

Investigation on the National Domestic Biogas Programme in Rwanda

Final Report



Wim J. van Nes

**Netherlands Development Organisation
Biogas Practice Leader**

**Dr. Kuiperstraat 5
2514 BA The Hague
The Netherlands**

E-mail: wvannes@snvworld.org

13 February 2007

Acknowledgement

It was a pleasure to conduct this assignment as it provided a great opportunity to meet in a short period with relevant key-representatives of the National Domestic Biogas Programme in Rwanda. The mission was provided with a lot of valuable opinions and information. I like to extend my gratitude to all respondents and informants for their constructive contributions and hope the conclusions and recommendations of this report will serve their purpose. A special word of thanks goes to Guy Dekelver and Anaclet Ndahimana from SNV/Rwanda and Mr. Maurice Pigaht from GTZ/Regional Office in Addis Ababa for arranging all requested meetings.

Executive summary

This report provides the conclusions and recommendations of a mission undertaken by the Biogas Practice Leader of the Netherlands Development Organisation (SNV) to Rwanda from 17 to 22 January 2007. The objective of the mission was to investigate the possible financing of the National Domestic Biogas Programme (NDBP) in Rwanda and the final assessment of its feasibility. The investigation more specifically addressed the following areas:

- The feasibility of the NDBP: Alternative technologies and projects to address the need for cooking energy and deforestation problems; the sufficient existence of typical agricultural households (income situation, stage and type of agricultural development, etc.), and ; the availability of skilled workers, especially masons, and building materials;
- Clarification of the national prioritisation by Ministry of Infrastructure (MININFRA) concerning the actual needs for external support regarding the energy sector which is undergoing a dramatic crisis (generation of electricity, deforestation);
- The commitment from MININFRA to provide for 25% of the total required investment subsidies and to establish the proposed National Biogas Programme Office (NBPO) as a semi-autonomous executive agency for the programme;
- The possible constellations of various contractual arrangements between the main involved organisations MININFRA/NDBP , SNV/Rwanda and GTZ;
- The possibilities for a smooth transition from the activities to be executed for the construction of the demonstration plants to these of the other biogas plants.

The mission was prepared by discussing related matters and issues with the Directorate General for International Cooperation (DGIS) of the Netherlands Ministry of Foreign Affairs, GTZ and SenterNovem. In Rwanda, discussions were held with key representatives from MININFRA, GTZ/Rwanda, SNV/Rwanda and the Royal Netherlands Embassy (RNE/Kigali). Also the German Development Service (DED), Heifer International, the Lutheran World Federation (LWF) and the Centre for Innovations and Technology Transfer (CITT) of the Kigali Institute of Science and Technology (KIST) were included as they have implemented various projects in the agricultural and energy sector that can provide useful technical information to this mission. The mission ended with a debriefing meeting on 22 January 2007 for which all key representatives were invited.

The conclusions and recommendations of the mission are

- *Feasibility of the NBDP*: Programmes for improved cook stoves and biogas plants may go very well together. It is recommended that MININFRA and the proposed Rwanda National Energy Agency (ANER) will organise a workshop with relevant stakeholders in 2007 or 2008 to assess how programmes for cook stoves and biogas plants in Rwanda more practically can benefit from each other. Manpower and construction materials are available in the rural areas. The production target of 15,000 units in a period of four years is ambitious, but not impossible. As agreed with GTZ, SNV will produce an updated assessment paper in which more recent information about the feasibility of the production target is incorporated. The early involvement of (micro) financial institutes in the programme offering attractive biogas credits will be crucial;
- *National prioritisation of the energy sector*: The development of the energy sector in Rwanda has a high priority, not only to reduce poverty but also to increase economic development. The GoR will need external assistance for this sector, as substantial investments are required that can not be met by internal revenues;

- *Commitment by MININFRA:* The Ministry confirmed to contribute 25% of the required investment subsidies, to establish the ANER for hosting the NDBP and to provide for the costs of the required structures at national and district level (staff, offices, logistics);
- *Contractual arrangements:* After becoming operational, ANER will be the key player at national level. GTZ will provide financial and technical assistance, SNV will provide capacity building services to NDBP through ANER, and MININFRA will provide the fund and other required (policy) support. It is recommended that GTZ, SNV and MININFRA will enter into a MoU to further specify respective roles and responsibilities with respect to NDBP;
- *Continuation of the demo phase:* Most of the construction work under the demo phase will be terminated by April 2007. As most likely ANER will not be operational before July 2007 and a gap between the demo phase and the rest of the programme is undesirable, it is recommended that GTZ will enter into a temporary agreement with MININFRA for the implementation of NDPB.

Table of Contents

ACKNOWLEDGEMENT	I
EXECUTIVE SUMMARY	II
TABLE OF CONTENTS	IV
ABBREVIATIONS	V
CHAPTER 1: INTRODUCTION AND BACKGROUND	6
CHAPTER 2: OBJECTIVE, METHODOLOGY AND LIMITATIONS.....	8
2.1 OBJECTIVE.....	8
2.2 ACTIVITIES, METHODOLOGIES AND LIMITATIONS.....	8
CHAPTER 3: FINDINGS.....	10
3.1 FEASIBILITY OF NDBP	10
3.2 NATIONAL PRIORITISATION OF ENERGY SECTOR	11
3.3 COMMITMENTS BY MININFRA	11
3.4 CONTRACTUAL ARRANGEMENT	11
3.5 CONTINUATION FROM DEMO PHASE	13
CHAPTER 4: CONCLUSIONS AND RECOMMENDATIONS.....	14
CHAPTER 5: REFERENCES.....	15
ANNEX 1: TERMS OF REFERENCE	16
ANNEX 2: PROGRAMME OF THE MISSION	19
ANNEX 3: BRIEF REPORT ON DEBRIEFING MEETING	20
ANNEX 4: BRIEF NOTES ON THE MEETINGS HELD WITH KEY REPRESENTATIVES	22

Abbreviations

ANER	Rwanda National Energy Agency
BSP	Biogas Support Programme (Nepal)
CITT	Centre for Innovations and Technology Transfer
DGIS	Directorate General for International Cooperation (Netherlands)
FRW	Rwandan Franc
GoR	Government of Rwanda
GTZ	German Technical Cooperation
IP	Implementation Plan
KIST	Kigali Institute of Science and Technology
LWF	Lutheran World Federation
MININFRA	Ministry of Infrastructure
MoU	Memorandum of Understanding
NBPO	National Biogas Programme Office
NBSC	National Biogas Steering Committee
NDBP	National Domestic Biogas Programme
RNE	Royal Netherlands Embassy
SNV	Netherlands Development Organisation

Rounded exchange rates (January 2007):

1 Euro = 715 FRW

1 US\$ = 550 FRW

CHAPTER 1: Introduction and background

Based on an assessment conducted in March 2005 and its respective report, the Ministry of Infrastructure of the Republic of Rwanda (MININFRA) and the Netherlands Development Organisation (SNV) in Rwanda signed a Memorandum of Understanding (MoU) in October 2005 on the set-up and implementation of a National Domestic Biogas Programme (NDBP) in Rwanda. As a first step, an Implementation Plan (IP) for the NDBP was developed with the overall objective to establish a sustainable and commercial biogas sector in Rwanda, resulting in the reduction of biomass resource depletion while providing a significant improvement in the quality of life of the families concerned. This IP was endorsed by the Rwandan Minister of State in charge of Energy and Communication in September 2006. The specific objectives of the Plan, contributing to the overall objectives, are:

- To develop, strengthen and facilitate a commercially viable and market oriented Rwandan biogas sector;
- To increase the number of family sized, quality biogas plants with 15,000 in the country by the end of 2010;
- To ensure the continued operation of all plants installed under the programme; and
- To maximise the benefits of the operated plants, in particular the optimum use of effluent.

For a quick start of the programme, MININFRA made available an amount of US\$ 272,727 for the installation of 150 demonstration plants in four potential districts. The total budget required for the remaining 14,850 units has been estimated on US\$ 14,943,630, see Table 1-1.

Table 1-1 Estimated costs and proposed financing of the National Domestic Biogas Programme excluding demonstration phase (150 plants)

Estimated costs (in US\$)		Proposed financing (in US\$)	
Plant investment (average 6 m3) (14,850 units x US\$ 859)	12,756,150	Customers: cash/credit	8,301,150
		MININFRA contribution	1,113,750
		Donor contribution	3,341,250
Programme activities (excluding investment subsidy)	1,447,480	Donor contribution	1,447,480
SNV TA	740,000	SNV core subsidy from DGIS	740,000
Total	14,943,630	Total	14,943,630

The proposed financing includes a contribution of US\$ 1,113,750 (25% of the total required investment subsidies) by MININFRA and a contribution of US\$ 4,788,730 from a donor. In the framework of “Biogas for a better Life; An African Initiative”, the Directorate General for International Cooperation (DGIS) of the Netherlands Ministry of Foreign Affairs has in principle shown interest to provide for the required donor contribution through the Energising Development programme executed by the German Technical Cooperation (GTZ). In a meeting with SenterNovem and SNV on 10 January 2007, GTZ in principle expressed willingness to provide their infrastructure for the implementation of the NDBP. The participation by GTZ, however, still depends on a number of issues to be resolved. First of all a satisfactory solution for the inclusion of NDBP in the Energising Development Programme

needs to be found in consultation with DGIS and the German Federal Ministry for Economic Cooperation and Development (BMZ). Other issues relate to the energy strategy of the MININFRA, the set-up of contractual arrangements of the involved parties and the reassessment of certain assumptions made during the formulation of the implementation plan.

Against this background, the Biogas Practice Leader of SNV has undertaken a mission to Rwanda to conduct an investigation. The Terms of Reference (ToR) for this mission is presented as Annex 1; the programme of the mission as Annex 2.

This report presents the findings, conclusions and recommendations of the mission executed in the period from 17 to 22 January 2007. The draft report was presented on 5 February 2007 requesting for comments that were considered for incorporation in this final report. Chapter 2 describes the objective, methodology and limitations of the assessment, Chapter 3 the findings, while conclusions and recommendations are laid down in Chapter 4. The references, finally, are included as Chapter 5.

CHAPTER 2: Objective, methodology and limitations

The objective of the mission is described in paragraph 2.1, while methodology and limitations are dealt with in paragraph 2.2.

2.1 Objective

The objective of the mission was to investigate the possible financing of the National Domestic Biogas Programme in Rwanda and the final assessment of its feasibility.

The investigation more specifically addressed the following areas:

- The feasibility of the NDBP: Alternative technologies and projects to address the need for cooking energy and deforestation problems; the sufficient existence of typical agricultural households (income situation, stage and type of agricultural development, etc.), and ; the availability of skilled workers, especially masons, and building materials;
- Clarification of the national prioritisation by MININFRA concerning the actual needs for external support regarding the energy sector which is undergoing a dramatic crisis (generation of electricity, deforestation);
- The commitment from MININFRA to provide for 25% of the total required investment subsidies and to establish the proposed National Biogas Programme Office (NBPO) as a semi-autonomous executive agency for the programme;
- The possible constellations of various contractual arrangements between the main involved organisations MININFRA/NDBP , SNV/Rwanda and GTZ;
- The possibilities for a smooth transition from the activities to be executed for the construction of the demonstration plants to these of the other biogas plants.

2.2 Activities, methodologies and limitations

The following activities and methodologies were applied to achieve the objective of the mission:

- Preparation of a mission to Rwanda by discussing related matters and issues with DGIS, GTZ and SenterNovem, and by writing a brief ToR on the mission, see Annex 1;
- Mission to Rwanda to propose and discuss the possible financing and final assessment of feasibility of the NDBP with key representatives from MININFRA, GTZ/Rwanda, SNV/Rwanda and the Royal Netherlands Embassy (RNE/Kigali). Also the German Development Service (DED), Heifer International, the Lutheran World Federation (LWF) and the Centre for Innovations and Technology Transfer (CITT) of the Kigali Institute of Science and Technology (KIST) were included as they have implemented various projects in the agricultural and energy sector that can provide useful technical information to this mission. Brief notes on these discussions are included as Annex 4. The mission ended with a debriefing meeting for which all key representatives were invited. Annex 3 provides a list of participants of the debriefing meeting. Mr. Guy Dekelver on behalf of SNV/Rwanda and Mr. Maurice Pigah and Mrs. Edith Bernhard on behalf of the GTZ/Regional Office in Addis Ababa (respectively from Thursday afternoon, 18 January and Sunday afternoon 21 January onwards) accompanied the SNV Biogas Practice Leader in the mission;
- Formulation of a draft investigation report and submission for comment to MININFRA, GTZ, SenterNovem, SNV, DGIS and RNE/Kigali;

- Submission of the final investigation report by incorporating the comments from the organisations mentioned above.

The cooperation by the representatives of the various organisations was very good. The single constraint was created by a sinusitis that depressed the activity level of the author resulting in a pitiful delay of the submission of the draft final report.

CHAPTER 3: Findings

This Chapter provides an overview of the findings of the mission along the five specific objectives as described in paragraph 2.1.

3.1 Feasibility of NDBP

It is obvious that Rwanda is in great need of alternative technologies for cooking as the current consumption of wood is largely unsustainable. Fossil energy sources like LPG are too expensive. Improved cooking stoves and biogas plants are both appropriate alternatives, ready for promotion, and with a potential to supplement each other.

All interviewees assured that manpower and construction materials for biogas plants are available in the rural areas. Many activities have been already undertaken in the field of vocational training. Substantial efforts, however, will be additionally required to train and capacitate people to become local masons and supervisors.

Another issue for reassessment was the stipulated production target of 15,000 units in a period of four years. There are some 315,000 households with cattle in Rwanda. Semi-intensive cattle farming is rather common practice (70%) with zero grazing on the rise. It is assumed on the basis to interviews with provincial and district officials that 50% of these farmers have more than 20 kg of dung per day, arriving at a technical potential of some 110,000 households. In case of semi-intensive cattle farming, most of the farmers will have access to water. With improved stabling practices, also urine could be collected to replace water.

The all-in investment costs of a 6 m³ biogas plant are estimated to be US\$ 859. After deduction of the proposed subsidy of US\$ 300, an amount of US\$ 559 will remain to be financed. The experience with the demo-phase shows that an overwhelming majority of the farmers are ready to collect and transport construction materials and to provide unskilled labour. This would mean another deduction of about US\$ 200, bringing the cash investment down to US\$ 359. The main question is how many farmers are willing and able to pay this amount?

Most of the interviewees expressed that the achievement of the production target is “possible”, “ambitious”, or “not impossible”. First of all, huge promotional efforts will be required to introduce the idea of biogas in the rural areas. Most of the potential beneficiaries are not aware about this technology, its costs and benefits. MININFRA will undertake a large campaign involving both the national and district level authorities. Already existing women and farmers’ organisations in Rwanda will be excellent marketing channels. The ban posed by the GoR to cut wood will also add to the willingness to pay.

For the ability to pay, it is realised that the potential beneficiaries of biogas plants are not belonging to the poor or very poor households. Potential biogas households raise cattle and often sell milk from which they could save FRW 5,000 per month to repay a loan. In the areas of Heifer International and LWF, it is estimated that about 5 to 10% of all households purchase firewood spending between US\$ 8 to 20 per month. Bigger farmers may also sell a cow. A growing group of households in rural areas receive financial support from family members with a paid job. As indicated in the implementation plan of NDBP, the early involvement of (micro) financial institutes in the programme offering attractive biogas credits will be very important.

Relevant information collected by Heifer International and LWF (for the demand collection of demo plants) and relevant data from the recently executed survey on integrated living conditions in Rwanda need to be added to the already existing data to update the estimate of the production target. In this assessment, also a comparison could be made between Rwanda (2007) and Nepal (1992), at the start of the Biogas Support Programme (BSP).

3.2 National prioritisation of energy sector

The development of the energy sector in Rwanda definitely gets a high priority by MININFRA and the GoR as a whole, not only to reduce poverty but also to enhance economic development. Both dimensions will be included in the forthcoming Economic Development and Poverty Reduction Strategy (EDPRS). The Vision 2020 says that “Rwanda will be producing enough energy required for economic and social development, while avoiding the degradation of the environment. The country will have considerably reduced the role of wood in the national energy use while expanding electricity, solar energy, methane gas, wind energy and other forms of energy”. The Council of Ministers decided in its meeting dated 18 January 2006 to create the Rwanda National Energy Agency (ANER). This agency will - after its establishment - be in charge of the implementation of the various energy policies of the country. The proposal for the establishment of ANER has already been approved by the MININFRA and the Ministry of Public Service (MIFOTRA). It is expected that the Cabinet will approve the proposal before Mid-February 2007. ANER is proposed to be a publicly-owned agency equipped with the legal personality and administrative autonomy in accordance with the general statute of the Rwandan Public Office. It is placed under the supervision of MININFRA. ANER will be managed by a Board of Directors (maximum seven) equipped with full powers of management and meeting quarterly. The day-to-day management of ANER will be entrusted by the Board to a General Manager. The administrative and financial organisation and its methods of operation will be laid down by decree.

For the development of the energy sector, the GoR will definitely need external assistance. Substantial investments are required that can not be met by internal revenues.

Here, it may be remarked that the benefits of a domestic biogas programme are not only linked to the energy sector, but also to the forestry sector (deforestation), agricultural sector (livestock keeping, soil fertility), health sector (sanitation, indoor air pollution) and gender sector (improving the lives of especially women and children). As described in the IP, the biogas programme fits very well into the related policy documents issued by the GoR.

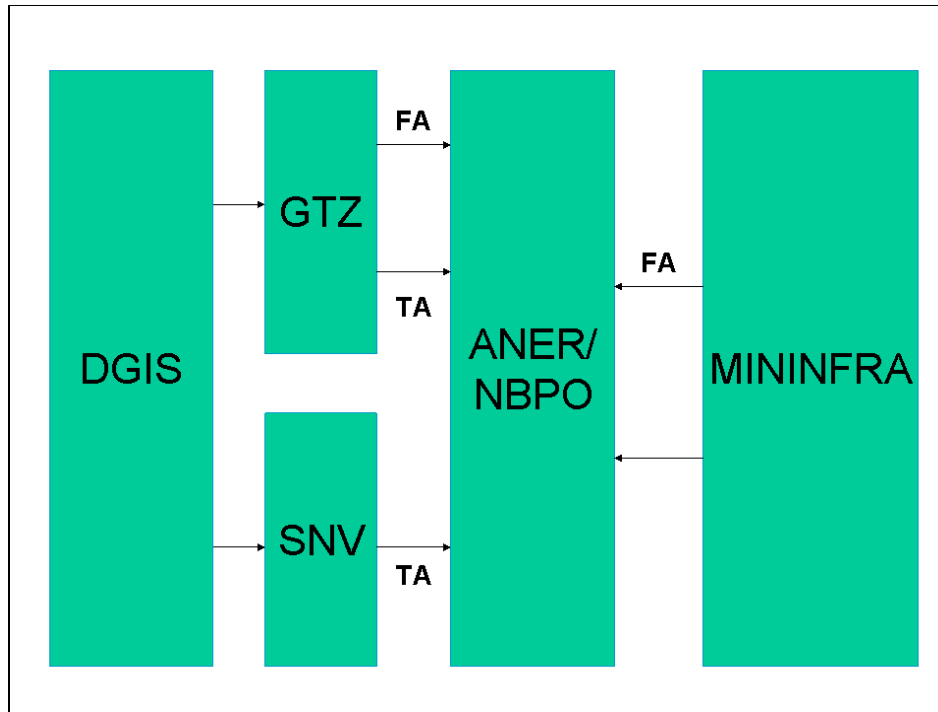
3.3 Commitments by MININFRA

The Minister of State in Charge of Energy and Communications, Hon. Mr. Albert Butare confirmed the anticipated financial contribution of 25% of all investment subsidies being US\$ 1.1 million to the NDBP. In addition, the costs of offices including staff and committees at district level will be borne by the GoR through regular budget and common development funds. The National Biogas Programme Office (NBPO) will become part of the proposed ANER. MININFRA likes to build within ANER in-house capacity for the implementation of the biogas programme and aims that ANER will own the programme. Long- and short-term experts can be added to ANER/NBPO to build and strengthen capacities.

3.4 Contractual arrangement

The contractual arrangement between DGIS, GTZ, SNV, ANER and MININFRA once ANER has become operational can be summarised in Figure 3-1.

Figure 3-1 Contractual arrangement between DGIS, GTZ, SNV, ANER and MININFRA, after ANER has become operational



The following contractual arrangements are proposed:

- GTZ will seek approval from the Netherlands-German Partnership “Energising Development” for the provision of the donor contribution totalling US\$ 4,788,730 for the implementation of NDBP;
- GTZ will enter into a contractual agreement with the Government of Rwanda to be represented by ANER for the provision of the above mentioned financial assistance as well as technical assistance. The latter assistance will be further detailed in consultation with ANER, MININFRA and SNV;
- SNV will provide the capacity building services for the implementation of NDBP and therefore mobilise two advisors and relevant expertise and experience gained with the large-scale introduction of domestic biogas in Asia. This technical assistance estimated to be US\$ 740,000 will be funded by the core subsidy SNV is receiving from DGIS;
- MININFRA will provide to ANER a fund of US\$ 1,113,750 equal to 25% of the total required investment subsidies. In addition, MININFRA will make sure that adequate staff and office facilities are made available for both ANER and the envisioned district level structures. Also, MININFRA will actively seek the integration of NDBP in existing and future policies and programmes.

To further specify the roles and responsibilities, it is proposed that GTZ, SNV and MININFRA will enter into a tripartite Memorandum of Understanding (MoU).

3.5 Continuation from demo phase

MININFRA assured that the fund required for the training of trainers, supervisors and masons and the construction of 136 demo biogas plants will be released at the end of January or beginning of February 2007. As the beneficiaries have started the collection of construction materials under the guidance of Heifer International and LWF, it is expected that most of these demo plants will have been constructed in April 2007. By then, the trained workforce should not become useless with the risk of disappearing into other jobs. A swift start of the NDBP is therefore required.

The ANER is not yet established and operational, making it impossible for GTZ to enter into an agreement with this proposed agency. Even though MININFRA has assured that the approval for the establishment will be provided by the Cabinet before Mid-February, it is to be expected that an agreement with ANER can not be concluded before July 2007.

To cope with this deadlock, two options for a temporary arrangement have been proposed and discussed: MININFRA or GTZ will host the NDBP. The first option was preferred by MININFRA; GTZ could accept this option on the condition that an appraisal of the administrative and financial procedures of MININFRA proves that this Ministry will have the capacities to effectively host the NDBP.

CHAPTER 4: Conclusions and recommendations

This Chapter presents the conclusions and recommendations of the mission:

- *Feasibility of the NBDP*: Programmes for improved cook stoves and biogas plants may go very well together. It is recommended that MININFRA and ANER will organise a workshop with relevant stakeholders in 2007 or 2008 to assess how programmes for cook stoves and biogas plants in Rwanda more practically can benefit from each other. Manpower and construction materials are available in the rural areas. The production target of 15,000 units in a period of four years is ambitious, but not impossible. As agreed with GTZ, SNV will produce an updated assessment paper in which more recent information about the feasibility of the production target is incorporated. The early involvement of (micro) financial institutes in the programme offering attractive biogas credits will be crucial;
- *National prioritisation of the energy sector*: The development of the energy sector in Rwanda has a high priority, not only to reduce poverty but also to increase economic development. The GoR will need external assistance for this sector, as substantial investments are required that can not be met by internal revenues;
- *Commitment by MININFRA*: The Ministry confirmed to contribute 25% of the required investment subsidies, to establish ANER for hosting the NDBP and to provide for the costs of the required structures at national and district level (staff, offices, logistics);
- *Contractual arrangements*: After becoming operational, ANER will be the key player at national level. GTZ will provide financial and technical assistance, SNV will provide capacity building services to NDBP through ANER, and MININFRA will provide the fund and other required (policy) support. It is recommended that GTZ, SNV and MININFRA will enter into a MoU to further specify respective roles and responsibilities with respect to NDBP;
- *Continuation of the demo phase*: Most of the construction work under the demo phase will be terminated by April 2007. As most likely ANER will not be operational before July 2007 and a gap between the demo phase and the rest of the programme is undesirable, it is recommended that GTZ will enter into a temporary agreement with MININFRA for the implementation of NDPB.

CHAPTER 5: References

- Vision 2020*. Government of Rwanda, Kigali, June 2003.
- Guy Dekelver, Silas Ruzigana and Jan Lam. *Report on the Feasibility Study for a Biogas Support Programme in the Republic of Rwanda*. SNV and MININFRA, Rwanda, August 2005.
- Memorandum of Understanding between MININFRA and SNV on Capacity Development Services for a National Biogas Programme*. Kigali, 25 October 2005.
- Rwanda Aid Policy as endorsed by the Cabinet*. Kigali, 26 July 2006.
- Guy Dekelver, Anaclet Ndahimana, Silas Ruzigana. *Implementation Plan National Programme on Domestic Biogas in Rwanda (final version)*. SNV and MININFRA, Rwanda, September 2006.
- Endorsement of the implementation plan of the National Domestic Biogas Plan in Rwanda*. Minister of State in Charge of Energy and Communications, Kigali, 11 September 2006.
- Joint Donors' Statement of Intent towards the implementation of the Paris Declaration and Rwanda's Aid Policy*. Kigali, Rwanda, 23 November 2006.
- Nikhil Desai, *Memorandum on Energy Sector and Rwanda Poverty Reduction Strategy*. Submitted to Project Management Unit of the EU Energy Initiative – Partnership Dialogue Facility (EUEI PDF), 27 December 2006.

Annex 1: Terms of Reference

Investigation on the National Domestic Biogas Programme in Rwanda

1. Introduction and background

Based on an assessment conducted in March 2005 and its respective report, the Ministry of Infrastructure of the Republic of Rwanda (MININFRA) and the Netherlands Development Organisation (SNV) in Rwanda signed a Memorandum of Understanding (MoU) in October 2005 on the set-up and implementation of a National Domestic Biogas Programme (NDBP) in Rwanda. As a first step, an Implementation Plan (IP) for the NDBP was developed with the overall objective to establish a sustainable and commercial biogas sector in Rwanda, resulting in the reduction of biomass resource depletion while providing a significant improvement in the quality of life of the families concerned. This IP was endorsed by the Rwandan Minister of State in charge of Energy and Communication in September 2006. The specific objectives of the Plan, contributing to the overall objectives, are:

- To develop, strengthen and facilitate a commercially viable and market oriented Rwandan biogas sector;
- To increase the number of family sized, quality biogas plants with 15,000 in the country by the end of 2010;
- To ensure the continued operation of all plants installed under the programme; and
- To maximise the benefits of the operated plants, in particular the optimum use of effluent.

For a quick start of the programme, MININFRA made available an amount of US\$ 272,727 for the installation of 150 demonstration plants in four potential districts. The total budget required for the remaining 14,850 units has been estimated on US\$ 14,943,630, see the table below.

Estimated costs (in US\$)		Proposed financing (in US\$)	
Plant investment (average 6 m3) (14,850 units x US\$ 859)	12,756,150	Customers: cash/credit	8,301,150
		MININFRA contribution	1,113,750
		Donor contribution	3,341,250
Programme activities (excluding investment subsidy)	1,447,480	Donor contribution	1,447,480
SNV TA	740,000	SNV core subsidy from DGIS	740,000
Total	14,943,630	Total	14,943,630

The proposed financing includes a contribution of US\$ 1,113,750 (25% of the total required investment subsidies) by MININFRA and a contribution of US\$ 4,788,730 from a donor. In the framework of “Biogas for a better Life; An African Initiative”, the Directorate General for International Cooperation (DGIS) of the Netherlands Ministry of Foreign Affairs has in principle shown interest to provide for the required donor contribution through the Energising Development programme executed by the German Technical Cooperation (GTZ). In a meeting with SenterNovem and SNV on 10 January 2007, GTZ in principle expressed willingness to provide their infrastructure for the implementation of the NDBP. The participation by GTZ, however, still depends on a number of issues to be resolved. First of all a satisfactory solution for the inclusion of NDBP in the Energising Development Programme needs to be found in consultation with DGIS and the German Federal Ministry for Economic Cooperation and Development (BMZ). Other issues relate to the energy strategy of the MININFRA, the set-up of contractual arrangements of the involved parties and the reassessment of certain assumptions (see under 2 below) made during the formulation of the implementation plan.

The Biogas Practice Leader of SNV will undertake a mission to Rwanda to conduct an investigation on the possible financing of the NDBP and the reassessment of some assumptions in the implementation plan. This document presents the Terms of Reference (ToR) for this mission.

2. Objective of the mission

The objective of the mission is to investigate the possible financing of the National Domestic Biogas Programme in Rwanda and the final assessment of its feasibility.

The investigation will more specifically address the following areas:

- The feasibility of the NDBP: Alternative technologies and projects to address the need for cooking energy and deforestation problems; the sufficient existence of typical agricultural households (income situation, stage and type of agricultural development, etc.), and ; the availability of skilled workers, especially masons, and building materials;
- Clarification of the national prioritisation by MININFRA concerning the actual needs for external support regarding the energy sector which is undergoing a dramatic crisis (generation of electricity, deforestation);
- The commitment from MININFRA to provide for 25% of the total required investment subsidies and to establish the proposed National Biogas Programme Office (NBPO) as a semi-autonomous executive agency for the programme;
- The possible constellations of various contractual arrangements between the main involved organisations MININFRA/NDBP¹, SNV/Rwanda and GTZ;
- The possibilities for a smooth transition from the activities to be executed for the construction of the demonstration plants to these of the other biogas plants.

3. Activities and methodologies

The following activities and methodologies are proposed:

- A. Preparation of a mission to Rwanda by discussing related matters and issues with DGIS, GTZ and SenterNovem, and by writing a brief ToR on the mission;
- B. Mission to Rwanda to propose and discuss the possible financing and final assessment of feasibility of the NDBP with key representatives from MININFRA, GTZ/Rwanda, SNV/Rwanda and the Royal Netherlands Embassy (RNE/Kigali). Also the German Development Service (DED) will be included as they have implemented various projects in the agricultural sector that can provide useful technical information to this mission. The mission shall end with a debriefing meeting for which all key representatives shall be invited. Annex 2 provides a tentative agenda for the mission.
- C. Formulation of a confidential, draft investigation report and submission for comment to MININFRA, GTZ, SNV, DGIS and RNE/Kigali;
- D. Submission of the final investigation report by incorporating the comments from the organisations mentioned under C.

4. Time schedule

The mission to Rwanda shall take place from 17 to 23 January 2007. The draft report shall be submitted before the end of January 2007. MININFRA, GTZ, SenterNovem, SNV, DGIS and RNE/Kigali will provide within five working days comment on the draft report. The final investigation report will be presented within three working days.

5. Required budget and proposed financing

The costs of this investigation will mainly consist of expenses for travelling and DSA of the Biogas Practice Leader and be borne by SNV.

¹ MININFRA is in the process to get the ANER (National Agency of the Energy of Rwanda) established. This Agency then also may get involved.

6. Expected output

The report shall be well-structured and clearly written in English not exceeding 15 pages excluding annexes and provide informed proposals on the possible financing of the NDBP in Rwanda.

7. Composition of the team

The mission will be undertaken by the Biogas Practice Leader of SNV, accompanied by Mr. Guy DeKelder on behalf of SNV/Rwanda and Mr. Maurice Pigaht on behalf of the GTZ/Regional Office in Addis Ababa.

8. Further arrangements

The Biogas Practice Leader is free to discuss any matter concerning this assignment with any institution or individual, but is not authorised to make any official commitments on behalf of DGIS, GTZ, SNV or RNE/Kigali.

9. References

- Guy Dekelver, Silas Ruzigana and Jan Lam. *Report on the Feasibility Study for a Biogas Support Programme in the Republic of Rwanda*. SNV and MININFRA, Rwanda, August 2005.
- Memorandum of Understanding between MININFRA and SNV on Capacity Development Services for a National Biogas Programme*. Kigali, 25 October 2005.
- Guy Dekelver, Anaclet Ndahimana, Silas Ruzigana. *Implementation Plan National Programme on Domestic Biogas in Rwanda*. SNV and MININFRA, Rwanda, September 2006.
- Endorsement of the implementation plan of the National Domestic Biogas Plan in Rwanda*. Minister of State in Charge of Energy and Communications, Kigali, 11 September 2006.

Annex 2: Programme of the mission

Wednesday, 17 January 2007:		
13.30-14.45	Internal meeting with SNV/Rwanda	Jean de Matha Quédraogo, Julienne Uwamariya, Guy Dekelver, Anaclet Ndahimana
15.00-15.45	Meeting with RNE/Kigali	Gertjan Tempelman
16.00-17.00	Pre-meeting with MININFRA	Silas Ruzigana, Anthe Vrijlandt
Thursday, 18 January 2007:		
08.00-08.45	Meeting with Heifer International	Dennis Karamuzi
09.00-09.45	Meeting with LWF	James Rubakisibo
13.30-15.00	Meeting with DED	Christof von König, Detlev Weischedel
15.30-17.00	Internal mission team meeting	Guy DeKelver, Maurice Pigaht
Friday, 19 January 2007:		
08.00-09.45	Meeting with KIST/CITT	Gatabazi Pascel, Claude Uwizigeye
10.00-11.00	Meeting with SNV/Rwanda	Jean de Matha Ouédraogo, Julienne Uwamariya
14.00-14.45	Meeting with DED	Antje Ilberg
15.00-16.45	Meeting with MININFRA	Albert Butare, Silas Ruzigana, Anthe Vrijlandt, Yusuf Uwamahoro
17.00-17.45	Meeting with GTZ/Rwanda	Rainer Krischel, Ute Hoffmann
Saturday, 20 January 2007:		
Sunday, 21 January 2007:		
14.00-16.00	Preparation debriefing	Edith Bernhard, Maurice Pigaht, Guy Dekelver
Monday, 22 January 2007:		
11.00-14.00	Debriefing of the mission	All
15.00-16.00	Meeting with MININFRA and GTZ	Albert Butare, Silas Ruzigana, Anthe Vrijlandt, Edith Bernhard, Maurice Pigaht

Annex 3: Brief report on debriefing meeting

Place: SNV/Rwanda

Date: 22 January, 2007, from 11.30-13.30 h.

Participants: Jan Bade (RNE/Kigali), Uwe Jung (GTZ/Rwanda), Edith Bernard (GTZ/IS, Addis Ababa), Maurice Pigaht (GTZ/IS, Addis Ababa), Silas Ruzigana (MININFRA), Anthe Vrijlandt (MININFRA), James Rubakisibo (LWF), Charles Kayumba (Heifer International), Jean de Matha Ouédraogo (SNV/Rwanda), Julienne Uwamariya (SNV/Rwanda), Emmanuel Ruzibiza (SNV/Rwanda), Guy Dekelver (SNV/Rwanda), Anaclet Ndahimana (SNV/Rwanda) and Wim van Nes (SNV/Asia & Africa)

The meeting was opened by the Country Director of SNV/Rwanda, Mr. Jean de Matha Ouédraogo. He welcomed all participants and invited Mr. Wim van Nes to present the preliminary findings of the mission. Mr. Wim van Nes thanked all persons and organisations involved for their cooperation in the mission. He presented as an introduction the general benefits of biogas, the experience with biogas in Asia and the Biogas Africa Initiative. Then, biogas in Rwanda was briefly summarised as well as the five specific objectives of the mission. Preliminary findings were provided as well as three points for discussion in this meeting.

Ms. Anthe Vrijlandt clarified that the size of the plants to be constructed under the demo phase will be 8 m³ instead of 6 m³, the average size assumed in the implementation plan. Mr. Wim van Nes indicated that different sizes will be offered to potential customers, depending on the availability of collectable manure at the farm. In Nepal, the smallest size is 4 m³. MININFRA will provide ANER with a fund equal to 25% of the required investment subsidies; in addition, other types of support like policy support and support to mass campaigns will be provided. Ms. Anthe Vrijlandt informed the meeting that the proposal for the establishment of ANER has not only been approved already by MININFRA but also by the Ministry of Public Service.

Mr. Uwe Jung posed a question on the Technical Assistance (TA) to be provided by GTZ to ANER. This TA still has to be defined, but could relate to activities like baseline study and impact assessment. The other TA provider in the programme, SNV, is open for discussion. Mr. Jung also wondered whether the 136 plants under the demo phase could have been constructed already in April 2007. Mr. Silas Ruzigana explained that the budget for this activity will be released most likely before the end of this month and that potential customers are already collecting the construction materials under the guidance of Heifer and LWF. Mr. James Rubakisibo highlighted that LWF has already installed a biogas plant at their office and that many farmers showed interest. He wondered why a biogas model with a concrete dome was selected for dissemination in Rwanda. Mr. Wim van Nes explained that good quality bricks in Rwanda are not everywhere available and, where available, have become very expensive due to the ban of firewood for brick-making.

Mr. Jan Bade expressed appreciation for the programme. The production target of 15,000 looks at the high side; he was proposing to make use of women and farmers' associations and the extension services of the Ministry of Agriculture. Mr. Guy Dekelver explained that such participation is foreseen in the implementation plan. The use of urine for the feeding of the biogas plant assumes that the stable of the customer has been equipped with a concrete floor. Mr. Wim van Nes agreed with this assumption and that the absence of a concrete floor would mean that more water will be required for the feeding of the plant. The average cost of making a complete stable in Rwanda as per Heifer's experience, amounts to FRW 140,000. Mr. Jan Bade

also wondered whether institutional biogas plants also need to be part of the national programme. Mr. Wim van Nes indicated that institutional biogas plants (prisons, schools) have been excluded as such plants will require a totally different marketing strategy and also financing scheme. This programme will focus on domestic biogas.

Mr. Charles Kayumba provided some information on the farmers' associations. In future, the 'one cow per family' policy of the GoR (in which stabling of the animals is a condition) and the ban of grazing will be positive for the market potential of biogas in Rwanda. Heifer does also work with poorer farmers.

Mr. Maurice Pigaht remarked that not DGIS is the provider of the Financial Assistance (FA), but the Netherlands/German partnership on "Energising Development" programme. He has no doubt that the programme will be technically feasible, but is not sure about the socio-economic feasibility. Will it not be possible to collect additional information through market studies? The results of these studies could be used to revise the production target and/or subsidy levels. Mr. Silas Ruzigana believes that the assumed production target is feasible for Rwanda and that approaches in Asian countries show great possibilities. Mrs. Edith Bernhard thinks that ability and willingness to pay for the net investment of a biogas plant are the crucial parameters. As far as GTZ knows, data at micro-level are not available. Will households be able to bring up US\$ 350? Mr. Charles Kayumba believes that there are many farmers among their target group who are willing to collect the construction materials and in addition are able to pay. Ms. Anthe Vrijlandt indicates that the potential customers for a biogas plants are not the poorest of the poor. They own (dairy) cattle, have an income through the sale of milk and could be eligible for a credit from financial institutions. These institutions could also handle the investment subsidy. Also Mr. James Rubakisibo believes the target is achievable once sufficient awareness is created through campaigns. The biogas programme needs also to be integrated into rural development plans. LWF has experience with a revolving fund. Many of the LWF beneficiaries are selling milk. Many of them cook with dried dung cakes negatively affecting crop yields in future.

Ms. Anthe Vrijlandt provided some info about the proposed ANER. There is no doubt that ANER will be established soon; it will be an agency focussed on implementing energy programmes. MININFRA will remain with policy matters and coherence, but become leaner. The idea is to transfer a number of staff from MININFRA to ANER. The national biogas programme perfectly fits into ANER.

As ANER is not yet established and operational, there needs to be an interim arrangement to avoid an unwanted gap between the demo phase and the rest of the programme. Mrs. Edith Bernard offered to have the programme launched from GTZ and to transfer the programme office as soon as ANER has become operational. Mr. Uwe Jung confirmed this, under the condition however, that beforehand some clarification and preparatory work needs to be done. This would include clarification of the role and the task of every stakeholder during and after the transitional period and a clear definition of the provider of the financial assistance. Ms. Anthe Vrijlandt preferred in stead that MININFRA would host the programme office as long as ANER is not yet there. GTZ is welcome to assess the procedures of MININFRA. Mr. Jan Bade agreed with such interim arrangement.

Mr. Uwe Jung wondered whether the programme would also offer biogas lamps to customers. Mr. Wim van Nes explained that the priority in the implementation plan has been put on cooking, excluding lighting. Some NGOs have indicated, however, that provision of a biogas lamp could accelerate demand. The programme will have to review this priority setting in the course of its implementation.

As a final remark, Mr. Jan Bade offered – if required – a mediating role by the RNE/Kigali to the three main stakeholders MININFRA, GTZ and SNV to arrive at a final deal for the biogas programme. After this remark, Mr. Jean de Matha Quédraogo thanked all participants for the open discussion, closed the meeting and invited all for lunch.

Annex 4: Brief notes on the meetings held with key representatives

This Annex provides brief notes on the meetings held with key representatives in Rwanda.

Meeting with RNE, Mr. Gertjan Tempelman:

1. Feasibility NDBP	To reach 15,000 customers will be not an easy task; huge promotional efforts will be required. RNE is working with an apex body (ROPARWA) for farmers' organisations. These organisations may be very effective in the biogas programme for the creation of demand.
4. Contractual arrangements	GTZ is qualified to act as manager of the DGIS fund, while SNV can offer the domestic biogas expertise through advisory services. There need to be a proper formula for the establishment and effective operation of the NBPO office, not violating the Rwanda aid policy.
Other information	RNE is operating in Rwanda mainly in three sectors: rural economic transformation, decentralisation and good governance & human rights. The biogas programme will be one of the possible areas for cooperation between RNE and SNV. As far as possible, RNE will be supporting the biogas programme and play an active role, as the intended benefits are very much relevant for the rural areas in Rwanda. Nevertheless, use of biogas in larger public entities (universities, prisons, orphanages etc.) should be studied as well.

Pre-meeting with MININFRA, Mrs. Anthe Vrijlandt and Mr. Silas Ruzigana:

1. Feasibility NDBP	The cooking fuel crisis in Rwanda is so huge that domestic biogas and improved cooking stoves can easily go together. Unsustainable use of biomass cooking fuels needs to be stopped with all means. MININFRA has activities on improved cook stoves with KIST (model development and testing) and USAID/GEF. The Ministry of Agriculture has launched policies to stop grazing of cows and to provide every household with at least one cow. These policies will increase the effective demand for biogas. More and more families are starting to buy cooking fuels like firewood and charcoal. There will be no problem to find manpower in the rural areas for the supply side of the biogas programme. Also established companies will be available.
4. Contractual arrangements	The programme should not be implemented as a parallel structure. The Paris declaration and the Rwanda aid policy signed by all donors including the Netherlands and Germany are quite clear in this respect. MININFRA has prepared and approved the establishment of an autonomous apex body, the National Agency of the Energy of Rwanda (ANER). The proposal will be sent soon to the cabinet for approval. This Agency will be the proper place for the implementation of the NDBP.
5. Demo plants	The number of demo plants has been reduced from 150 to 136; all with a size of 8 m ³ . The budget for the construction of these plants will be released within two weeks from the Ministry of Finance and Economic Planning. The overall government budget is composed of about 50% budget support and 50% tax revenues.
Other information	The forthcoming Economic Development and Poverty Reduction Strategy (EDPRS) aims to achieve both economic development and poverty reduction. The East African Community of which Rwanda is a member, has stressed the importance of the MDGs.

Meeting with Heifer International, Mr. Dennis Karamuzi:

1. Feasibility NDBP	Heifer is also involved in the dissemination of improved cook stoves made of mud. The pilots are working well and the dissemination is spreading very well. People in the rural areas are not aware of biogas. Often, they indicate also to be interested to have lighting through biogas. The programme should consider installing biogas lamps as well; this will increase the demand. Heifer is providing progressive farmers with milk cows costing about FRW 1.5 million. These cows give 12-18 litres of milk per day, providing an income. The
---------------------	---

	<p>market for milk is in development. The manure is used as organic fertiliser, though a lot of follow-up is required to make farmers using the manure properly. The farmers do build the shed for the cows costing about FRW 140,000.</p> <p>Construction of 15,000 plants is not impossible when the market is opened after the demo-phase. About 10% of the households with cows are purchasing firewood or charcoal nowadays costing FRW 8,000 to 10,000 per month even when an improved cook stove is used. Credit facilities are important to further increase the demand. Heifer intends to recruit an enterprise development coordinator who will be responsible for developing such initiatives as credit access and cooperative management.</p> <p>Manpower in the rural areas for the construction and maintenance of biogas plants is available. It is preferred to train persons from the local community.</p>
5. Demo plants	<p>Heifer is participating in the construction of demo plants. Farmers do need to contribute FRW 140,000 for stones, sand, gravel, transport of these materials and unskilled labour. There is a lot of interest among the Heifer farmers as 110 of them in Rulindo and Gasabo district have been registered for a biogas plant and many of them have completed the collection of building materials and are eager to start construction.</p>

Meeting with LWF, Mr. James Rubakisibo:

1. Feasibility NDBP	<p>Both improved cook stoves and biogas plants are required in Rwanda. The stoves can save up to 50% of firewood and are accepted by most of the households. In addition to energy, biogas plants provide other benefits as well like fertiliser.</p> <p>LWF has distributed 750 heads of local breed cattle which are now being upgraded by practising zero grazing. There is lack of water in one working area of LWF in Gitarama and therefore LWF promotes rainwater harvesting.</p> <p>Cooking is a big problem for the households. Besides firewood, they start using dried dung, agricultural residues and even grass. About 5% of the households do purchase firewood at a cost of FRW 3,000 to 7,000 per month.</p> <p>When integrated into other development activities, it will be possible to install 15,000 biogas units. About 30% of the cattle farmers in the LWF area will be able to raise US\$ 450-500; country wide, this may be half. Rural people will get help from family members having a paid job. Credit facilities will be useful, but borrowers need to be sensitised first to know the benefits of biogas.</p> <p>The supply sector can be developed as many youths are available in the rural areas without employment possibilities.</p>
5. Demo plants	<p>LWF has collected 50 applications from farmers who are willing to invest FRW 140,000 for stones, sand, gravel, transport of these materials and unskilled labour. As LWF operates a biogas plant at their office, it is not difficult to convince the farmers as they can see the benefits.</p>
Other information	<p>Mr. Rubakisibo has established a local NGO named Rwandese Health Environment Initiative (RHEPI). This NGO can also play a promoting role in the biogas programme.</p>

Meeting with DED, Mr. Christof König and Mr. Detlev Weischedel:

1. Feasibility NDBP	<p>DED has been involved in a large forestry /agriculture project that ended in 2004. This project included energy forestry planning of districts and conditions for providing permits to legally harvest wood. Overall, the consumption of firewood is much higher than production, except for some small parts where there is a balance. FAO and GTZ have conducted studies on cooking fuels respectively improved cooking stoves and forestry energy matters. The project established an association of former employees which could be very instrumental for the biogas programme in demand collection identifying interested farmers.</p> <p>In the eastern part, stabling is not (yet) practiced. The 'one family one cow' policy of the Ministry of Agriculture seems not so feasible. Water may be a problem in certain areas. DED has no data about income and expenditures of rural households. The potential for credit facilities is good.</p> <p>It will be easy to find people to be trained as local masons. Through business skills, the producer side can be strengthened.</p>
Other information	<p>The current activities of DED are in the areas of vocational training, decentralisation & rural development, low cost housing including cooking and promotion of local (district) economy. DED cooperates with GTZ in the priority</p>

	sectors agreed between the governments of Rwanda and Germany. The low cost housing project is focussed on urban areas. The houses are made of soil-cement (lime instead of cement) compressed blocks. A high facility house with biogas facility) costs EUR 3,000; it will be tried to reduce the price to EUR 1,000 to make it more affordable.
--	--

Meeting with KIST/CITT, Mr. Gatabazi Pascal and Mr. Jean Claude Uwizeye

1. Feasibility NDBP	The production target of the biogas programme of 15,000 units is feasible as there are sufficient model farmers that can afford the investment. Surveys may be required to find the potential areas. The Bank Populaire can provide credit (there were some bad experiences with MFIs last year), farmers (in the eastern part) can sell a cow and people easily buy government policies. Many farmers do sell milk from which they could save FRW 5,000 per month to repay a loan. Households in the rural areas do get financial support from family members having a paid job.
5. Demo plants	The number of plants has been reduced from 150 to 136 to make all units of 8 m3. About 50 plants will be constructed by CITT technicians, the other 86 by technicians from 10-12 contractors. The Nepalese design (concrete dome, round-wall made of stones or bricks) will be applied. An evaluation will be undertaken to identify modifications suitable for the Rwandan context. CITT will need technical assistance from SNV and/or the biogas office in Nepal for the training of trainers, masons and supervisors. Also it will be useful to get drawings of appliances manufactured in Nepal.
Other information	CITT was established in 2002 to develop and transfer technologies and knowledge to the private sector. In total 56 staff members are engaged in R&D, training technology transfer, private sector development and in future also project development. KIST/CITT has installed 14 institutional digesters at prisons and schools; 3 more are under construction at prisons. The cooks are happy, but the operation & maintenance of these plants is still a worry.

Meeting with SNV/Rwanda, Mr. Jean de Matha Ouédraogo and Mrs. Julienne Uwamariya:

4. Contractual arrangements	After all preparations and with the expertise developed in Asian countries, SNV is very much committed to now avail capacity building services for the implementation of the programme. If the biogas programme will be tendered, the final success of the programme will have difficulties because of lack of sustainability. After termination of the programme in 2010, no capacity will remain at the level of the national office. GTZ and SNV should act as equal partners in the programme. GTZ is welcome to provide FA related TA like baseline study, monitoring and impact assessment. Also in other areas like credit facilities and business skills development, SNV is open to discuss proposals with GTZ.
-----------------------------	--

Meeting with DED, Mrs. Antje Ilberg:

Other information	In Batsinda area of Kigali town, about 1,800 low-cost houses will be constructed. The first batch of 250 houses will be built soon for resettlement purposes. One demonstration unit equipped with a biogas plant (US\$ 4,000) has been made which led to the public acceptance of earth constructions in Kigali. The walls of the houses are made of compressed earth blocks stabilized with lime. Until an ongoing test series with earth lime blocks will be finalized, lime will be replaced by cement due to the existing experience and documentations available. The houses are built on a plot of about 200 m2, with one biogas unit for every four households.
-------------------	---

Meeting with MININFRA, Mr. Albert Butare, Mrs. Anthe Vrijlandt, Mr. Silas Ruzigana and Mr. Yussuf Uwamahoro:

1. Feasibility NDBP	The target of the programme can be achieved through a serious campaign involving both national and district authorities. A lot of initiatives are getting shape in Rwanda and the biogas programme will be one of them. The potential customers need to be motivated. Zero grazing is not yet fully practiced, but
---------------------	--

	making progress. The government has announced a ban on the cutting of firewood. A biogas plants should be seen as complimentary to improved cooking stoves. The priority for the use of biogas should be on cooking, not on lighting. Biogas plants also provide a potent fertiliser.
3. Commitments MININFRA	MININFRA will contribute 25% of the required investment subsidies. In addition, the costs of the offices and committees at district level will be borne by the GoR through the regular budget and common development fund. The NBPO will be part of the proposed National Agency of the Energy of Rwanda (ANER) which is designed to be an autonomous agency. The approval of ANER by the Cabinet is expected before mid-February. MININFRA likes to build in ANER in-house capacity for the biogas programme, a structure to stay. Long- and short-term experts can be added to ANER/NBPO to build the capacities. The programme will be owned by ANER. There will be no improper interferences from the GoR that led in the past to the creation of parallel structures. The role of MININFRA will be limited to policies.
4. Contractual arrangements	MININFRA likes that GTZ and SNV will deal with ANER for the implementation of the biogas programme. A practical problem needs to be solved as ANER is not yet established and not yet operational.
5. Demo plants	As soon as the Ministry of Finance and Economic Planning will release the fund, the training and construction of demo plants will be started.

Meeting with GTZ/Rwanda, Mr. Rainer Krischel and Mrs. Ute Hoffmann:

1. Feasibility NDBP	The biogas programme could take advantage of activities executed by GTZ/Rwanda in the area of vocational training.
4. Contractual arrangements	GTZ/Rwanda is interested in the programme and ready for further discussion.
Other information	GTZ/Rwanda is now involved in three priority sectors being economic and employment development (including also vocational training), health and good governance. GTZ is both providing financial assistance as well as technical assistance through a staff of about 35 people. In July 2007, a new 3-years phase will start that allows undertaking activities on energy.