result of poor sanitary conditions; increased awareness of improved farming and animal husbandry practices, and environmental impacts of farm household operations.

In terms of *biogas plants' contributions to environmental development*, it was stated that biogas can substitute conventional fuels and synthetic fertilizer and improve the manure management system; the proper use of the technology reduces the emission of greenhouse gasses; bio-slurry improves the soil texture thus reducing degradation and reduces the need for further land encroachment; the reduction of firewood consumption avoids deforestation and forest encroachment; and finally improved manure management practices reduce ground and surface water pollution and improve sanitation.

4. Next point on the agenda was **the introduction of the Biogas programme**. Key activities presented included promotion, training, quality control and subsidy. The results of the biogas program so far were also shared. This included, e.g. to date, 50,000 plants installed in 28 provinces, while potentially 1 million plants may be requested. 471 Biogas technicians and 700 Biogas Construction Team have been trained improving their skills. It is planned that the program will gradually expand to 50 out of Vietnam's 65 provinces, supporting the construction of additional 125,000 domestic biogas installations till the end of 2012. It was furthermore emphasized that project beneficiaries (e.g. households, masons and technicians at all levels) in this programme will be provided with adequate trainings on all aspects of operation and maintenance of the biogas installation. In addition, all installations will be provided with one year guarantee by the contracting Biogas Construction Team. In terms of financing, the up-front investment subsidy (VND1.2 million) continues to be channelled directly to the households. The presentation also included **a short introduction about CDM and the proposed programme financing**. Concepts and benefits of CDM for developing countries were briefly introduced. Concerning future financing, it was stated that the project proposed to trade Emission Reductions to finance the subsidy component of the project. Participants were also reminded to operate the biogas plants correctly and properly to ensure no leakage of CH₄ into the environment as the CDM project will be accredited by an independent auditor.
5. The above introduction of Biogas program was then followed by **Q & A session**. Participants were invited to ask questions for clarification and/or for comments. No questions or issues were raised. It was agreed to further discuss in the groups.
6. Before the group discussion, consecutively **a brief explanation of the sustainable development indicators** was made in order to orientate workshop participants to the focus of

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the group work. Referring back to the poster, the group facilitators explained environmental, social and economic indicators. They also introduced aspects of “Do no harm” indicators concerning labour conditions, safety and financing transparency. Questions were asked to make sure participants understood what was presented.

7. **The Group discussion** was started by an explanation about the objective of the group work which aimed to seek participants’ feedback and opinions about positive and negative impacts of the biogas program, based on the framework of the sustainable development indicators introduced in the preceding session. Divided into two groups with a mixed representation from participants, each group was supported by 2 moderators and the discussion lasted for an hour. As the majority of the participants were not familiar with participatory process, the group moderators paid special attentions to ensure views and feedback of female farmers and of quiet participants were included.

The group discussion is quite lively and attracted very active participation by women. The group results were reported back into plenary by a reporter selected by the group.

8. **Group 1:** air quality has improved without bad smell, it positively contributes to the living quality in the neighbourhood, and households are able to increase the feeding scale without complaints from neighbours. Water quality is better and can be viewed by eyes because there is less slurry discarded into the surface water; the soil quality improves with use of bio-slurry;

Social impact: farmer capacity improved – they know how to operate a technically challenging system and share lessons learn and innovative ideas, or train each other about sound operation and maintenance of biogas plants; Reduced amount of work and turning dirty, heavy work for manure collection and processing into clean, slight work, – with less work spent on firewood collection; on bio slurry application to clean vegetable because it is a liquid and non-toxic fertilizer. In work group session, women have participated lively with positive opinions about benefit that biogas plants bring to them. Opinions were gender-balanced and women’s capacity has improved.

Impacts to the economy: create jobs for local farmers for further developing livestock and producing clean vegetables; create jobs for local mason with advantages in quick payment; reduction of firewood, electricity, LPG consumption by more or less 200,000 VND per household per month depending on the scale of the biogas plant.

Transparency in finance mechanism – when the farmer gets the subsidy, it comes directly from the post office. However they also complain about low subsidy rate and low progress in fund disbursement recently, some of farmers have waited for payments about 6 months from last October.

Almost farmers agreed that there is no bad smell at the time of turning on the biogas stove, only an old lady with biogas plant from 2005 has raised issues about gas leakage from the digester. Provincial technician and other farmers have suggested her to install a thin layer of cement in digester cap instead of normal mud and it will stop the gas leakage. After lively discussion, farmers concluded that about 30% of households have to borrow for investment with high interest payment, the remaining 70% have own funds or borrow from friends, relatives without interest, so the biogas plant is affordable.

9. **Group 2:** Additional comments raised to the ones above: Biogas plants ensure fresh air; water quality has improved – soil quality improved; soil fertility has improved.

As far as methane leakage is concerned, leakage can happen at the cover, neck or old gas valve. According to biogas users in the group, it is not a big problem and can be treated easily with clay or by replacing it with a new gas valve.

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Regarding economic benefits: labour saving time; poor households cannot afford the biogas and province cannot expand the coverage/subsidy; access to clean and cheap energy – impact: job creation; some problems with accidents – so people have to be very careful!

Social effects are very obvious. Opinions of mason in group show that labour quality improved significantly after biogas application as being trained on biogas technology. However, working conditions for biogas mason are sometimes difficult, especially in summer and in the rainy season. Poor people cannot easily access biogas technology because they are not able to afford a small scale biogas digester or even they do not have enough animals for filling a biogas digester.

About possibility of accessing to clean energy, opinions are controversial. Some farmers find it easy, others feel it is not easy, as they know very little about biogas and still have no idea about its benefits.

Regarding to economic effect, almost farmers agree that biogas helps improve income for farmers, create more employment (masonry work), saves time for cooking that can be used to do other work to earn more money.

Do no harm: Transparency in subsidy transfer – all biogas users receive their subsidy via post office without any obstacle. With regard to methane all agreed that it is not harmful for biogas users when proper care is taken.

It was ensured that in both groups participants with biogas experience were present. Discussions in both groups varied in intensity. In general however, both groups shared the same views about many positive impacts of the biogas plants. For that reason, they gave positive scores (+) to almost all indicators. Concerning “Do no harm” indicators, some pointed out the tough working condition under which biogas masons do their work during hot summer days. Two other issues were pointed out in addition to the listed positive impacts:

- When discussing about “other pollutants”, some participants, who own biogas plants prior to the programme start in the commune in 2006, brought up the issue of surplus of biogas and the bad smell at the time of turning on the biogas stove. Some of them suggested mitigation measures that include for instance, a more frequent check-up of the pipe, reducing daily input volume, installation of gas pressure meter, more frequent uses of gas for cooking, and other facilities like gas light, and electricity generator. The local mason had installed a filter system for his pipe (price 900,000 VND) which effectively filters out the smell.
- The lack of access to formal credit for a required up-front investment was noted by some participants. They stated that it is a challenge because the borrowing terms are often short, and the borrowers have to pay high interest rates. They therefore prefer to borrow from friends and relatives and thus expressed their appreciation to be able to benefit from the programme subsidy. At the same time, it was expressed that a faster disbursement of the subsidy would be appreciated.

9. Evaluation: Participants were invited to spend 10 minutes to fill in the form to evaluate what they did and did not like about the biogas programme as well as what they thought about the workshop content and presentation.

10. The workshop was concluded by the workshop facilitator. Special thanks were made for the participants’ active and participation. The participants were also reassured that all provided inputs and comments would be taken into account for the future programme refinement.

Mr. Cao Xuan Tuan, Province level staff of the BPD, concluded the workshop by expressing his high satisfaction with the workshop outcomes and that the day had been valuable. He also

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expressed his special thanks for invaluable supports provided by the Biogas programme to local farmers.

The meeting ended at 5:15pm.

ii. Minutes of other consultations

Minutes from the Stakeholder Consultation Workshop -SCW

Friday, April, 8, 2009, 14:00- 17:30 h

at **Phong Chau Town, Phu Ninh District, Phu Tho province.**

The SCW in the framework of the development of a CDM⁸ project for the National Biogas Programme in Vietnam (MARD/SNV) was held in Phong Chau town, Phu Ninh District of Phu Tho province on April 8, 2009. The main objective of this workshop was to seek inputs and comments from local stakeholders in order to improve the design of the current domestic biogas programme. The Biogas Program Division and Phu Tho Provincial Biogas Office provided support in arranging the event.

The Stakeholder workshop was attended by **39 participants**, including:

- representatives from Biogas provincial office;
- representatives of the district authorities;
- representatives of mass organizations (Women's Union, Farmers Union, Youth Union);
- Commune extension workers;
- Smallholder farmers with and without biogas plants.
- Facilitation and observer team (6)

The key points of the workshop included: Explanation on domestic biogas technology; Introduction on the biogas programme activities; Introduction of the Sustainable Development Indicators; Group work to seek the participants' comments on the biogas programme, Presentations of the group work, and Evaluation of the workshop..

1. **The workshop was opened** by Ms. Nguyen Tu Anh (workshop facilitator). She introduced the workshop objectives, expected outputs and detailed agenda. It was emphasized that the participants' contributions and comments on the project and especially on sustainable development indicators would form an important part in the design of the future biogas programme in Vietnam.
2. On behalf of the local authorities and population, Mr.Tu Anh Son, Vice Dir. Of Provincial BPD welcomed the participants. He expressed his special gratitude to the Biogas programme which he stated has brought various practical benefits to the local farmers. He pointed out that biogas digesters were important for environmental reasons. Given the objectives of the consultation, he encouraged participants to participate actively and share their feedback in order to further expand this program.
3. **An explanation of biogas plant** was made using a biogas poster, and individual components projected in a Power Point Presentation. Mr Dinh Hong Tam, provincial technical staff explained the biogas plant design, and pointed out different benefits of biogas plants with regard to sustainable development in terms of economic, social and environment aspects. *Biogas plants contribute to economic development* because, amongst others, they reduce expenses for domestic energy; the labour required to maintain traditional energy systems (e.g. firewood collection) can be used in more directly economically productive ways; and application

⁸ Colloquial for any carbon project, including VGS

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of bio-slurry increases the yield and reduces the need and expenses for synthetic fertilizer. Also, a vibrant biogas sector creates employment and related economic activities in rural areas.

Contributions of biogas digesters to social development include, e.g. reduction of domestic workload, particularly for women and children; increasing opportunities for education and other social activities; reduction of illnesses resulting from indoor air pollution and gastro-enteric diseases as a result of poor sanitary conditions; increased awareness of improved farming and animal husbandry practices, and environmental impacts of farm household operations.

In terms of *biogas plants' contributions to environmental development*, he pointed out that biogas can substitute conventional fuels and synthetic fertilizer and improve the manure management system; the proper use of the technology reduces the emission of greenhouse gasses; bio-slurry improves the soil texture thus reducing degradation and reduces the need for further land encroachment; the reduction of firewood consumption avoids deforestation and forest encroachment; and finally improved manure management practices reduce ground and surface water pollution and improve sanitation.

4. Next point on the agenda was **the introduction of the Biogas programme** provided by Ms Vien. Key activities presented included promotion, training, quality control and subsidy. The results of the biogas program so far were also shared. This included, e.g. to date, 50,000 plants installed in 28 provinces, while potentially 1 million plants may be requested. 471 Biogas technicians and 700 Biogas Construction Team have been trained improving their skills. It is planned that the program will gradually expand to 50 out of Vietnam's 65 provinces, supporting the construction of additional 125,000 domestic biogas installations till the end of 2012. It was furthermore emphasized that project beneficiaries (e.g. households, masons and technicians at all levels) in this programme will be provided with adequate trainings on all aspects of operation and maintenance of the biogas installation. In addition, all installations will be provided with one year guarantee by the contracting Biogas Construction Team. In terms of financing, the up-front investment subsidy (VND1.2 million) continues to be channelled directly to the households. The presentation also included **a short introduction about CDM and the proposed programme financing**. Concepts and benefits of CDM for developing countries were briefly introduced. Concerning future financing, it was stated that the project proposed to trade Emission Reductions to finance the subsidy component of the project. Participants were also reminded to operate the biogas plants correctly and properly to ensure no leakage of CH₄ into the environment as the CDM project will be accredited by an independent auditor.
5. After the introduction of Biogas program it was concluded to move the **Q & A session into the group work**.
6. Before the the group discussion, Ms Tu Anh provided **a brief explanation of the sustainable development indicators** in order to orientate workshop participants to the focus of the group work. Referring back to the poster, she explained environmental, social and economic indicators. They also introduced aspects of "Do no harm" indicators concerning labour conditions, safety and financing transparency. Questions were asked to make sure participants understood what was presented.
7. **The Group discussion** (2 groups) was started by an explanation about the objective of the group work which aimed to seek participants' feedback and opinions about positive and negative impacts of the biogas program, based on the framework of the sustainable development indicators introduced in the preceding session. In both groups were mixed representation of biogas owners and those interested in biogas plants, and by men and women. Each group was supported by 2 moderators and the discussion lasted for about an hour. As the majority of the participants were not familiar with participatory process, the group moderators paid special attentions to ensure views and feedback of female farmers and of quiet participants were included. The Representative of the GS NGO participated in Group 2.

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The group discussion was not very lively, with balanced participation by women and men (see Outcomes blind exercise stakeholders, page 18). The group results were reported back into plenary by a reporter selected by the group.

Group 1: Air quality has improved and there are no longer complaints of neighbours regarding bad smell. Households are even able to increase the feeding scale without complaints from neighbours.

The soil quality improves with use of bio-slurry: The slurry can partly replace chemical fertilizer. It can be used for vegetables and tea as is obvious from the colour of the leaves. However, some households cannot use it (and give it away free of charge), as they have no vegetables and there is no market for it. Also care needs to be taken when using it: concentrated use can cause vegetables to die (complaint by one farmer). The slurry must be diluted with water (solution).

The surface and underground water quality has improved.

Gas use and bad smell: there is no bad smell as the farmers try to make use of all the gas. If there is an oversupply at night, the farmer has to get up to use the gas by boiling water. However, in the vicinity are a number of fertilizer companies and paper mills, so the air pollution from them may prevail as this is originating from the companies.

Social impact: The employment conditions of masons are hard in summer because of the heat, so they build new biogas plants in the cooler seasons.

One mason noted that the work is harder than other mason work. However, another mason argued that it is less dangerous than working on house building, so he can continue working even though he is old. It is positive that the households can choose the mason themselves and bargain the mason's costs. The households complain about the high rate of labour costs (130,000 VND/m³). So it is concluded that a lump-sum should be negotiated for the whole works. Also they can negotiate which side purchases the material.

Without the biogas plant the removal of manure to a remote place is hard and time consuming work for women. Thus women particularly benefit from the reduced workload. So they have more time for other jobs or relaxation.

Economics:

Reduction of firewood, electricity, LPG consumption by more or less 200,000 VND per household per month depending on the scale of the biogas plant.

Investment costs are high and difficult to cover. One woman argued that she would like to have a biogas plant, but instead her savings are being used for the son's university education, so she has to discuss with her husband how to borrow money.

The sales price for manure was discussed controversial. One farmer claimed that the price is 8000 VND/bag, while others argued that there is no market for it, the price is only half, and the work is hard and dirty.

Technology Transfer and Capacity Development:

All agreed that the technology is simple, but one man argued that the old parents do not know how to use it.

There are no associations regarding biogas.

Do no harm indicators:

No complaint with regard to the subsidy payment – the entire amount was transferred. However, for some recent works there was a delay in payment.

In work group session, women have participated lively with positive opinions about benefit that

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biogas plants bring to them. Opinions were gender-balanced.

Group 2: Additional comments raised to the ones above: Previously the cooked by firewood, char coal, agricultural by-products, or LPG. Biogas for cooking and lighting improves the air – no bad smell and fewer complaints from neighbours. Environmental benefits also include improved water quality as less urine enters the underground water. Drinking water is better quality. And slurry no longer discharged to the surface water.

Soil quality improved when applied to vegetables, fruit orchards. CH₄ leakage if the quality of the pipes or valves is poor – they need to be checked (by submersion under water) and replaced regularly. Solution for the overproduction of gas: share it with the neighbour house. Quality of the biogas plant can only be checked for no leakage by the mason.

Regarding economic benefits:

Working conditions are more difficult for masons, but also payment is higher (as it requires special skills). Many masons want to get involved in biogas construction, so households can bargain for a lower price. The households are satisfied with the quality of the mason's work and masons have responsibility for the quality of the construction. Quality checks are well conducted by the project, and only then the masons are paid. Some masons have not been trained formally, but have long experience; they work in that case in a team managed by a certified mason. The masons have sometimes deferred payments if households could not pay. The target of the participants is to realize economic benefits and to get support during construction, and household want to actively take the lead.

Economic benefits include reduction in energy need (saving up to 300,000 VND per month), expansion in animal husbandry, environmental benefits. Some participants are concerned about the upfront investment and suggest increasing the subsidy, as 1.2 Million VND is only a small amount of the total investment costs.

Improvement of living conditions for the poor: Only households with large scale of animal husbandry or well-off households or government staff can afford to participate, given the high initial investment costs.

Environmental benefits: heat reduction especially important in the summer. Meals taste better and are cleaner than when other energy sources are used.

Capacity development: Especially women can save labour and have time for other socio-economic activities, studying or leisure. The new technology opens their minds for scientific issues. There is no need for further capacity development. No company or association of masons has been formed.

Do no harm indicators:

Transparency in subsidy transfer is acceptable – all biogas users receive their subsidy via post office without any obstacle. The transfer happens when all technical criteria are fulfilled.

9. Evaluation: Participants of group 1 were invited to spend 10 minutes to fill in the form to evaluate what they did and did not like about the biogas programme as well as what they thought about the workshop content and presentation. Unfortunately, Group 2 missed filling out the forms.

10. The workshop was concluded by the workshop facilitator. Special thanks were made for the participants' active participation. The participants were also reassured that all provided inputs and comments would be taken into account for the future programme refinement.

Ms Vien concluded the workshop by expressing her satisfaction with the workshop outcomes. He also expressed her special thanks for the support provided by the local organizers.

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The meeting ended at 5:00 pm.

Other stakeholder meetings

On the next page a copy of the minutes of 2 workshops are included, one of the promotion workshop and one of the post-contraction workshop. As discussed previously, around 4000 of each of the two workshops are executed as of date.



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PBPD Province <u>Thai Binh</u>	Form 33 SOCIALIST REPUBLIC OF VIETNAM Independence – Freedom - Happiness
TRAINING/ WORKSHOP REPORT Post-construction training for biogas users	
1. Timing: half day Date: 20/11/2010 Venue: Meeting hall of <u>Bac Hung</u> village, <u>Phuc Thanh</u> commune, <u>Vu Thu</u> district 2. Trainer: Mr. Doan <u>Dinh Thi</u> 3. Participants: - Mr. Doan <u>Ngoc Vinh</u> – Commune official - Mr. Chau, Mr. Thi – Project staff - Households 4. Number of attendants: ...22... persons 5. Training/ Workshop contents: a) Documents for circulation: user handbook b) Training/ workshop contents: installation, operation, maintenance, and bio-slurry c) Comments/ queries of attendants - During the operation, if it is broken, to whom can we inform? If it requires repairing, who will cover the cost? d) Responses/ answers for comments/ queries In case of broken, inform immediately to mason (if follow the user handbook, but it does not work). If due to the objective reason and before the expiry date of warranty, mason will in charge of it. e) Training/ workshop recommendations Propose that subsidy will be paid soon. Due to the increasing cost in the market, it is proposed to increase the subsidy.	
PBPD <i>(signed & sealed)</i> Pham Van Cang	<u>Thai Binh</u>, November 20th 2010 Trainer <i>(signature with full name)</i> Doan <u>Dinh Thi</u>

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	PBPD Province Thai Binh	SOCIALIST REPUBLIC OF VIETNAM Independence – Freedom - Happiness -----	Form 33
TRAINING/ WORKSHOP REPORT Pre-construction training for biogas users			
1. Timing: half day Date: 5/1/2010 Venue: Meeting hall of Nam Duong Tay village, Nam Cao commune, Kien Xuong district 2. Trainer: Mr. Doan Dinh Thi 3. Participants: - Mr. Pham Van Duong – Commune official - Mr. Chau, Mr. Thi – Project staff - Households 4. Number of attendants: ...22..persons 5. Training/ Workshop contents: a) Documents for circulation: leaflets b) Training/ workshop contents: introduce the benefits of biogas, bio-digester operation & maintenance process c) Comments/ queries of attendants - Durability of digester - If households construct a digester, are they supported financially? - If the digester is ruined, who will be responsible for? d) Responses/ answers for comments/ queries - If the digester is constructed in line with the design and drawing, it will be durable and safety - If the households construct by themselves, they don't have any subsidy - Within 1 year after construction, it is warranted by project masons e) Training/ workshop recommendations Propose that subsidy will be increased to 1.5 – 2 mln dong because at this moment, many households have to face to difficulties.			
PBPD <i>(signed & sealed)</i>		Thai Binh, January 5th 2010 Trainer <i>(signature with full name)</i>	

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iii. Assessment of all comments

Note group 1 and 2 are participants from the Nghe Anh meeting and 3 and 4 from Phu Tho.

Stakeholder Comment	Assessment	Was comment taken into account (Yes/ No)?	Explanation (Why? How?)
Air quality: Group 1: some complaint about a bad smell when turning on the gas first time in the morning Group 2: Good, no more eye disease, better smell, Group 3: Air quality improved, better smell, no gas leakage due to well-managed oversupply Group 4: One complaint about air pollution caused by factories nearby that affects the air improved by biogas plant	Different opinions were expressed in 2 groups when commenting on the quality of air There are opinions on pollutants but not caused by biogas plants, they come from fertilizer factories and paper mills in the vicinity	yes	Bad smell can be reduced by sealing off the tank, using the gas more often. Using a filter is too expensive for most.
Water quality Group 1: <i>Water in streams is obviously cleaner. Less discharge into the water streams.</i> Group 2: <i>Surface water is less polluted comparing to before biogas installation</i> Group 3&4: <i>Surface water in locality is obviously cleaner, the colour change from black to grey. Less discharge into the water streams, less urine penetrating to underground water</i>	All groups have same opinion on this indicator	no	All comments were positive. Clear instructions necessary to avoid feeding too much, and too short retention time. Only if dung is not fully disintegrated a bad smell results.
Soil quality: Group 1 and 2 - Visible change in colour is observed prior (black colour) and after having biogas plant (brown); - The soil became softer - Nutrition stays longer in the soil, thus significantly improved, very good for crops Group 3: Soil quality improved, Some households give slurry away, as they have no crops and no market for bio slurry. One complained that bio slurry causes his vegetables to die Group 4: The soil became softer. Nutrition stays longer in the soil, thus significantly improved, very good for vegetables, tea and orchard.	Not only biogas user but also non biogas user know about this benefit by observing the utilization of bio-slurry by neighbours	yes	Bio-slurry cannot be used in concentrated ratio, better to dilute it and use as fertilizer directly applied to the soil. Training materials are provided to the users on that
Other pollutants Group 1: - No other pollutant, as soon as there is leakage with methane gas in the biogas plant, the household fixes immediately reacts by filling water into the digester neck, turning on biogas cook stove to reduce gas pressure; using gas pressure meter. Group 2: - Bad smell when turning on cooking stove - Sometimes surplus of gas creates strong	There are opinions on pollutants but not considered as big problem	yes	Provide proper instruction in operation manual, make pressure meter compulsory. That way households know how much gas they have. Bad smell from the stove is an advantage

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pressure <i>Group 3:</i> - No other pollutant, if there is oversupply at night, farmer has to get up and boil water or turn on stove to reduce gas pressure. <i>Group 4:</i> <i>Gas leakage due to the fact that pipes or valves are poor</i>			as it only appears when gas is leaking. A burning stove does not smell. Oversupply is being mitigated by training users to boil water, invest in equipment or share to the neighbours. Provide safety leaflet to users
Biodiversity All groups: Reduced use of fire woods for domestic energy Improved soil quality contributing to improved plantation productivity (e.g. increased sales of Vietnamese traditional sticky rice leaves) Reduced use of fire woods, char coal, farmers don't know where the wood comes from (from natural forest or production forest) Improved soil quality contributing to improved plantation productivity	This indicator is difficult for farmer to assess as they see no direct relationship to biogas.	no	Not applicable
Quality of employment Group 1 and 2: - Free women and children from wood/rice straw collection for other social or schooling activities - Higher income for biogas masons in comparison with other types of construction works Group 3: Biodigesters free women and children from dirty, hard works such as manure collection, selling or processing. Free time used for other social or schooling activities. Group 4: Higher income for biogas masons in comparison with other types of construction works, less dangerous work since biogas plant place underground.	Assessment is more exact in villages where farmers pursue secondary jobs in biodigester construction	no	Only positive comments
Livelihood of the poor Group 1: Biogas contributes to reducing workload of family members: men have more time (2 hours) for sport activities, women more time for social and other income generation activities (e.g. embroidery). Group 2: Poor people cannot afford biogas digester or they do not have animals. Group 3 and 4 Biogas contributes to reducing workload of family members Poor people cannot afford biogas digester or they do not have animals. One women in group 1 plans to borrow money to finance biogas digester since she has to cover her son's university fee with her saving.	Farmers participated in workshops are not poor people	yes	The programme does not target the poorest of the poor, as they do not have enough animals and manure to feed the smallest biodigester. Nevertheless, some biogas users can be considered poor and their livelihood will improve and the program creates employment opportunities that can benefit the poor.
Access to affordable and clean energy services: Group 1 and 2 - The upfront investment is high and poor	Opinions are contrary	yes	Biogas users will have access to a cheap source of energy as

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HH without animal husbandry activities can not afford - Poor households with few pigs can invest by borrowing money from friends and relatives to invest in biogas plants - Non -smoke and cleaner kitchen more appropriate for modern kitchen appliances Group 3 and 4 - The upfront investment is high including paper work to get support by project and subsidy rate is low. - Poor households with few pigs can invest by borrowing money from friends and relatives to invest in biogas plants In general biogas is clean energy and affordable for local people			manure is available for free to the farmers.
Human and institutional capacity Group 1 and 2: - Increased knowledge on biogas technology and biogas -related knowledge (global warming, CDM, climate change) - Increased free time from household workload allowing male and female farmers to participate in other community activities or economic activities Group 3 and 4 - Increased knowledge on biogas technology and biogas -related knowledge (global warming, CDM, climate change) - Improved gender-balance in locality, more women take part in training, meeting, WS with their own opinions - Increased familiarity with new technology; more time for other family economic activities,	Very few comment on this indicator	yes	Training for users is very important, the programme will continue with this
Quantitative employment and income generation Group 1 and 2: - Women and children have more free time to engage in other income generation activities (embroidery, gardening) - Higher income for biogas masons (compared to other civil construction jobs); - Current mason teams are potential to become SMEs - Less money spent on conventional domestic energy sources Group 3 and 4 - Income generation from higher productivity crops - Saving up to 300,000 per month - Higher income for biogas masons (compared to other civil construction jobs); Current mason teams have potential to become SMEs	Farmers know about benefits of biogas technology	no	All comments are positive and shared
Balance of payments and investment Group 1 and 2: Difficult to calculate due to low opportunity costs for agricultural residues used as conventional energy source Group 3 and 4 Difficult to calculate due to costing use of rice straw and agricultural biomass used for conventional	Many comments are very general about benefits	no	Difficult to relate the activities with this indicator

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energy source			
Technology transfer and technological self-reliance All groups: - Simple operation and maintenance after being trained - Easy to train and expand mason teams - Technology transfer is appropriate as construction materials are locally available.	Farmers understand biogas technology very well	yes	Instructions and manual should be developed more attractive and simple. This is done regularly with the training manual
Do-no-Harm Indicators:			
Labour condition: Group 1 and 2: Tough working conditions for masons whose work is dependent on weather conditions (very hot during summer time, rainy season) Group 3 and 4 Group 3: Hard working conditions for masons whose work is dependent on weather conditions (very hot during summer time) In rain season, some works are destroyed due to heavy rain and need to be done again Group 4: work safer compared with other construction works	People have the same comments on working conditions of mason	yes	Hot working conditions can be mitigated with the use of ventilators, a custom in the south. A cover over the biodigester will protect the construction side
Financing transparency All groups: Clear and simple procedure Nobody asked for any pick back at the post office or elsewhere Complaint about delay in subsidy delivery (about 6 months already)	Although in the group discussion no problems are indicated, the answer could be different if this issue was discussed in person and not in group/public.	yes	The programme checks proper transfer by random sample telephone interviews
Poor piping and gas leakages	Comment that require serious attention	Yes	BP has improved quality standards and has included in the quality control manual standards on piping in order to prevent breaking and consequent leakages. The quality control (QC) is performed by district technicians after completion of the biogas plant by an independent mason and around 10% QC on QC is performed by provincial staff or BP staff.
Delay in subsidy delivery	Comment that require serious attention	yes	BP has addressed this comment. The subsidy payment is currently around 2 weeks. The improvements started in 2009

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[See Toolkit 2.6]

iv. Revisit sustainability assessment

Are you going to revisit the sustainable development assessment?	Yes	No
Please note that this is necessary when there are indicators scored 'negative' or if there are stakeholder comments that can't be mitigated [See Toolkit 2.7]	☐	x

The discussions indicated that all relevant aspects of the sustainable development assessment were covered. Also the discussion indicated that the programme addresses the relevant concerns.

v. Summary of alterations based on comments

The project regularly updates leaflets and training manuals to make them more understandable. An example is shown hereunder on working conditions and safety



[See Toolkit 2.6.2, 2.8]

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SECTION D. SUSTAINABLE DEVELOPMENT ASSESSMENT

D. 1. Own sustainable development assessment

i. 'Do no harm' assessment

[See Toolkit 2.4.1 and Toolkit Annex H]

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low/medium/high)	Mitigation measure
Human rights			
1. The project respects internationally proclaimed human rights including dignity, cultural property and uniqueness of indigenous people. The project is not complicit in Human Rights abuses.	The project is energy demand oriented and the households that are included in the project participate voluntary. The project is not complicit in human rights abuses	None	Not required
2. The project does not involve and is not complicit in involuntary resettlement.	The biogas digester is constructed at the premises of the household involved in the project and will not result in relocation of persons or households	low	Not required
3. The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage	The biogas digester is constructed at the premises of the household where no critical cultural heritage is to be found	low	Not required
Labour standards			
4. The project respects the employees' freedom of association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights	The design and construction of the digesters are executed by qualified technicians and masons who are willing to work for the project against a market conform payment. Households are open to contact several masons, as	low	The programme complies with the Vietnamese Labor Law

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	well as other biogas technology suppliers.		
5. The project does not involve and is not complicit in any form of forced or compulsory labour	Masons and technicians volunteer to be trained by the project to become officially qualified, the masons are free to work and provide services to farmer households and others on market price basis. Masons work independently of the program and are free to put their knowledge into practice outside the program as well	low	The programme complies with the Vietnamese Labor Law
6. The project does not employ and is not complicit in any form of child labour	All masons involved in the project are certified by the ministry of agriculture and rural development (MARD). MARD only certifies experienced masons above 18 years of age and therefore excludes children.	Low	The programme complies with the Vietnamese Labor Law
7. The project does not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis.	Everybody is eligible to work for the project provided that they are experienced, trained and certified by MARD. MARD does not exclude anybody from the training regardless of gender, race, religion, sexual orientation or any other basis. The program tries to actively motivate especially women to take part in the program and benefit from the training and potential income generating activities	Low	The programme complies with the Vietnamese Labor Law. The programme further has an expressed positive gender recruitment policy
8. The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments.	The design and construction of the digesters are conducted by qualified masons who are certified by MARD. The technology applied is mature. The working environment is safe and healthy, masons are never alone on site. Furthermore to safeguard the	Low	The programme complies with the Vietnamese Labor Law. In addition, construction and operation manuals explicitly mention safety precautions.

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	safety of both masons and users the biogas user handbook and safety leaflet are distributed to all users. Safety issues are also an important part of the training for masons and technicians, as well as the training for the end user.		
Environmental Protection			
9. The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle.	The construction of household biogas digesters has obvious positive benefits on the local environment and is encouraged by local governments. There is no environmental threat. In addition, the project takes a precautionary approach by certifying masons, quality control of the construction etc.	low	Not required
10. The project does not involve and is not complicit in significant conversion or degradation of critical natural habitats, including those that are (a) legally protected, (b) officially proposed for protection, (c) identified by authoritative sources for their high conservation value, or (d) recognized as protected by traditional local communities.	Not applicable: biogas installations are constructed on the farm-site. The project has a positive impact on the natural habitat and therefore does not, in any way; result in degradation or conversion of natural habitat.	Low	Not required
Anti-Corruption			
11. The project does not involve and is not complicit in corruption.	The cost of construction and implementation will be paid by household farmers on market price basis. Households pay directly to the supplier of construction material. Furthermore a subsidy is only given by the	Low	Not required

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	project to households that really installed and took into operation the biogas unit. A throughout quality control and monitoring system is used to check these requirements. Furthermore subsidies are paid through the post-office system in Vietnam only directly to the owner of the biogas unit whose ID number is on the application. All data on household are entered in to the project database. If the entry by the provincial biogas project division is wrong that cause miss direction for subsidy transfer then the PBPDs will be fully responsible for extra money transfer charge and the delay in transfer process. Any fraud will be reported to relevant authorities for suitable legal action		
Additional relevant critical issues for my project type	Description of relevance to my project	Assessment of relevance to my project (low/medium/high)	Mitigation measure
No additional relevant issues identified			

ii. Sustainable development matrix

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Gold Standard indicators of sustainable development.	If relevant copy mitigation measure from "do no harm"	Check www.undp.org/mdg and www.mdgmonitor.org	Defined by project developer	

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	–table, or include mitigation measure used to neutralise a score of ‘–’	Describe how your indicator is related to local MDG goals		
Air quality		Applies to MDG target 4 (4.1, 4.2), & 5. Clean indoor air will reduce under-five mortality rate (4.1) and infant mortality rate and the disease burden due to indoor air pollution	Parameter: Compared to the baseline the project reduces wood and coal consumption for cooking and kerosene consumption for lighting. Explanation: Substituting traditional cooking fuels, biogas virtually eliminates indoor air pollution resulting from incomplete combustion of agricultural residue, coal and / or firewood. Using biogas instead of coal will eliminate the emission of SPM (Solid Particle Matter), CO emission is around 2084% higher with coal compared to biogas. See the justification for the impact on the other fuels.	+
Water quality and quantity		Applies to MDG target 7 (7.8, 7.9). Proportion of population using an improved water source and improved sanitation	Explanation: Domestic biogas plants requires a fair amount of process water on a daily basis and this may impact water quantity. No impact on	0

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		facility.	water quality is expected. Water availability however is not critical in most provinces of Vietnam	
Soil condition		Applies to MDG target 7B: Reduce biodiversity loss	Parameter: <u>Usage of bio-slurry as green fertilizer</u> Explanation: <u>The application of bio-slurry instead of chemical fertilizers will balance nutrient inflow and outflows, which closes the nutrient loops. Furthermore using bio-slurry instead of fresh manure can improved yields as nutrients are better accessible for absorption by the plant roots.</u>	+
Other pollutants		Not applicable to MDG	No other pollutant sources identified	0
Biodiversity		Applies to MDG 7; target 7B Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss:	Explanation: The installation of a bio-digester will reduce fuel wood demand and thereby reducing destruction of leaving forests and natural habitat. Parameter: Cumulative amount of wood saved due to the fuel switch to biogas	+
Quality of employment		Applies for MDG, target 1	Explanation: Construction and	+

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		(1.b). Achieve full and productive employment and decent work for all, including women and young people.	quality control requires well skilled mason and technicians. Parameter: Number of trained masons and technicians trained	
Livelihood of the poor		MDG, 1.1, 3.4, 4.5	Explanation: Proper disposal of waste will improve sanitation and therefore the livelihood of the poor Parameter: Access to sanitation. Cumulative number of people that have access to an improved waste management system	+
Access to affordable and clean energy services		MDG 7: Ensure environment sustainability.	Parameter: Total amount of energy replaced by biogas Explanation: Domestic biogas installations produce clean energy. The displacement of energy from traditional fuel by biogas reflects access to a clean energy technology.	+
Human and institutional capacity		not applicable	Explanation: It is not expected that human and institutional capacity will improve considerably by the project. Although the project has helped to improve the advanced provincial officers capacity through	0

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			training of project management (monitoring and evaluation), also advanced masons through business start-up and marketing skill courses.	
Economic and technological development				
Quantitative employment and income generation		Applies for MDG, target 1 (1.b).	Explanation: A biogas plant saves expenditure and will indirectly contribute to income generation. The biogas digester however does not generate income. The installation of biodigester will result in employment opportunities of local masons. The program does not keep track of the number of masons employed, only of how many are trained, see indicator quality of employment. The score on this indicator is therefore not included.	0
Balance of payments and investment		Not applicable	No impacts is expected on this parameter.	0
Technology transfer and technological self-reliance		Applied to MDG 8: Target 8f: In cooperation with the private sector, make available the benefits of new technologies, especially	Parameter: Number of biodigesters built Explanation: The programme is using an indigenous MARD recognized technology which is virtually maintenance free and	+

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		information and communications	built by using locally available materials. Construction and after sales services are provided by local artisans. The implementation of the project is a clear example technological self-reliance.																										
Justification choices, data source and provision of references																													
Air quality	The indoor air quality will improve significantly, since biogas is a clean fuel which does not emit hazardous pollutants (respirable suspended particulate matter, eye irritating smoke) when combusted (Rehfuess, Mehta et al. 2006)⁹ An independent company measured the impact on IAP of biogas compared to other fuels. (EPRO (2011) assessment of biogas effects on decreasing air pollution around cooking place). The study showed that biogas caused by far the least amount of IAP compared to coal, wood and agricultural residue. The next table shows the incremental increase in the amount of pollutants in the indoor air of various fuels. Table 1: Incremental changes in IAP* <table> <tr> <th>Parameter</th><th>Biogas (HH)</th><th>Coal</th><th>Wood</th><th>Crop residue</th></tr> <tr> <td>SPM</td><td>0</td><td>0.03</td><td>2.99</td><td>3.51</td></tr> <tr> <td>CO</td><td>0.19</td><td>4.15</td><td>1.75</td><td>1.17</td></tr> <tr> <td>SO₂</td><td>0.01</td><td>0.01</td><td>0.01</td><td>0.01</td></tr> <tr> <td>H₂S</td><td>0</td><td>0</td><td>0.02</td><td>0.01</td></tr> </table> <i>* concentration of pollutants after cooking – before cooking</i> The parameters in the table shows that the use of biogas deteriorate the indoor air the least. The next table shows the relative increases of pollutions compared to biogas Table 2: Relative increase of IAP compared to the use of biogas				Parameter	Biogas (HH)	Coal	Wood	Crop residue	SPM	0	0.03	2.99	3.51	CO	0.19	4.15	1.75	1.17	SO ₂	0.01	0.01	0.01	0.01	H ₂ S	0	0	0.02	0.01
Parameter	Biogas (HH)	Coal	Wood	Crop residue																									
SPM	0	0.03	2.99	3.51																									
CO	0.19	4.15	1.75	1.17																									
SO ₂	0.01	0.01	0.01	0.01																									
H ₂ S	0	0	0.02	0.01																									

⁹ Rehfuess, E., S. Mehta, et al. (2006). "Assessing Household Solid Fuel Use: Multiple Implications for the Millennium Development Goals." Environmental Health Perspectives **114**(3): 373-378.

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Parameter	Coal	Wood	Crop residue
SPM	*	*	*
CO	2184%	921%	616%
SO ₂	100%	100%	100%
HCS	227%	320%	253%
H ₂ S	*	*	*
* Impossible to calculate the relative increase as biogas did not increase the pollutions after cooking (incremental change = 0). The other fuels however did show an increase, and although impossible to calculate, the increase compared to biogas is enormous (see table 1). The study shows that biogas is a much cleaner fuel compared to the other fuels. The decrease of the use of solids fuels is used as a proxy for the improvement in IAP in the monitoring plan.			
Water quality and quantity	Unsafe water and lack of sanitation ranks number 6 of the top 10 disease factors according to the WHO¹⁰. A biodigester treats waste, removes pathogens and coliforms. However as bio-slurry contains the same amount of nutrients as manure, it is not expected that the water quality will decrease or improve considerably.		
Soil condition	The literature shows that bio-slurry has similar characteristics as chemical fertilizer (Srinivasan 2008)¹¹, and can therefore displace chemical fertilizers and amend the soil. However, this is not always practices by farmers as their land is often far away. Therefore no significant improvement of the soil conditions is expected.		
Other pollutants	Biogas generation does not result in other pollutants and therefore this indicator is scored neutral, see http://www.snvworld.org/sites/www.snvworld.org/files/publications/snv_domestic_biogas_leaflet.pdf,		
Biodiversity	Biogas plants help to conserve natural habitat according to a WWF report: http://www.worldwildlife.org/what/howwedoit/conservationfinance/Approaches%20to%20Financing%20Conservation.html		
Quality of employment	Training of masons will lead to the creation of skills. With these skills masons can work with biodigester or in other construction works¹²		

¹⁰ WHO (2002). World Health Report: Reducing Risks, Promoting Healthy Life. Geneva.

¹¹ Srinivasan, S. (2008). "Positive externalities of domestic biogas initiatives: Implications for financing." Renewable and Sustainable Energy Reviews 12(5): 1476-1484.

¹²

http://www.snvworld.org/en/Documents/Biogas_training_manual_for_mason_a_guide_for_trainer_Nepal_1994.pdf

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Livelihood of the poor	The installation of a bio digester will improve sanitation, make the yard cleaner and will properly treat waste (UNEP: http://www.unep.org/ietc/Portals/136/Other%20documents/Other%20projects/Ecological%20sanitation%20-%20Philippines/Case%20studies%20from%20Cambodia/08%20KH_SNV_NBP_Project_Case_Study.pdf)
Access to affordable and clean energy services	The only costs of biogas are the opportunity costs involved in the daily operation and maintenance of the biogas plant. However, since the time involved in collection fuel wood, tendering the wood fire, cleaning the sooth from the pans is much higher than the total time expenditure of operating the biodigester (ESMAP 2004 ; Dutta, Rehman et al, 1997) ; GTZ, 1999 ; Biogas, being a clean fuel, will reduce the reliance of fuels that are bought, and hence the energy costs will decrease.
Human and institutional capacity	The program trains workings and builds capacity; this is measured with the parameter quality of employment. Although this parameters is related, no other measureable parameters could be identified showing a positive impact on human and institutional capacity. Therefore this parameter is scored 0, see http://www.thepowerofhow.org/uploads/wysiwyg/documents/other_resources/snv/Building_viable_domestic_biogas_programmes.pdf
Quantitative employment and income generation	The main workers are masons. As masons operate independently, it is not possible to measure directly the amount of jobs created. A biogas plant saves fuel, and will not generate income. Therefore this parameter is scored 0. See http://www.thepowerofhow.org/uploads/wysiwyg/documents/other_resources/snv/Buiding_viable_domestic_biogas_programmes.pdf
Balance of payments and investment	No significant additional impact on payment and investments is expected, the parameter is therefore scored 0, see http://www.thepowerofhow.org/uploads/wysiwyg/documents/other_resources/snv/Building_viable_domestic_biogas_programmes.pdf
Technology transfer and technological self-reliance	The use of an in-country developed digester is a clear example of technological self-reliance. The KT1 biogas model has its roots in the Chinese fixed dome digester. The Vietnamese institute of Energy (IE) was already working on modifying the model before the BP initiative started. SNV and MARD, partnered together in BP, have used this as a starting point and IE was part of the hereafter technical improvements. The KT model is even named after one of the Vietnamese founding fathers. It is open source technology, and designs are available for the market. Therefore this is an example of technological transfer and the self-reliance can be shown by the development of KT2 (a modified KT1 biodigester for high water table areas). The number of masons trainings, including refreshment courses, on biodigester construction is used as indicator. Before the onset of the program, biogas activities were small, scattered and

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	lacked proper quality control as described in the PDD B.5 (technological barriers).
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[See Toolkit 2.4.2 and Toolkit Annex I]

Comments accompanying own sustainable development matrix

No comments were accompanied with the sustainable development matrix

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D. 2. Stakeholders Blind sustainable development matrix

[See Toolkit 2.6.1]

Includes both the Pho Tho and Nghe Anh consultations

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Gold Standard indicators of sustainable development	If relevant, copy mitigation measure from 'Do No Harm' assessment, and include mitigation measure used to neutralise a score of '-'	Check www.undp.org/mdg and www.mdgmonitor.org Describe how your indicator is related to local MDG goals	Defined by workshop participants	<u>Negative impact:</u> score '-' in case negative impact is not fully mitigated, score '0' in case impact is planned to be fully mitigated <u>No change in impact:</u> score '0' <u>Positive impact:</u> score '+'
Air quality		no relationship identified	The workshop participants identified the reduction of bad smell a most important parameter of the improvement of air quality	+
Water quality and quantity		no relationship identified	Less pollution of the ground water and streams by the installation of biogas plants	+
Soil condition		no relationship identified	The use of biogas improves the quality of the soil	+
Other pollutants	- Gas meter - More frequent use of biogas light and other electrical appliances (generator,	no relationship identified	Concerns regarding smell when lighting the stove and too much gas. Smell form the	0

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	fridge, etc)		stove is actually positive as without it leaks would not be discovered. An overproduction of biogas is not considered a big problem as it only occurs in few households. The training that households receives includes measures on how to promote biogas usage (boiling water, biogas water heaters etc)	
Biodiversity		MDG 7.2: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss proportion of land area covered by forest and proportion of species threatened with extinction	Difficult to appreciate by farmers, they link it mostly to productivity. Nevertheless, the reduction of wood use will reduce degradation of animal habitat and therefore reduce the pressure on the biodiversity.	+
Quality of employment		MDG 1.3: Achieve full and productive employment and decent work for all, including women and young people	More employment for masons and less dangerous compared to other jobs	+
Livelihood of the poor		no relationship identified	Reduces the workload of households as the biogas plants saves time on cooking activities. Most people that install a biogas plant are not the poorest as they have animals.	+
Access to affordable and clean energy services		no relationship identified	The energy comes for free after the investment, but households complain that the upfront investment is very high. Less smoke: Biogas is a clean fuel and does not pollute the indoor air compared to	+

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			wood or coal.	
Human and institutional capacity		no relationship identified	Increased knowledge on global warming and technology Improved gender balance as many women participate in the training	+
Quantitative employment and income generation		MDG 1.3: Achieve full and productive employment and decent work for all, including women and young people	Higher income due to the use of bio-slurry Other comments match the description of quality of employment	+
Balance of payments and investment		no relationship identified	no parameter identified. Very hard for farmers to comment upon.	+
Technology transfer and technological self-reliance		no relationship identified	The biogas plant is an appropriate technology as it can be constructed using local materials	+

Comments resulting from the stakeholders blind sustainable development matrix

No comments

Give analysis of difference between own sustainable development matrix and the one resulting from the blind exercise with stakeholders. Explain how both were consolidated.

The consolidation followed the assessment of BPD. Local stakeholders assessed that the project is positive on every indicator; however, the positive contributions are not always measurable and quantifiable. The consolidated matrix is therefore limited to the assessment of BPD.

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D. 3. Consolidated sustainable development matrix

[See Toolkit 2.4.2]

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Gold Standard indicators of sustainable development.	If relevant copy mitigation measure from "do no harm" –table, or include mitigation measure used to neutralise a score of ‘_’	Check www.undp.org/mdg and www.mdgmonitor.org Describe how your indicator is related to local MDG goals	Defined by project developer	‘_’
Air quality		Applies to MDG target 4 (4.1, 4.2), & 5. Clean indoor air will reduce under-five mortality rate (4.1) and infant mortality rate and the disease burden due to indoor air pollution	Parameter: Compared to the baseline the project reduces wood and coal consumption for cooking and kerosene consumption for lighting. Explanation: Substituting traditional cooking fuels, biogas virtually eliminates indoor air pollution resulting from incomplete combustion of agricultural residue, coal and / or firewood. Using biogas instead of coal will eliminate the emission of SPM (Solid Particle Matter), CO	+

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			emission is around 2084% higher with coal compared to biogas. See the justification for the impact on the other fuels.	
Water quality and quantity		Applies to MDG target 7 (7.8, 7.9). Proportion of population using an improved water source and improved sanitation facility.	Explanation: Domestic biogas plants requires a fair amount of process water on a daily basis and this may impact water quantity. No impact on water quality is expected. Water availability however is not critical in most provinces of Vietnam	0
Soil condition		Applies to MDG target 7B: Reduce biodiversity loss	Parameter: Usage of bio-slurry as green fertilizer Explanation: The application of bio-slurry instead of chemical fertilizers will balance nutrient inflow and outflows, which closes the nutrient loops. Furthermore using bio-slurry instead of fresh manure can improved yields as nutrients are better accessible for absorption by the plant roots.	+
Other pollutants		Not applicable to MDG	No other pollutant sources identified	0
Biodiversity		Applies to MDG 7; target 7B Reduce	Explanation: The installation of a bio-	+

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		biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss:	digester will reduce fuel wood demand and thereby reducing destruction of leaving forests and natural habitat. Parameter: Cumulative amount of wood saved due to the fuel switch to biogas	
Quality of employment		Applies for MDG, target 1 (1.b). Achieve full and productive employment and decent work for all, including women and young people.	Explanation: Construction and quality control requires well skilled mason and technicians. Parameter: Number of trained masons and technicians trained	+
Livelihood of the poor		MDG, 1.1, 3.4, 4.5	Explanation: Proper disposal of waste will improve sanitation and therefore the livelihood of the poor Parameter: Access to sanitation. Cumulative number of people that have access to an improved waste management system	+
Access to affordable and clean energy services		MDG 7: Ensure environment sustainability.	Parameter: Total amount of energy replaced by biogas Explanation: Domestic biogas installations produce clean energy. The displacement of	+

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			energy from traditional fuel by biogas reflects access to a clean energy technology.	
Human and institutional capacity		not applicable	Explanation: It is not expected that human and institutional capacity will improve considerably by the project. Although the project has helped to improve the advanced provincial officers capacity through training of project management (monitoring and evaluation), also advanced masons through business start-up and marketing skill courses.	0
Economic and technological development				
Quantitative employment and income generation		Applies for MDG, target 1 (1.b).	Explanation: A biogas plant saves expenditure and will indirectly contribute to income generation. The biogas digester however does not generate income. The installation of biodigester will result in employment opportunities of local masons. The program does not keep track of the number of masons employed, only of how many are trained, see indicator quality of	0

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			employment. The score on this indicator is therefore not included.	
Balance of payments and investment		Not applicable	No impacts is expected on this parameter.	0
Technology transfer and technological self-reliance		Applied to MDG 8: Target 8f: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	Parameter: Number of biodigesters built Explanation: The programme is using an indigenous MARD recognized technology which is virtually maintenance free and built by using locally available materials. Construction and after sales services are provided by local artisans. The implementation of the project is a clear example technological self-reliance.	+
Justification choices, data source and provision of references				
Air quality	The indoor air quality will improve significantly, since biogas is a clean fuel which does not emit hazardous pollutants (respirable suspended particulate matter, eye irritating smoke) when combusted (Rehfuess, Mehta et al. 2006)¹³ An independent company measured the impact on IAP of biogas compared to other fuels. (EPRO (2011) assessment of biogas effects on decreasing air pollution around cooking place). The study showed that biogas caused by far the least amount of IAP compared to coal, wood and agricultural residue. The next table shows the incremental increase in the amount of pollutants in the indoor air of various fuels. Table 3: Incremental changes in IAP*			

¹³ Rehfuess, E., S. Mehta, et al. (2006). "Assessing Household Solid Fuel Use: Multiple Implications for the Millennium Development Goals." Environmental Health Perspectives **114**(3): 373-378.

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Parameter	Biogas (HH)	Coal	Wood	Crop residue
SPM	0	0.03	2.99	3.51
CO	0.19	4.15	1.75	1.17
SO ₂	0.01	0.01	0.01	0.01
HCS	0.15	0.34	0.48	0.38
H ₂ S	0	0	0.02	0.01

* concentration of pollutants after cooking – before cooking

The parameters in the table shows that the use of biogas deteriorate the indoor air the least. The next table shows the relative increases of pollutions compared to biogas

Table 4: Relative increase of IAP compared to the use of biogas

Parameter	Coal	Wood	Crop residue
SPM	*	*	*
CO	2184%	921%	616%
SO ₂	100%	100%	100%
HCS	227%	320%	253%
H ₂ S	*	*	*

* Impossible to calculate the relative increase as biogas did not increase the pollutions after cooking (incremental change = 0). The other fuels however did show an increase, and although impossible to calculate, the increase compared to biogas is enormous (see table 1).

The study shows that biogas is a much cleaner fuel compared to the other fuels. The decrease of the use of solids fuels is used as a proxy for the improvement in IAP in the monitoring plan.

Water quality and quantity	Unsafe water and lack of sanitation ranks number 6 of the top 10 disease factors according to the WHO ¹⁴ . A biodigester treats waste, removes pathogens and coliforms. However as bio-slurry contains the same amount of nutrients as manure, it is not expected that the water quality will decrease or improve considerably.
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¹⁴ WHO (2002). World Health Report: Reducing Risks, Promoting Healthy Life. Geneva.

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Soil condition	The literature shows that bio-slurry has similar characteristics as chemical fertilizer (Srinivasan 2008) ¹⁵ , and can therefore displace chemical fertilizers and amend the soil.
Other pollutants	Biogas generation does not result in other pollutants and therefore this indicator is scored neutral, see http://www.snvworld.org/sites/www.snvworld.org/files/publications/snv_domestic_biogas_leaflet.pdf .
Biodiversity	Biogas plants help to conserve natural habitat according to a WWF report: http://www.worldwildlife.org/what/howwedoit/conservationfinance/Approaches%20to%20Financing%20Conservation.html
Quality of employment	Training of masons will lead to the creation of skills. With these skills masons can work with biodigester or in other construction works ¹⁶
Livelihood of the poor	The installation of a bio digester will improve sanitation, make the yard cleaner and will properly treat waste (UNEP: http://www.unep.org/ietc/Portals/136/Other%20documents/Other%20projects/Ecological%20sanitation%20-%20Philippines/Case%20studies%20from%20Cambodia/08%20KH_SNV_NBP_Project_Case_Study.pdf
Access to affordable and clean energy services	The only costs of biogas are the opportunity costs involved in the daily operation and maintenance of the biogas plant. However, since the time involved in collection fuel wood, tendering the wood fire, cleaning the sooth from the pans is much higher than the total time expenditure of operating the biodigester (ESMAP 2004 ; Dutta, Rehman et al, 1997) ; GTZ, 1999 ; Biogas, being a clean fuel, will reduce the reliance of fuels that are bought, and hence the energy costs will decrease.
Human and institutional capacity	The program trains workings and builds capacity; this is measured with the parameter quality of employment. Although this parameters is related, no other measureable parameters could be identified showing a positive impact on human and institutional capacity. Therefore this parameter is scored 0, see http://www.thepowerofhow.org/uploads/wysiwyg/documents/other_resources/snv/Building_viable_domestic_biogas_programmes.pdf
Quantitative employment and income generation	The main workers are masons. As masons operate independently, it is not possible to measure directly the amount of jobs created. A biogas plant saves fuel, and will not generate income. Therefore this parameter is scored 0. See http://www.thepowerofhow.org/uploads/wysiwyg/documents/other_resources/snv/Building_viable_domestic_biogas_programmes.pdf
Balance of payments and	No significant additional impact on payment and investments is expected, the parameter is therefore scored 0, see

¹⁵ Srinivasan, S. (2008). "Positive externalities of domestic biogas initiatives: Implications for financing." Renewable and Sustainable Energy Reviews 12(5): 1476-1484.

¹⁶

http://www.snvworld.org/en/Documents/Biogas_training_manual_for_mason_a_guide_for_trainer_Nepal_1994.pdf

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investment	http://www.thepowerofhow.org/uploads/wysiwyg/documents/other_resources/snv/Building_viable_domestic_biogas_programmes.pdf
Technology transfer and technological self-reliance	The use of an in-country developed digester is a clear example of technological self-reliance. The KT1 biogas model has its roots in the Chinese fixed dome digester. The Vietnamese institute of Energy (IE) was already working on modifying the model before the BP initiative started. SNV and MARD, partnered together in BP, have used this as a starting point and IE was part of the hereafter technical improvements. The KT model is even named after one of the Vietnamese founding fathers. It is open source technology, and designs are available for the market. Therefore this is an example of technological transfer and the self-reliance can be shown by the development of KT2 (a modified KT1 biodigester for high water table areas). The number of masons trainings, including refreshment courses, on biodigester construction is used as indicator. Before the onset of the program, biogas activities were small, scattered and lacked proper quality control as described in the PDD B.5 (technological barriers).

References can be an academic or non-academic source, such as a university research document, a feasibility study report, EIA, relevant website, etc.

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SECTION E. DISCUSSION ON SUSTAINABILITY MONITORING PLAN

[See Toolkit 2.4.3 and 2.6.1]

Discuss stakeholders' ideas on monitoring sustainable development indicators. Do people have ideas on how this could be done in a cost effective way? Are there ways in which stakeholders can participate in monitoring?

The stakeholder consultation rounds were held in 2009 based on GS Passport version 2.0, the GS version 2.0 did not include discussion on the monitoring plan is therefore not included. On basis of this an elaborative Stakeholder Feedback round has been organized.

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SECTION F. DESCRIPTION OF THE DESIGN OF THE STAKEHOLDER FEEDBACK ROUND

[See Toolkit 2.11]

The stakeholders of the original participant are be contacted and a summary of the workshop, their comments and the do no harm and the SD assessment is sent to them. They will be given 2 months to reply.

All of the three documents (PDD, Passport and LSC report) are published on the GS registry for comments for two months. Relevant GS NGO supporters will be actively invited to give comments by sending an email to them. In addition to this, the documents will be published on the BP website (www.biogas.vn.org) for public review.

The GSPP details the Stakeholder feedback round in detail.

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ANNEX 1. ORIGINAL PARTICIPANTS LIST

SCW

i. Danh sách đại biểu tham dự hội thảo

Thời gian: 3/4/2009				
Địa điểm: xã Nghi Thuận, huyện Nghi Lộc, tỉnh Nghệ An				
Tên đại biểu – nghề nghiệp / địa vị tại địa phương	Nam / Nữ	Ký xác nhận	Cơ quan	Địa chỉ liên lạc
1 Nguyễn Thị Mùi		Mùi		✓
2 Lê Thị Hoàng		Hoàng		✓
3 Ông Văn Dành		Dành		✓
4 Lê Thị Vy		Vy		✓
5 Đặng Bá Trọng		Trọng		✓
6 Đặng Văn Hùng		Hùng	Thị xã	✓
7 Nguyễn Văn Thái		Thái	Kiểm tra nông vụ	✓
8 Nguyễn Thị Thanh		Thanh		✓
9 Lê Thị Hoàng		Hoàng		✓
10 Ông Diên Lợi		Lợi		✓
11 Nguyễn Đình Hợp		Hợp	Chủ tịch UBND	0989703999
12 Ông Thị Chung		Chung		✓
13 Ông Văn Xuân		Xuân		✓
14 Nguyễn Bình Tiến		Tiến		✓
15 Phạm Thị Loan		Loan		✓
16 Đặng Khắc Đăng		Đăng		✓
17 Trần Văn Mỹ		Mỹ		✓
18 Nguyễn Thị Dung		Dung		✓
19 Trần Văn Bình		Bình		✓
20 Nguyễn Văn Cường		Cường		✓

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SCW

I. Danh sách đại biểu tham dự hội thảo

21	Dương Thị Thủy					✓
22	Nguyễn Đình Phương					✓
23	Dương Văn Hòa					✓
24	Lê Văn Hòa			Dương Thị Xí		✓
25	Lê Thị Lâm					✓
26	Trần Văn Sơn					✓
27	Lê Thị Vĩnh					✓
28	Lê Xuân Lộc					✓
29	Ngô Văn Tiến					✓
30	Nguyễn Văn Thủy					✓
31	Lê Thị Xuân					✓
32	Hoàng Thị Bình			Hồ Thị Nữ		✓
33	Nguyễn Văn Trung			Thị Văn		✓
34	Trần Văn Trung					✓
35	Nguyễn Thị Huệ Anh					
36	Thanh Bình V					
37	Thanh Văn					
38	Lê Tâm					
39	Xuân Bình					
40	ELKE FÖRSTER					
41	MARTIN BURIAN					
42	ZORAN KAPOR					
43	DANIEL BLANK					

VNECC
 phiên dịch
 phiên dịch
 phiên dịch



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SCW

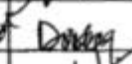
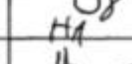
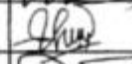
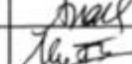
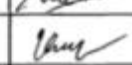
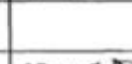
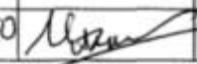
I. Danh sách đại biểu tham dự hội thảo

Thời gian: 9/4/2009				
Địa điểm: thị trấn phước châu, huyện Phú Ninh, Phú Thọ				
Tên đại biểu – nghề nghiệp / địa vị tại địa phương	Nam / Nữ	Ký xác nhận	Cơ quan	Địa chỉ liên lạc
1 Nguyễn Thị Hoa	✓	Hoa		
2 Bùi Minh Sang		Sang		
3 Hoàng Văn Đông	✓	Đông		
4 Trần Thị Mai	✓	Mai		
5 Nguyễn Văn Sơn	nam	Sơn		
6 Nguyễn T. Thuý Dung	Nữ	Thuý Dung		
7 Trương Anh Dũng	✓ nam	Anh Dũng		
8 Ngô Thị Thuê	Nữ	Thuê		
9 Ngô Anh Tuấn	✓ nam	Tuấn		
10 Nguyễn Đức Ca	✓ nam	Đức Ca		
11 Trần Thị Lý	✓ Nữ	Thị Lý		
12 Ngô Văn Bình	✓ nam	Bình		
13 Trần Thị Hà	✓ nữ	Hà		
14 Dương Ngọc Bích	✓ nam	Bích		
15 Phan Thị Loan	✓ nữ	Loan		
Hương Trung Kiên	✓ Nam	Kiên		
Hương Thị Huệ	nữ	Huệ		
Bao Thị Tú	nữ	Tú		
Nguyễn Thị Yên	✓ nữ	Yên		
Trần Thị Bảo	nữ	Bảo		

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I. Danh sách đại biểu tham dự hội thảo

Nguyễn Anh Tú	Nam			
Nguyễn Thị Thủy Dung	Nữ			
Nguyễn Mạnh Hà	Nam	Hà		
Phạm Tung Thủy	Nam			
Hà Thị Dung	Nam			
Đinh Hồng Tâm	Nam			
Trần Tuyết Nhung	Nữ			
Nguyễn Thị Hải Yến	Nữ			
Nguyễn Thị Anh	Nữ			
Trần Thị Lê Tâm	Nữ			
Lê Thị Anh	Nữ			
Total		320.000		

EC ke Forster

Forster

BOHAN KAPOR

all

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Translated list of participants of the post construction workshop and the promotion workshop

Note that this is an example, around 4,000 of these workshops were organized.

PBPD
Province Thai Binh

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

Form 32

LIST OF PARTICIPANTS ON BIOGAS TRAINING/ WORKSHOP

Contents: Post-construction for biogas users

Timing: half day from 8 am to 10:30 am November 20th 2010

Venue: Meeting room of Bac Hung village, Phuc Thanh commune
District Vu Thu

No.	Full name	Address	Received amount	Stationery*	Signature
1	<u>Nguyen Van Tinh</u>	<u>Phuc Thanh</u>	10.000	10.000	
2	<u>Bui Van Hiep</u>	<u>Phuc Thanh</u>	10.000	10.000	
3	<u>Hoang Manh Tu</u>	<u>Tan Phong</u>	10.000	10.000	
4	<u>Nguyen Cong Thanh</u>	<u>Tan Phong</u>	10.000	10.000	
5	<u>Nguyen Van Bat</u>	<u>Tan Phong</u>	10.000	10.000	
6	<u>Phan Ngoc Can</u>	<u>Tan Phong</u>	10.000	10.000	
7	<u>Dong Van Thanh</u>	<u>Tan Phong</u>	10.000	10.000	
8	<u>Le Thi Dung</u>	<u>Duy Nhat</u>	10.000	10.000	
9	<u>Pham Ngoc Bui</u>	<u>Duy Nhat</u>	10.000	10.000	
10	<u>Do Xuan Tinh</u>	<u>Hong Phong</u>	10.000	10.000	
11	<u>Lai Van Tin</u>	<u>Hong Phong</u>	10.000	10.000	
12	<u>Ngo Thi Mung</u>	<u>Vu Tien</u>	10.000	10.000	
13	<u>Pham Quang Vinh</u>	<u>Vu Tien</u>	10.000	10.000	
14	<u>Nguyen Van Hinh</u>	<u>Vu Tien</u>	10.000	10.000	
15	<u>Pham Van Bi</u>	<u>Nguyen Xa</u>	10.000	10.000	
16	<u>Bui Huu Lac</u>	<u>Nguyen Xa</u>	10.000	10.000	
17	<u>Vu Thi Diu</u>	<u>Vu Hoi</u>	10.000	10.000	
18	<u>Nguyen Thi Hong</u>	<u>Vu Hoi</u>	10.000	10.000	
19	<u>Hoang Thi Nguyet</u>	<u>Vu Thang</u>	10.000	10.000	
20	<u>Bui Dinh Che</u>	<u>Viet Thuan</u>	10.000	10.000	
21	<u>Doan Dinh Thi</u>	Trainer	10.000	10.000	
22	<u>Bui Quang Chau</u>	Support	10.000	10.000	
Total:			220.000	220.000	

* (should indicate whether stationery is circulated in cash or in kind)

Organizer

Trainer

Thai Binh, November 20th 2010

Prepared by

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Form 32

PBPD
Province Thai Binh

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

LIST OF PARTICIPANTS ON BIOGAS TRAINING/ WORKSHOP

Contents: Pre-construction for potential biogas users

Timing: half day from 8am to 11 am January 5th 2010

Venue: Meeting room of Nam Duong Tay village, Nam Cao commune
District Kien Xuong

No.	Full name	Address	Received amount	Stationery*	Signature
1	<u>Nguyen Van Chien</u>	Nam Cao	10.000	10.000	
2	<u>Tran Van Viet</u>	Nam Cao	10.000	10.000	
3	<u>Nguyen Thi Nhieu</u>	Nam Cao	10.000	10.000	
4	<u>Pham Thi Huyen</u>	Nam Cao	10.000	10.000	
5	<u>Nguyen Van Nam</u>	Nam Cao	10.000	10.000	
6	<u>Nguyen Thi Van</u>	Nam Cao	10.000	10.000	
7	<u>Tran Duy Dien</u>	Nam Cao	10.000	10.000	
8	<u>Ngo Quang Hung</u>	Nam Cao	10.000	10.000	
9	<u>Nguyen Ngoc Tinh</u>	Nam Cao	10.000	10.000	
10	<u>Pham Thi Thu</u>	Nam Cao	10.000	10.000	
11	<u>Nguyen Thanh Mia</u>	Nam Cao	10.000	10.000	
12	<u>Dang Van Cong</u>	Nam Cao	10.000	10.000	
13	<u>Dang Van Hung</u>	Nam Cao	10.000	10.000	
14	<u>Dang Quang Luc</u>	Nam Cao	10.000	10.000	
15	<u>Pham Van Ruong</u>	Nam Cao	10.000	10.000	
16	<u>Nguyen Van Tri</u>	Nam Cao	10.000	10.000	
17	<u>Nguyen Tuan An</u>	Nam Cao	10.000	10.000	
18	<u>Bui Quoc Hoa</u>	Nam Cao	10.000	10.000	
19	<u>Vu Dinh Hoa</u>	Nam Cao	10.000	10.000	
20	<u>Nguyen Thi Anh</u>	Nam Cao	10.000	10.000	
21	<u>Doan Dinh Thi</u>	Trainer	10.000	10.000	
22	<u>Bui Quang Chau</u>	Support	10.000	10.000	
Total:			220.000	220.000	

* (should indicate whether stationery is circulated in cash or in kind)

Organizer

Trainer

Thai Binh, January 5th 2010
Prepared by

ANNEX 2. ORIGINAL EVALUATION FORMS

Unfortunately the original evaluation forms could not be found. A summary however is available and included in this report, see section C1. Also, a Miss Le Thuy Anh from the GS NGO supporter WWF can confirm that the meeting was executed according to GS guidelines and procedures.

ANNEX 3. MEDIA ATTENTION AND SPREAD OF INFORMATION

Publication: PEOPLE Magazine

Date: 25th October 2010



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“The People Magazine on 25th October 2010”

Publication: SCIENCE & LIFE Magazine

Date: 14th October 2010



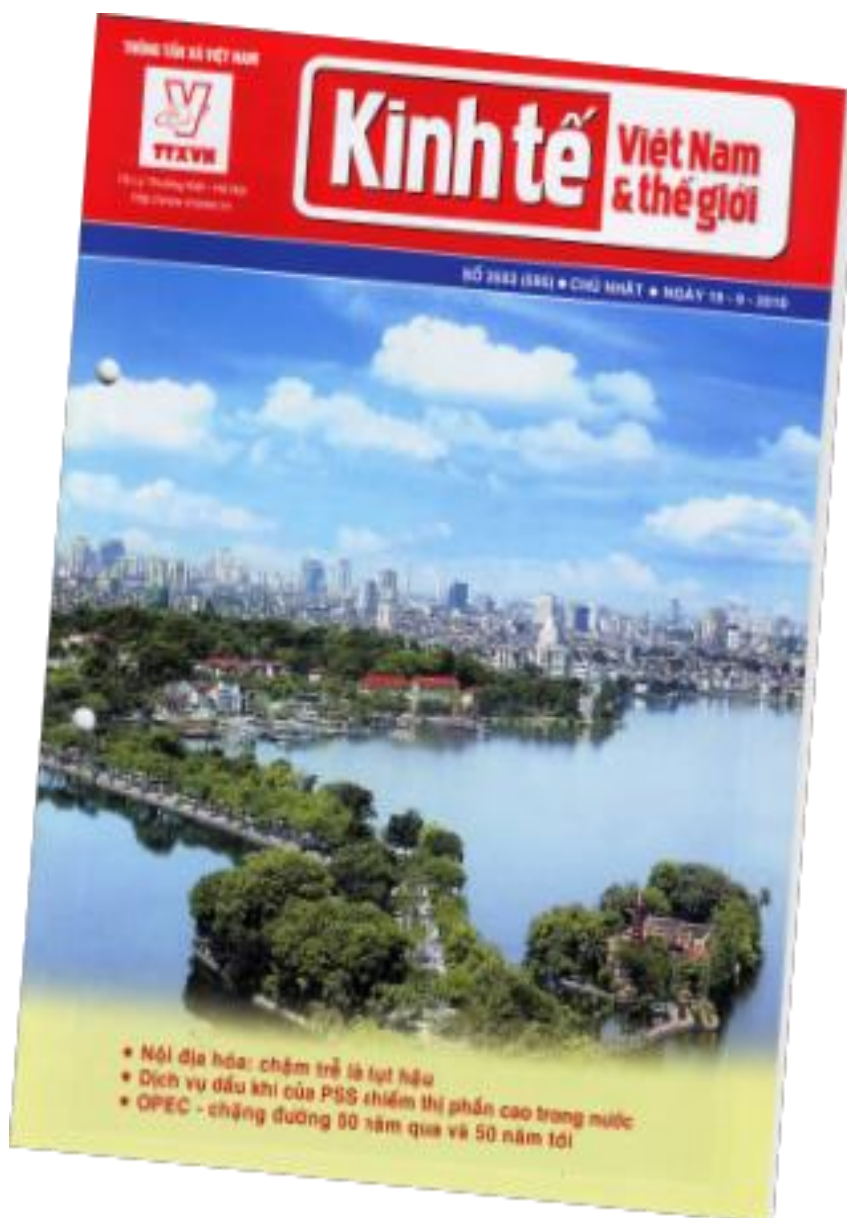
"The Life and Science, on 14th October 2010"

Publication: ECONOMIC TIMES

Date: 19th September 2010



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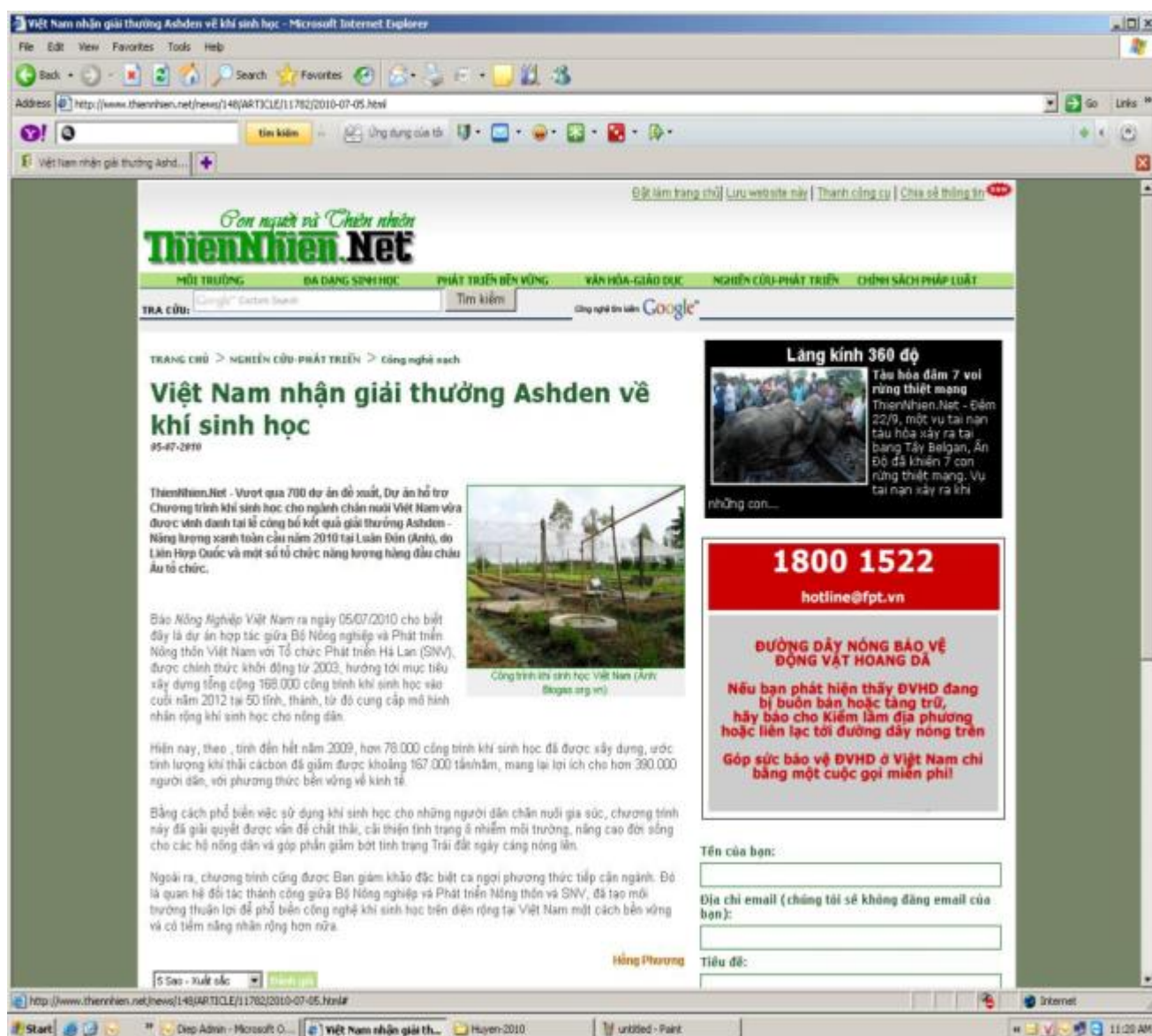


The economics Vietnam & World on 19th September 2010"

Publication: ThienNhien.net

Date: 5th July 2010

URL: <http://www.thiennhien.net/news/148/ARTICLE/11782/2010-07-05.html>



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Publication: BBC

Date: 5th July 2010

URL: <http://www.thienhien.net/news/148/ARTICLE/11782/2010-07-05.html>



Publication: VFEJ.VN

Date: 2nd July 2010

URL: http://www.vfej.vn/en/detail/24053/vietnams_biogas_project_wins_int'l_sustainable_energy_award

Vietnam's biogas project wins int'l sustainable energy award

02/07/2010, 04:25:24 PM

(VietnamPlus)- A project on producing biogas from waste in Vietnam's rural areas was granted the Ashden Sustainable Energy award worth 20,000 GBP at a ceremony held in London on July 1.



The project, jointly conducted by the Ministry of Agriculture and Rural Development (MARD) and the Dutch aid agency SNV was highly valued for its effectiveness and potential benefit.

Launched in 2003, the biogas project aimed to popularise the conversion of waste particularly those discharged by animal farming, to energy via fermentation that produced clean and reliable energy for cooking and heating and reduced health and environmental problems.

The project targets to build 168,000 biogas systems by the end of 2012.

According to Hoang Kim Giao, Head of the MARD's Husbandry Department

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Vietnam currently has 14,000 farmer households, 80 percent of whom involve in husbandry which produces a large quantity of waste.

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Between 2003- 2009, over 78,000 biogas systems have been installed benefiting more than 390,000 people with carbon dioxide savings of around 167,000 tonnes per year.

Ashden award founder and President Sarah Butler Sloss praised the significance of the project, which helped create a long- lasting system of infrastructural facilities.

Founded in 2001, the Ashden award for sustainable energy encourages clean energy usage, contributing to efforts to cope with climate change and reduce poverty.

Over the last 10 years, the award has helped improve the life of 23 million people over the world and cut carbon dioxide emission to the air by 3 million tonnes every year.



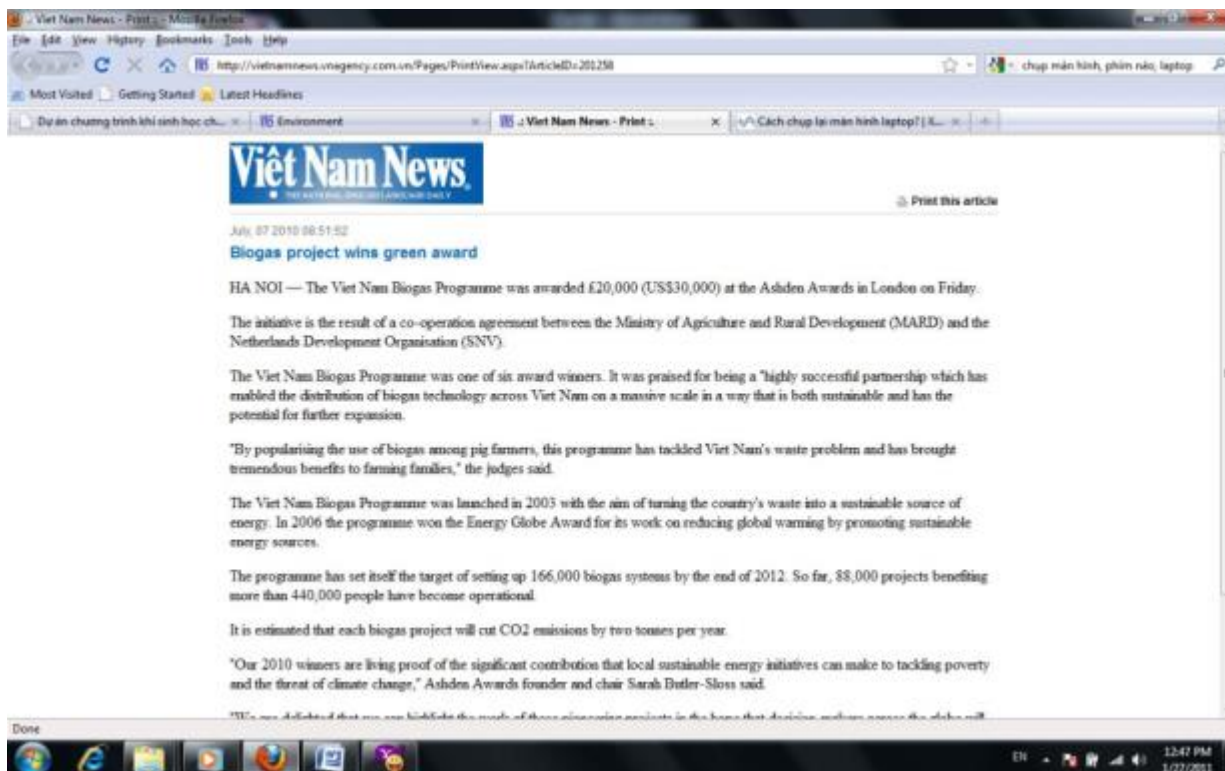
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Gold Standard Local Stakeholder Consultation Report

Publication: Vietnamnews

Date: 2nd July 2010

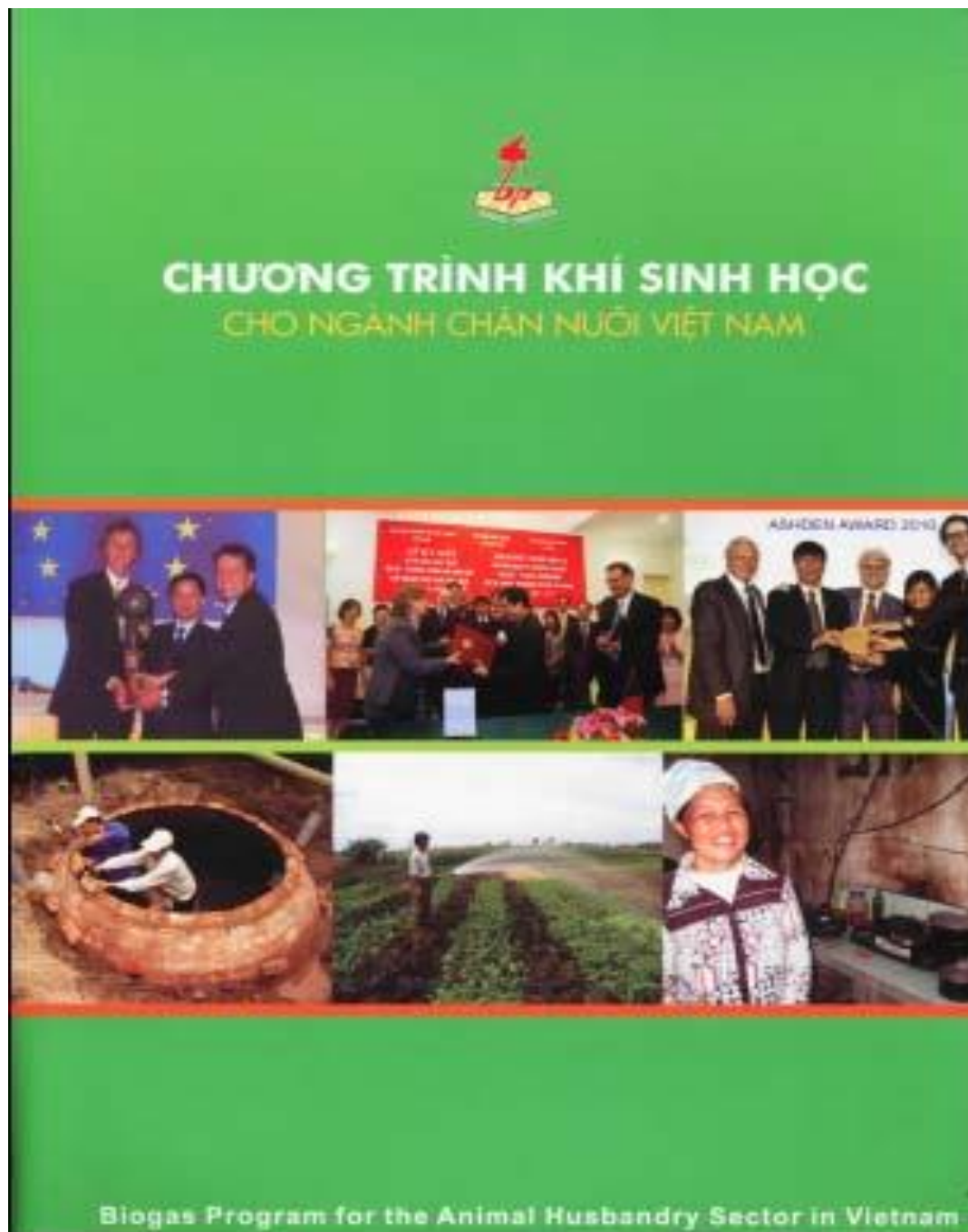
URL: <http://vietnamnews.vnagency.com.vn/Environment/201258/Biogas- project- wins- green- award- .html>



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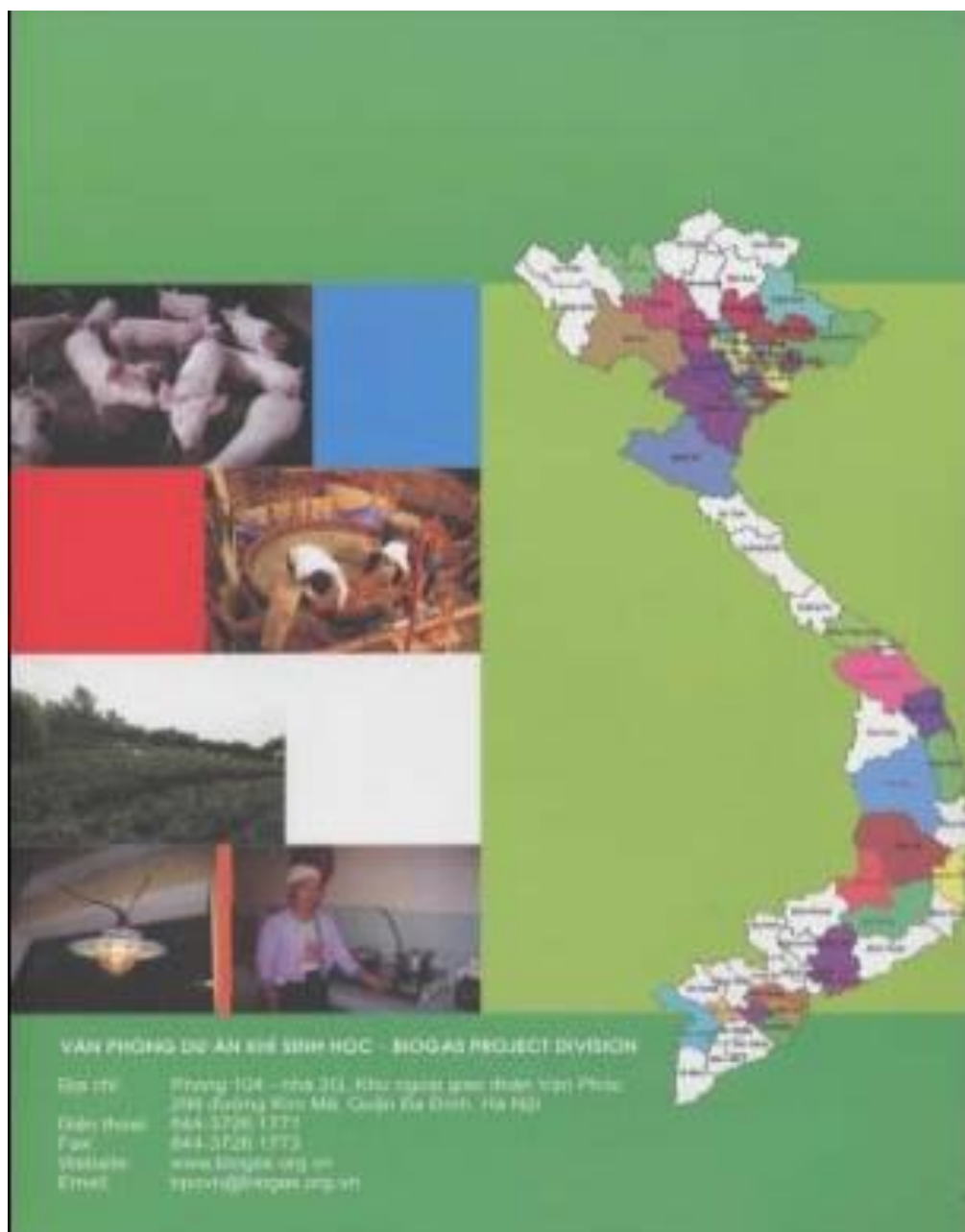
OTHER FIGURES:

“2,000 brochures and leaflets with Ashden prize information were finished printing in September and distributed in 44 provinces in Vietnam”



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(THE BACK OF BROCHURE)

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***5 FILIMING PROGRAMS ABOUT PROJECT AND ASHDEN AWARD
AND BROADCASTED ON VIETNAM CENTRAL TELEVISION CHANNELS (VTV1,
VTV2, INVESTTV, HANOI TV....)
IN THE LAST 5 MONTHS OF THE YEAR 2010.***



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CONTINUOUSLY UPDATED ASHDEN PRIZE ON OUR WEBSITE.



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