

Case 2: Connecting capacities - Linking Biogas Technology to the Market Approach with the Development of a Well Driven Public Private Partnership

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Summary

SNV's main client is the National Domestic Biogas Programme, whose objective is to develop a commercial deployment of biogas technology. SNV has been designing, developing and supporting the programme since its introduction to Rwanda. The biogas business requires the development of a market with a well-coordinated private public business at levels. This case study highlights how public private partnership using a market approach is leading to sustainable economic development and improved business climate.

NDBP Pilot phase

The programme started with a pilot phase going from early 2007 to July 2007. This targeted five districts where private companies were trained. And, there was a need for potential training institutions. For the pilot phase 109 families were concerned. The pilot phase strived to develop the private sector and employment. For this reason the biogas programme trained eight private companies. The training focused on biogas plant construction and biogas sector development including marketing, sales services and maintenance. Two local institutions, KIST/CITT¹ and ETO², were trained as future training institutions.

The pilot phase was followed by the implementation of the programme using a slightly different approach. The farmers were asked to make a larger contribution to get a biogas installation and less direct assistance was provided to private companies by the National Domestic Biogas Programme (NDBP).

NDBP Implementation

Private Sector Development

Under SNV support refresher trainings were given to all technicians and masons of the companies building digesters, 63 in total. It included:

- Basic technical skills; on biodigester technology, construction, supervision, quality control and maintenance of bio-digesters
- Market skills; such subsidy and credit processes, after sale service and promotion

After having followed the training all trainees were awarded NDBP approved biogas certificates.

The private companies were offered an office in a district of their choice and were solely responsible for getting their own clients. The objective was to develop a strong private sector independent of the programme. In the districts the companies started marketing the bio-digesters and initiated workshops and started preliminary procedures of farmers' intake into the programme. The companies were furthermore responsible for developing their own appliance market, which was successfully achieved. Each company had its supplier for fittings and appliances and the biogas programme is now active in 13 of the 30 districts of Rwanda totalling 1042 farmers. At the time there was only one large supplier of appliances importing from China. To increase competition the programme has motivated four local manufacturers to start appliances production.

¹ KIST/CITT – Kigali Institute of Science and Technology/Centre for Innovation and Technology Transfer

² ETO Gitarama is a secondary technical school

The programme also set up a collaboration between the biogas private companies and CIMERWA, which is the only cement industry in Rwanda. This alliance subsidises the financial contribution needed from the farmers, a key success factor as cement in Rwanda is very expensive and its price on the market is unstable. Eight cement suppliers in different districts are now involved under the CIMERWA agreement.

Another successful outcome due to advocacy efforts is that SONATUBE, who is responsible for supplying the gas pipes, has invested in manufacturing the pipes for the programme at reduced costs to the farmer.

The BPR (Banque Populaire du Rwanda) is one of the largest banks in Rwanda and has agreed to provide credits to farmers wanting to install a biogas plant aiding at giving the business sector a boost.

At all levels the programme ensures quality control guided by strict standards and procedures. It does controls of the companies and checks farmers satisfaction.

Private - Public Partnerships

Next to private sector involvement the participation of Local authorities' and their collaboration with private sector is key to the success of the programme. The administrative division of Rwanda is comprised of five provinces, 30 districts and 416 sectors. The sensitisation of the programme was done at district and sector level.

The Districts

As introduction to the programme, the biogas programme conducted workshops in six districts, 4 in the Northern Province, 2 in the Southern Province and the Kigali City Council. In each workshop the district mayors, sector executive secretaries and agronomists were involved.

The workshops resulted in ownership of the programme at district level targeting a total of 1300 households with biogas digesters. Districts promised to increase the targets in performance contracts signed each year.

The Sectors

As the sectors are the smallest administrative entity their support is crucial. The programme has involved executive secretaries and the agriculture representative of each sector in marketing, farmers' registration, quality control, funds release, credits acquisition steps and after sale services. The authorities work in close collaboration with the private companies and act as supervisors.

"...The agriculture representative of the Mukarange sector has given a list of farmers to build for and now work with us to check technical conditions in households..."
Venust Ntezimana, Technician of MBA (Mukarange Builders Association), a construction company, based in Gicumbi northern District.

Public Institutions and Private Sector

The programme involved education and research institutions to support research link to biogas technology. The following institutions were involved:

Tumba College of Technology: Is to train private companies including refresher courses. Preliminary contacts have been bridged and an agreement is yet to be reached.

The institute of agriculture and husbandry/ISAE: Assists the programme in research related to Bio-slurry use. They will provide training to private companies in order to help them advise farmers on optimal usage of a bio-slurry. SNV in using its experiences from Asia has played a role in the capacity building of this institution. A researcher was able to participate in an exchange visit on bio-slurry in Bangladesh. ISAE Busogo was involved in a survey on baseline data for the programme to get access to the CDM funds.

IRST³: Assists the programme with research on latrines/toilets, this to contribute to sanitation.

³ Institut de recherche scientifique et technologique

KIST/CITT⁴: To be contracted to manufacture stoves in order to motivate the rising of privately owned stove manufacturers getting their knowledge from CITT expertise.

Civil Society and Public Sector

Emphasis was also put on collaboration with the civil society and NGOs, for promotion and sensitisation. Heifer International⁵ played a large role by cooperating with the private companies in Rulindo, Gicumbi and Gasabo districts. They supported promotion within the associations of farmers they work with.

SNV's support to Public-Private Partnership in Biogas Sector

SNV activities related to supporting the partnerships were multiple and were at all levels, it ranged from technical to business development advice and support through trainings. We helped design and implement the programme and gave assistance in the organisation and facilitation of the sensitisation workshop. Networking and advocacy were large part of promoting strategic linkages for sustainable and successful programme development.

Results

The private and public partnership has brought:

- A solid foundation to the realisation and setting of the programme;
- It influenced positively district performance contracts;
- The development of a sustainable market;
- It has reduced the direct implication of the programme as a public institution in the development of the market;
- A long-term demand for the product has been created and the operational structure is fixed.

Main Lessons Learned

- Market development requires well coordinated private-public partnership;
- Owners of companies should look, though some barriers should be put in place in order to protect farmers from abuse;
- The programme should incite and support new businesses entering into biogas;
- A good training (theoretical and practical) for masons and technicians is a prerequisite to good functioning plant, including frequent refresher trainings;
- The programme should act as facilitator between big industries, and private companies in order to improve accessibility to products. Cost reductions of materials should be negotiated in order to increase the access of farmers to biogas and improve the business climate;
- The government should exempt biogas business and appliance imports from taxes in order to promote private sector development and reduce farmers' cost;
- The collaboration with districts, existing institutions and NGOs at different levels is fundamental for the development of the programme;
- The performance contracts done by districts could play good role towards the success of the programme;
- It is important for the programme to have focal points at sector level to facilitate the up-scaling of the programme. Better would be to have NDBP representatives at district level coordinating all actions;
- We observed that farmers trust sector authorities more than private companies, it is therefore important to involve them from the start;

⁴ Kigali Institute of Science and Technology/Center for Innovation and Technology Transfer

⁵ International NGO working in the sector of cattle distribution and livestock improvement

- Involvement of public institutions for training of private companies assures sustainability and technology transfer;
- The involvement of local research institutions in research and development is valuable for technology innovations and development.
- Quality control and after-sales services including guarantees are crucial to the smooth running of the programme insured by the private companies with close supervision of the biogas programme and local authorities.

Challenges and Opportunities

The **challenges** with the development of a strong public-private partnership are at different levels:

The programme:

- Lengthy payment procedures to private companies;
- Delay of credit availability to farmers;
- Lack of human resources for marketing and quality control
- Import taxes keep prices high

The private companies:

- Limited number of private companies trained;
- Strategy missing to reduce drop out of companies;
- Difficulties in maintaining quality standards and good workmanship;
- More financial resources capacities needed;
- Adequate financial products relating to loans is still missing and needs to be developed;
- Low prices of Chinese appliances harming competitiveness of local manufacturers

The public sector:

- Lack of coordination and involvement at district level;
- Lack of ownership;
- Staff little involved.

Other challenges are related to the fluctuation and increase of prices of construction materials, increasing the financial contribution asked from farmers, thus lowering their access to biogas products.

The **opportunities** in relation to public private partnerships are:

- The government strongly supports and encourages renewable energy solutions
- The National Domestic Biogas Programme has the capacity to develop a sustainable biogas sector in Rwanda
- With the 15000 biogas plants planned and the subsidy made available to farmers construction make the sector profitable to companies and parallel appliance manufacturers and suppliers
- With biogas districts have found a solution to the problems related to the wood cutting prohibition policy and hence are willing to insert biogas targets in their performance contracts
- Public institutions, especially, institutions of higher learning and research are to deliver tangible results and rural development- oriented solutions
- Farmers are eager to invest in biogas plants due to the many benefits related to it

2010 update: 2010 update: The approach described in the case above, has contributed to the development of the biogas program with different achievements, as we have now by September 2010 more than 700 biogas plants installed and spread all over the country, there is also 70 biogas companies selling "The biogas product", with at least 2 biogas companies by District (The 30 districts of the country) .The public private partnership is vibrant as all the districts and sectors, are closely monitoring and supporting the biogas companies activities. Additionally, we have more and more public institutions involved in promotion, research and training, this to support directly the development private sector in the biogas sector. The role of other private sector actors and the civil society has also steadily grown for the same objective, an example being the "Banque populaire du Rwanda" supporting financially the biogas investments, as well as the growing number of NGOs active in promotion.