

Partnership between TNO and ICCO

1 + 1 + 1 = 6

Knowledge is the key to development. Not only at the level of basic education, but also at the level of specialized and scientific knowledge. The Dutch 'Knowledge Company' TNO decided to provide its existing knowledge and expertise for development cooperation. Development organization ICCO is one of the four partners in their programme. The current pilot phase lasts for two years, 2007 -2008.

A team of about 20 TNO-professionals form the 'Flying Innovation Team'. For ICCO they provide 180 working days on an annual basis. Together with ICCO and its local partners they search for new, practical solutions for questions related to fair economic development and access to basic services in developing countries.

The TNO-team was prepared for their task through trainings and workshops on safety, ethics, sustainable system innovations and a training-cum-working visit to India.

Demand driven product-, process and system innovation

The focus of the partnership is on sharing knowledge between TNO, ICCO and local partner organizations of ICCO to develop product-, process- and /or system innovations. For this purpose, existing and innovative expertise of TNO will be applied in current and new programmes of local partners of ICCO.

ICCO and TNO work on demand driven projects. The selection of projects is done jointly, based on criteria such as: estimated impact of the project (amount of people directly involved or level of added value for target group), available local infrastructure for sufficient project management and availability of relevant TNO knowledge.

The projects are managed by a project team consisting of:

- * Two representatives of TNO (including 1 project manager),
- * One programme officer of ICCO (sometimes with backstopping by a colleague)
- * One representative from the local ICCO partner involved.

Together they prepare the Terms of Reference (incl. time frame, budget etc.) of the project. Upon approval by the programme managers of TNO and ICCO, the project can start.

Projects

In 2007 five projects were selected with two partner organizations of ICCO in India: ADATS and Gram Vikas. For 2008 new projects are being explored. Among others they refer to organic dyeing of cotton (India/global), fruit processing (Latin America) and soy harvesting and processing devices (Ghana; in cooperation with the Delft University of Technology).

1. Durability and efficiency of biogas units - ADATS and Gram Vikas

A biogas unit is an installation in which cow dung can be digested to produce biogas. Cooking on biogas, instead of wood, decreases deforestation, is more clean and healthy, less time consuming, and reduces the impact on global warming. In Southern India ADATS built 5000 biogas units. In the coming years a total of 15.000 biogas units are scheduled to be built. The biogas units are constructed with bricks and cement and build almost completely below the surface. The 5000 biogas units are unique in India because they are financed as a project under the Clean Development Mechanism (CDM) of the UNFCCC. As such, costs for construction and maintenance are covered during a period of seven years. One effect is that the -mainly- women who cook on biogas receive a compensation for using the units. It is important to ADATS that even after these 7 years the biogas units will remain functioning without major problems.

For this reason TNO was asked to determine the weak points in design and construction and suggest how the durability can be prolonged without major costs. TNO advices as well on how the efficiency of

the biogas units can be improved. Which other cheap and available type of input can produce biogas? Which mixtures with dung and green waste materials are possible? TNO performed literature research, conducted interviews, organized an expert meeting and did some laboratory testing. The project started in October 2007 and will be finalized in spring 2008.

2. Carbon Credits potential scan - ADATS / Global

Small-scale, pro-poor projects that generate carbon credits have large potential under the Clean Development Mechanism (CDM), especially in Africa and South Asia. They are considered to contribute more effectively to sustainable development, especially its social dimension, compared to large industrial projects. However, these projects are unattractive to carbon buyers because of their small size, the difficulty to obtain proper hosting countries and the time consuming CDM procedures. Through its Fair Climate Programme, ICCO wants to promote this kind of financing as it offers interesting alternative funding for development programmes.

ADATS is one of the few NGOs that has proven to be capable to generate carbon credit income from CDM which directly benefits its target group (see project 1). ICCO and ADATS asked TNO to determine a methodology how NGOs can best select pro-poor technologies in a given region with the highest potential for generating carbon credits. To answer this question TNO will develop a carbon credit potential scan for CDM and other (voluntary) carbon credits schemes. The project shall be finalized by April 2008.

3. Water retention in horticulture - ADATS

ADATS is involved in land reclamation for the rural poor in semi-arid areas and increasing their annual income through cultivation. The soils are loose and rocky and are far away from natural water sources. Apart from regular water harvesting, in horticulture farmers need to irrigate the land. This is a costly affair. ADATS asked for an affordable technology that can trap water in loose soil such that the water does not get lost. Water retention of the soil depends on several factors: such as depth and steepness of the surface ground, texture of soil, the match between crop - soil - climate, geo-hydraulic situation and watering regime. TNO is developing an innovative solution regarding these factors to improve the water retention. This will be tested in a pilot with mango cultivation. The duration of this project is 1,5 years and started in September 2007.

4. Effect monitoring of the water & sanitation program - Gram Vikas

Gram Vikas works with poor and marginalized communities in the state of Orissa. Their integrated development program is guided by the belief that all people deserve to live with dignity. Important aspects of the program are Inclusion (100% coverage), Social Equity, Gender Equity, Sustainability and Cost Sharing. Gram Vikas is convinced that its programme brings sustainable, social and economic value to the villages, but they want to make these results more visible. This should enlarge the commitment for their programmes and chances for funding. They asked TNO to help them making the results of their efforts more objective and explicit. For this, TNO focuses on improving the monitoring system and generating more reliable and convincing information about the effects of the programme in terms of social and psychological gains. The adapted management information will support Gram Vikas to learn more about the effectiveness of their work and to identify points for improvement. The project started in August 2007 and will be finished in spring 2008.

5. Groundwater management - Gram Vikas

Gram Vikas has problems with the determination of proper locations of wells for their water and sanitation programme. Because of the insufficient recharge of aquifers many wells dry up, drinking water is of poor quality. The huge percentage (40-50%) of unsuccessful well positions leads to high costs. TNO contributes to address these issues with expertise in the field of geo-hydrology and capacity building. The project that started in August 2007 focuses on the introduction of a broadly applicable approach for sustainable groundwater management in areas with low data density; cost reduction and capacity building for the staff. It will finished in spring 2008.

More information

If you have any questions or like to receive more information, we refer you to the programme management.

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Short profile of TNO and ICCO

TNO is a Dutch knowledge company for applied scientific research that works for companies, governments and civil organizations. TNO was founded in 1932 by law. The current annual turnover is € 560 million, out of which € 100 million is from foreign sources. The 4500 employees of this semi-public organization engage in contract research, provide specialized, practical advice and give objective and scientifically assessments. Their work focuses on various technical areas, but also on programme management, monitoring and system development. www.tno.nl

The Dutch development organization ICCO supports enterprising people in more than fifty countries. ICCO provides financial support and advice to more than 800 partner organizations and networks that are committed to promote access to basic services, fair and sustainable economic development or peace and democracy. ICCO works in close cooperation with development organizations, knowledge institutions and the business community. Together with these partners ICCO supports people in Latin America, Asia, Africa and Eastern Europe to achieve a dignified existence and economic independence. ICCO finances almost 1100 programmes with an annual turnover of € 125 million. ICCO was founded in 1964 and employs about 300 people. www.icco.nl