

## Ex-post evaluation of six DEG projects in the flower sector in Kenya and Uganda

### Executive Summary

#### 0 Study objectives

0.1 The following ex-post evaluation of six projects<sup>1</sup> in the flower sector in Kenya (five projects) and Uganda (one project) is performed on the basis of DEG's internal rating tool, the GPR<sup>2</sup>, as well as an expert report on the applicability of the DAC evaluation criteria to DEG projects<sup>3</sup>.

0.2 The present evaluation pursues three objectives:

- (i) To evaluate the six projects on the basis of the GPR ex-post evaluation system of DEG.<sup>3</sup>
- (ii) To evaluate six DEG projects in Kenya and Uganda in the flower sector using the five DAC criteria of relevance, effectiveness, efficiency, developmental impact and sustainability. This is a first practical application ("test run") of the evaluation criteria proposed in the above-mentioned expert report, according to standardised qualitative and quantitative methods.
- (iii) To compare the results of (1) and (2) and, if necessary, deduce relevant conclusions and recommendations.

0.3 The terms of reference also include dealing with important specific topics, such as the environmental impact (water balance, wastewater contamination, pesticide use, energy and freight costs, climate and CO<sub>2</sub> effects, etc.) of flower growing and carrying out a comparative analysis of different certification standards.

#### 1. Specific topics

##### 1.1 Climate balance of flower exports

1.1.1 In February 2007 the British Cranfield University published a comparative study on the effects on global warming of rose growing in Kenya and the Netherlands. Using the "Environmental Life Cycle Assessment" method, the study compares the CO<sub>2</sub> emissions from rose growing (production, packing, refrigeration, transportation) on a farm in the Netherlands with a farm in Kenya and the share of those emissions in Global Warming Potential (GWP100).

1.1.2 The most important results to be noted: energy consumption and greenhouse gas emissions for the analysed rose farm in Kenya are many times lower than for the Dutch production site. Considering the total greenhouse gas effect GWP100 (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O), the Kenyan emissions are lower than in the Netherlands by a factor of 6. This means that, contrary to widely held opinion, the greenhouse gas effect of the Kenyan rose production,

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<sup>1</sup> The specific company names are made anonymous due to banking confidentiality regulations.

<sup>2</sup> For more information on GPR see our webpage:

[http://www.deginvest.de/EN\\_Home/About\\_DEG/Our\\_Mandate/Development\\_Policy\\_Mandate/DEG-GPR\\_Website\\_english.pdf](http://www.deginvest.de/EN_Home/About_DEG/Our_Mandate/Development_Policy_Mandate/DEG-GPR_Website_english.pdf).

<sup>3</sup> Basis for the GPR ex-post are the respective visits of the projects on site and project reports.

including emissions caused by air freight, is far smaller than the emissions generated by production in the Netherlands.

1.1.3 Even allowing for the reservations and margins of error mentioned in the study, in view of the very wide difference in energy consumption and greenhouse gas (GHG) emissions (factor of 6), it may be assumed that the rose farms financed by DEG represent a developmentally sound financing approach, taking into account global environmental protection and the international division of labour (comparative local advantages because of geographical and climatic conditions).

## **1.2 Water consumption and wastewater contamination – Lake Naivasha**

1.2.1 Only two of the five flower farms sponsored in Kenya lie in the catchment basin of Lake Naivasha.

1.2.2 The DEG-sponsored rose farms cannot be criticised either in terms of water pollution in Lake Naivasha or the demand they make on the scarce resource of water. Water use in the cut flower industry is far more efficient and more resource-friendly than in other agricultural sectors. The main causes of water pollution in Lake Naivasha are inadequately cleaned local wastewater, including rain-derived flood water, as well as small peasant farming. As a result of the increasing use of efficient and closed irrigation systems in greenhouses as well as wastewater treatment plants and settling ponds in the DEG rose farms, not only is the demand for irrigation water reduced, but the risk of contaminating lake, river and ground water with pesticides and fertilisers is reduced.

## **1.3 Pesticide use**

1.3.1 The greatest production risk in growing cut flowers and especially roses comes from infestation with fungi, viruses and pests. This risk is comparatively higher than in other agricultural sectors, which is why intensive use of pesticides is necessary. The use of pesticides in flower growing is regulated in detail by the various international certification systems and is regularly monitored by on-site inspections. It may therefore be assumed that any use of pesticides is as environmentally friendly as possible without any risk to the workers' health.

1.3.2 All the DEG-sponsored projects are certified. In addition, pesticide use is reduced because of closed irrigation systems, alternative growth media such as coconut shells and increasing use of biological pest control methods. It may therefore be assumed that the use of necessary pesticides is reduced to the absolute minimum in the DEG projects and all the necessary precautions are taken to prevent or minimise adverse effects on employees and the environment.

## **1.4 Certification systems**

1.4.1 Unfortunately, there is no uniform international certification system for environmental and social standards in flower growing. Instead there are various different, sometimes competing, systems.

1.4.2 All certification systems aim at appropriate working conditions and an environmentally sound production of roses and other flowers. Material differences between the individual systems ultimately lie in their particular focus and in their degree of detail with regard to the two main topics of social standards and environmental standards.

1.4.3 Certification organisations can roughly be divided into three groups. (i) MPS, KFC and FLP issue certification in areas of agricultural growing methods, environment (fertilisers, pesticides, irrigation and wastewater), working conditions, safety at work and health. (ii) EUREPGAP confines certification to technical aspects of cultivation. (iii) Max Havelaar and FLO offer the most comprehensive certification and differ from MPS, FLP and KFC primarily

in their objective of improving North-South trade conditions for exporters in developing countries.

1.4.4 The DEG projects in Kenya and Uganda employ several of the above certification standards, although the decision of whether to choose Fair Trade standards, in particular, is determined by the size of the company and its main markets. For instance, the Max Havelaar/FLO certification is of limited value to one rose farm because in France and Switzerland the Fair Trade mark-up is virtually only paid by supermarket chains, whereas this rose farm uses other marketing channels for its quality roses. The roses are sold to many retail customers without the Fair Trade label at the “standard” price (without mark-up). In spite of that, the company does hold Fair Trade certification.

## **1.5 Conclusion and recommendations**

1.5.1 Lake Naivasha: The possibility of Kenyan and international NGOs being criticised in future cannot be ruled out. In this respect, potential discussions within and outside Kenya on this subject still need to be monitored.

1.5.2 Certification standards: DEG should ultimately regard all the certification standards (except EUREPGAP) as equal, despite existing differences in their emphasis on the two main areas of environmental and social standards and in their certification procedures. For the above reasons, it is not advisable for DEG to give preference to any single standard, such as the comprehensive Max Havelaar/FLO certification standard.

## **2 Summary of DEG financial commitment**

DEG has been involved in the flower sector since 1997, now financing six projects. Including a European Finance Partners (EFP) project, DEG has committed a total of around 24 million EUR in loans (over 16 million EUR already paid out, including EFP) and holds an equity stake of around 391 TEUR. On 30.06.2007 the gross commitment was approximately 15.3 million EUR and the gross investment around 12.5 million EUR (each excluding the EFP share). By comparison, the gross commitment in Kenya and Uganda totals around 55.4 million EUR (flower share 28%) and the gross amount invested is approximately 31.5 million EUR (flower share 40%).

## **3 GPR ex-post evaluation results**

### **3.1 Main results**

3.1.1 The main results are presented in Overview 3.1.

3.1.2 Three projects (called “B”, “C” and “F” due to banking confidentiality regulations) can be classified as “good”<sup>4</sup> in terms of business policy. Two projects show a “fully satisfactory” result, one project a “still satisfactory” result, although this can be attributed to a conservative calculation of the DEG return on equity.

3.1.3 With the exception of one project, all the GPR ex-post values are below the ex-ante ratings. The widest variations are found in the return on equity of DEG (yardstick 4), where the ex-post rating was above the ex-ante value for only one project. The return on equity of DEG at the time of the evaluation was zero or in the negative range for three of the projects. However, this result should be put into perspective because it is very probably due to the very early timing of the evaluation.

3.1.4 One project can be classed as developmentally very good and the other five as developmentally good projects. In the developmental effects / sustainability (German abbreviation: EPOL) grades (yardstick 2) there are only slight variations between ex-ante and ex-post values, although the ex-post values are below the ex-ante results in five out of

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<sup>4</sup> GPR and development quality group (EPOL) definition of grades: Grade 1 = “very good”, 2 = “good”, 3 = “fully satisfactory”, 4 = “still satisfactory”, 5 = “unsatisfactory, needs specific justification”, 6 = “obviously insufficient”.

six projects (one exception has identical grades). This result should also be put into perspective, given the early timing of the evaluation. This is because positive tax, net currency and value-added effects as well as employment effects do not normally become apparent until the investments are fully operative.

3.1.5 In Kenya alone, the project companies ensure over 8,000 direct and indirect jobs in structurally weak and in some cases remote regions and they offer above-average social benefits for the employees and their families. This is of special importance in a country with an estimated poverty rate of approximately 20 % (per capita income below 1 USD / day). In addition, they earn considerable export revenue. Cut flowers, earning 240 million Euros in Kenya alone, account for 11 per cent of total export earnings. The DEG project companies annually generate around 28 million Euros net foreign exchange revenue. This is significant, because Kenya faces a current account deficit of approximately 4 % in 2007.

3.1.6 In terms of the long-term profitability of the projects (yardstick 1) and the strategic role of DEG (yardstick 3), there are only slight differences between ex-ante and ex-post ratings with slight variations above and below.

### Overview 3.1: Results of ex-post evaluation according to GPR

Projects	“A” ex-post values ex-ante values (of the follow-up project)	“B” ex-post values ex-ante values	“C” ex-post values ex-ante values	“D” ex-post values ex-ante values	“E” ex-post values ex-ante values	“F” ex-post values ex-ante values
<b>GPR index / GPR group</b>	262 / GPR-3 328 / GPR-1	292 / GPR-2 273 / GPR-3	296 / GPR-2 302 / GPR-2	211 / GPR-4 338 / GPR-1	250 / GPR-3 325 / GPR-1	286 / GPR-2 291 / GPR-2
<b>Long-term profitability (yardstick 1)</b>	119 110	107 107	117 117	50 96	104 104	102 102
<b>EPOL (developmental effects) (yardstick 2)</b>	85 / EPOL-2 87 / EPOL-2	88 / EPOL-2 94 / EPOL-2	99 / EPOL-2 105 / EPOL-1	93 / EPOL-2 104 / EPOL-1	109 / EPOL-1 109 / EPOL-1	84 / EPOL-2 89 / EPOL-2
<b>DEG role (yardstick 3)</b>	58 56	47 47	30 30	68 63	37 37	50 50
<b>DEG's return on equity (yardstick 4)</b>	0 75	50 25	50 50	0 75	0 75	50 50

## 3.2 Recommendations

3.2.1 In the on-site evaluation, the GPR ex-post results are basically confirmed as valid. The evaluated projects in the flower or rose-growing sector can be described as very attractive from developmental aspects and particularly with regard to their contribution to reducing poverty and achieving the Millennium Development Goals (MDG). Their very good results in terms of creating jobs in partly remote and structurally weak regions of Kenya and in terms of social effects make the flower sector a priority developmental sector.

3.2.2 It is recommended that the flower sector should be given high priority in future DEG financing activities. It may be advisable to use PPP resources (grants of the German Government managed by DEG under the Public Private Partnership fund) in order to maximise the developmental effects.

#### 4. Development effects and project impacts based on DAC criteria

##### 4.1 Main results

4.1.1 The main results are presented in Overview 4.1.

**Overview 4.1: Results of ex-post evaluation according to DAC criteria**

Projects DAC criteria	“A”	“B”	“C”	“D”	“E”	“F”
<b>Relevance</b>						
qualitative	Very good	Good	Good	Very good	Very good	Good
quantitative	grade 1	grade 2	grade 2	grade 1	grade 1	grade 2
<b>Effectiveness</b>						
qualitative	Very good	Very good	Very good	satisfactory	Good	Very good
quantitative	grade 1	grade 1	grade 1	grade 3	grade 2	grade 1
<b>Efficiency</b>						
qualitative	satisfactory	Good	Good	Unsatisfactory	Not satisfactory	Good
quantitative	grade 3	grade 2	grade 2	grade 5	grade 4	grade 2
<b>Developmental impact</b>						
qualitative	Very good	Very good	Very good	Good	Very good	Very good
quantitative	grade 1	grade 1	grade 1	grade 2	grade 1	grade 1
<b>Sustainability</b>						
qualitative	Moderate risks	Moderate risks	Low risks	High risks	Low risks	Moderate risks
quantitative	grade 2	grade 2	grade 1	grade 3	grade 1	grade 2
<b>Overall developmental DAC rating</b>						
qualitative	<b>Good</b>	<b>Good</b>	<b>Very good</b>	<b>Satisfactory</b>	<b>Good</b>	<b>Good</b>
quantitative	<b>grade 2</b>	<b>grade 2</b>	<b>grade 1</b>	<b>grade 3</b>	<b>grade 2</b>	<b>grade 2</b>

4.1.2 Four of the six projects evaluated in the flower sector achieve a “good”<sup>5</sup>, one project a “very good” and one project a “satisfactory” overall DAC rating: The best project gets a rating with an average overall grade of 1.4; the “worst” result is an average grade of 2.8 (three) in the DAC evaluation.

4.1.3 The projects achieve relatively low ratings for the efficiency criterion, which is a consequence of the unsatisfactory DEG return on equity in three projects. The above-mentioned reservations apply.

4.1.4 The strengths of all the projects clearly lie in their developmental impact, with a “very good” rating (grade 1) for five projects and one project with a grade 2 classification. Consistently positive results are also recorded for the developmental relevance (three times

<sup>5</sup> DAC quality group definition of grades: Grade 1 = “very good”, 2 = “good”, 3 = “satisfactory”, 4 = “not satisfactory”, 5 = “obviously insufficient”, 6 = “useless”.

“very good” / grade 1 and three times “good” / grade 2) and the effectiveness of the projects (four times grade 1, once grade 2 and 3).

4.1.5 The evaluation of sustainability risks reveals moderate risks for half of the projects and low risks for two projects. The sustainability risks are assessed as high for one project. The evaluation results, especially for the future-oriented sustainability criterion, should again be put into perspective because of the early timing of the evaluation.

4.1.6 The results of the evaluations according to GPR and DAC methods do not differ substantially.

4.1.7 There are no substantial advantages or disadvantages with respect to the quantitative and qualitative DAC evaluation method. Both methods have the GPR as the main source, and conversion of the index points into qualitative or quantitative ratings is done in a transparent and comprehensible manner. Thus, both methods conform to best practice standards or DAC evaluation guidelines.

4.1.8 Based on the evaluation of the DEG flower portfolio, the “test run” of the DAC evaluation system can therefore be described as successful. Interpretation of this positive outcome, however, should be qualified by the fact that the flower portfolio is certainly not a representative selection of typical DEG projects in the “productive enterprises” sector. On the one hand, all the evaluated projects are successful and, on the other hand, they are in some ways “employment-biased and socially focused” with positive MDG contributions which are probably above-averagely high. The latter factor and the definite “MDG bias” of the DAC criteria therefore might have contributed to the close correlation between the evaluation results of the two systems.

## **4.2 Recommendations and next steps**

4.2.1 Further action proposed within the DAC test phase is to make a selection from DEG projects in the “productive enterprises” sector which is as representative as possible. This selection should be based on GPR ex-post evaluations and should include, above all, less successful projects and those which have less pronounced employment and social impact. Another test run of the DAC evaluation system could be carried out with little personnel and time input, on the basis of the GPR ex-post evaluations.

4.2.2 After a successful final test for the “productive enterprises” sector, the DAC evaluation system can then be used to complement the GPR system in ex-post evaluations, as recommended in the “Expert report on the applicability of DAC evaluation criteria to DEG projects” of 27.02.2007.

4.2.3 As the next step, the DAC evaluation system would then have to be tested for infrastructure projects and financial sector projects (financial institutions, private equity funds) based on the recommendations of the “Expert report on the applicability of DAC evaluation criteria to DEG projects”. This should be done as a first step, based on GPR evaluations, including random on-site assessments and considering the most representative portfolio possible.

4.2.4 After a successful final test for the four sectors, the DAC evaluation system can then be used to complement the GPR system in ex-post evaluations, as recommended in the “Expert report on the applicability of DAC evaluation criteria to DEG projects”. It would seem worthwhile to link the on-site validation of the GPR ex-post results to the DAC evaluation system.

## **5 All the recommendations at a glance**

5.1 DEG should continue to monitor any discussions within and outside Kenya regarding water consumption and wastewater contamination in Lake Naivasha.

5.2 DEG should regard the certification standards MPS, KFC, FLP, Max Havelaar and FLO as equal and not give preference to any of these standards.

5.3 In future funding activities, DEG should give high priority to the flower sector from developmental points of view and possibly use PPP resources in order to maximise the developmental impact.

5.4 The ex-post evaluation using GPR (ex-ante vs. ex-post evaluation on site) and the DAC criteria proved meaningful. DEG should carry out another test run of the DAC evaluation system and, after a successful final test for the “productive enterprises” sector, should extend the test run to the “infrastructure”, “financial sector” and “private equity funds” sectors.

## **6 Acknowledgement**

DEG would like to thank the six clients for their assistance and cooperation during the evaluation. Due to German banking confidentiality regulations it is not allowed to disclose the names of their clients. Nevertheless, the four following clients (in alphabetical order) allowed us to disclose their names:

- Kordes Roses Kenya Ltd. / Nairobi - Kenya
- Mahee Flowers Ltd. / Nairobi - Kenya
- Redland Roses Ltd. / Ruiru - Kenya
- Wagagai Ltd. / Entebbe – Uganda

Prof. Dr. Peter Hartig, 31 July 2007