

## Ex Post-Evaluation Brief

### Dominican Republic: Conservation of Natural Resources, Alto Río Yaque del Norte



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| <b>Programme/Client</b>                                     | Conservation of Natural Resources, Alto Río Yaque del Norte, Phases I and II<br>BMZ No. 1998 65 189 / 2001 66 090 |  |
| <b>Programme executing agency</b>                           | Ministerio de Medio Ambiente y Recursos Naturales (MMARN)   |  |
| <b>Year of sample/ex post evaluation report: 2012*/2012</b> |   |  |
|   | Appraisal (planned)   | Ex post-evaluation (actual)                              |
| <b>Investment costs (total)</b>                             | EUR 13.7 million  | EUR 11.2 million   |
| <b>Counterpart contribution (company)</b>                   | EUR 1.5 million (MMARN) + EUR 3.1 million (target group)  | EUR 1.0 million (MMARN) + EUR 1.6 million (target group) |
| <b>Funding, of which budget funds (BMZ)</b>                 | EUR 7.2 million (FC) + EUR 2.0 million (TC)   | EUR 7.1 million (FC) + EUR 1.6 million (TC)              |

\* random sample

**Project description (Phases I and II):** This joint FC/TC project aimed to promote the conservation of natural resources within the catchment area of the Río Yaque del Norte and to improve the living conditions of the local people, with natural resource conservation being the priority. The project was implemented in two phases: the first phase primarily consisted of investments in afforestation, forestry management, agricultural diversification and micro-projects; the second phase, which focused on the adjoining protected areas, financed improvements in infrastructure and facilities as well as management plans for these protected areas.

**Target system of the evaluated phases:** For Phase I, the project objectives were to reduce deforestation and erosion on the mountain slopes within the project area, which are especially endangered, and to introduce sustainable practices in forestry management and land management. For Phase II, the project objectives were the creation of an effective, sustainable system of conservation, together with the sustainable protection of natural resources and biodiversity within the protected areas. The overarching developmental goal of both phases was to contribute to the conservation of natural resources in the water catchment area and to help to improve the living conditions of the local population. Subsequently, an objective with a global dimension was added to the second phase, namely to contribute to the protection of biodiversity.

**Target group:** The target group was the people living in the water catchment area, some 40,000 in all. At the river's lower reaches, the project had additional impacts on drinking water production, irrigation and power generation for large parts of the North of the Dominican Republic.

#### Overall rating (Phase I): Rating 3

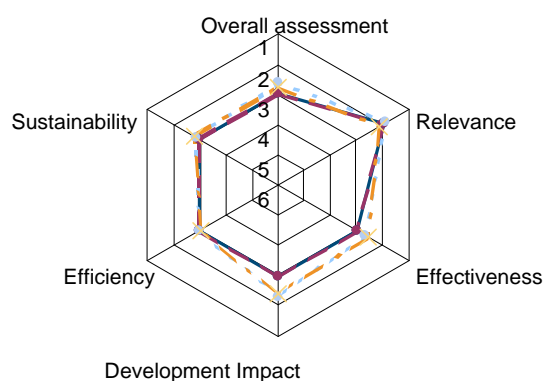
The protection of water catchment areas represents a priority area for intervention. Although reservations must be expressed in certain specific areas (cultivation plans), the project's effectiveness was still satisfactory. The change in awareness achieved within the target group is particularly commendable. There were isolated reports of improved channel flows in some localities.

#### Overall rating (Phase II): Rating 3

The relevance of the project is evident from the great biodiversity and the efforts still being made to designate further protected areas. The indicators for effectiveness were achieved; in those protected areas jointly managed by NGOs, sustainability is noticeably higher than in the state-run parks. Initial impacts, such as the recovery of individual species, can now be seen.

**Note:** This evaluation was carried out jointly with the WWF.

#### Rating by DAC criteria



- Project 1
- - -●- - - Project 2
- - -x- - - Overall average rating – Sector (from 2007)
- - -x- - - Overall average rating – Region (from 2007)

## EVALUATION SUMMARY

**Overall rating:** The high rating for relevance awarded to both phases is worthy of note. Effectiveness, efficiency, overarching developmental impact and sustainability were all rated as satisfactory. Hence both phases received an overall rating of “satisfactory”.

**Rating: (Phases I and II): 3**

**Relevance:** The core problem addressed by the first phase was the deforestation of the upper reaches of the Río Yaque catchment area and the erosion which then resulted and threatened the water balance. In view of the river’s transregional significance to drinking water supplies, irrigation and hydro power in the North of the Dominican Republic (including the city of Santo Domingo, with its population of over a million), this field of intervention was highly relevant.

In view of the declining funds being committed to the Dominican Republic,, nature conservation is no longer a priority development area. However, it continues to be a priority topic at the national level. The conservation of natural resources represents one of the four pillars of the national development strategy. Since project appraisal, the number of protected areas has grown. It presently amounts to 26,000 km<sup>2</sup>, or 25% of total land area. Through its national programme *Quisqueya Verde*, the Dominican Republic is clearly making its own strenuous efforts in the area of reforestation.

The chain of effects, which aimed to achieve a reduction in deforestation and erosion - and hence to conserve water resources - through reforestation and sustainable forestry management, seems plausible. The project comprised a broad, ambitious sweep of measures, yet the design concept was still largely appropriate. However, the incentive structure was only to a limited extent appropriate. Furthermore, in view of the difficult conditions pertaining in many areas, a less complex project design may well have proved advantageous.

A regular inter-donor dialogue was instituted, and initially the project made a positive contribution to the donor coordination process. However, as time progressed these discussions lost their resonance. This also applies to Phase II. Rating (Phase I): 2

The core problem addressed by the second phase was the threat to the ecosystem in the four protected areas bordering the upper stretches of the Río Yaque. The biodiversity of the Dominican Republic is among the richest in the Caribbean, with a substantial proportion of endemic flora (34%) and fauna (29 %). The moist forests and pine forests in these four protected areas are classed as Global 200 “biodiversity hotspots”, and some parts have been designated as “*Important Bird Areas*”. The *Ministerio de Medio Ambiente y Recursos Naturales* (MMARN) has expanded the system of protected areas, and given high priority to the conservation of natural resources. Hence this field of intervention has a correspondingly high degree of relevance.

The rationale employed in the second phase was to achieve a sustainable and effective system of nature protection by providing support for infrastructure, equipment and management plans.

This would contribute in turn to the sustainable conservation of biodiversity and natural resources. For the most part, the regular provision of adequate funds to cover operating costs - this being the most important factor for success - fell outside the project's sphere of influence. However, in the case of two of the four protected areas, cooperation took place with NGOs which are financially involved in running the protected areas. Viewed overall, the chain of effects employed was appropriate. Rating (Phase II): 2

**Effectiveness:** For Phase I, the project objectives were to reduce deforestation and erosion on the mountain slopes within the project area, which are especially endangered, and to introduce sustainable practices of forestry management and land management. Progress towards these objectives was to be measured by means of the following indicators, which (up to indicator "c") are still appropriate today:

- a) An increase in afforested areas (in reasonable condition) of 2,200 ha in total.
- b) On those slopes in the project area with a gradient greater than 60%, an increase in forested areas of at least 750 ha.
- c) Active use of cultivation plans in at least 80% of the total forest areas planned (3,000 ha).

Ref a) At project appraisal, the total area planned for afforestation was 2,500 ha. The area actually achieved was 3,332 ha. Of this, an estimated 76 % (approx 2,500 ha) is in reasonable condition. Hence this indicator is judged to have been satisfied.

Ref b) An area of 743 ha of steep slopes was afforested. This was in line with the target. However, judging from their appearance, the condition of four of the twelve areas that were visited was not good, or even satisfactory. However, due to the small sample size it is not possible to judge conclusively to what extent a similar degree of success has been achieved across the total area.

Ref c) The use of cultivation plans amounts to 28% (839 ha) of the area planned. However, on a positive note, forestry management plans have since been made mandatory for natural forest throughout the country. These plans are reportedly based on documents developed under this project. Hence the project has achieved impacts across a broad front.

There were varying degrees of success in achieving the indicator targets. Since afforestation (indicator "a") constituted the largest single measure, and the introduction of forestry management plans proved to have a wide-ranging impact, the progress made under the first phase (i.e. its effectiveness) has been judged as still being satisfactory. Rating (Phase I): 3

For the second phase, project objectives comprised the creation of an effective, sustainable system of conservation, together with the sustainable protection of biodiversity and natural resources within the protected areas. Achievement of project objectives was to be measured by means of the following indicators:

- a) 80% of the buildings and equipment supplied are in good condition and are used in a sustainable manner.
  - b) The most important measures within the management plans are implemented.
  - c) The majority of the population living on the edge of the protected areas have a positive attitude towards protected areas.
- Ref a) All the buildings that were visited (visitor centres, offices, shelters, fire watchtowers) were in good conditions and they were used appropriately. Only in the Valle Nuevo National Park were substantial sections of the visitor centre still not used, as there was no furniture until recently. This omission has since been rectified.
- Ref b) In the Armando Bermúdez and Ébano Verde protected areas, the management plans, although they have now expired, are still used as general reference documents. However, many of the measures planned are not implemented, due to a lack of funds and a lack of staff. In the case of the Valle Nuevo National Park, most of the management plan proved to be too ambitious. The intention to improve operations through annual action plans was not implemented.
- Ref c) Discussions during field visits, combined with our evaluation of interviews carried out as part of the preparatory study, lead us to conclude that there is a high degree of acceptance within the buffer zone. This can be attributed mostly to the participative design of the project, the implementation of microprojects, and the cooperation with and the support of local NGOs. Unresolved conflicts over land use only exist to any significant degree in the Valle Nuevo National Park, where there are informal settlements within the park boundaries.

Two of the three indicators were met. Some improvements were made with regard to the management of the protected areas, at least when compared to the situation at the time of project appraisal, although these did not go far enough. Rating (Phase II): 3

**Efficiency:** Unit costs for afforestation (i.e. the costs of planting) ranged from 20,000 to 33,000 Dominican Pesos (“DOP”) per hectare, equivalent to around EUR 515 - EUR 850. Unit costs for the *Quisqueya Verde* national afforestation programme presently amount to between DOP 30,000 and DOP 35,000 (EUR 769 - EUR 897). The final report prepared by the consultant and the Gesellschaft für Internationale Zusammenarbeit (GIZ) lead us to conclude that, in certain cases, landowners were paid an amount which exceeded investment costs. However, in view of the alternative - using the land for agricultural purposes, which is admittedly lucrative in the short term, but is not sustainable in the longer term - and, given that the amounts of subsidy had to be raised several times to generate sufficient demand, it seems unlikely that this amounted to over-subsidisation.

In both phases of the project, total consultancy costs came out at 74% above estimates. The main reasons for this are project delays and a significant increase in the time spent on land titles and in the preparation of forestry management plans. As a result, efficiency in these two areas is unsatisfactory.

The increase in awareness within the target group - an important achievement in terms of sustained impacts - was accomplished with a cost-effective use of funds.

The project experienced marked fluctuations in the priority it received at MMARN. The economic difficulties experienced in 2001, 2003 and 2004 played their part here. As a result, the counterpart contribution was 40% less than planned.

Since the project focused primarily on its comparatively successful afforestation and agroforestry components, and we are not aware of any alternative concepts from other donors, allocative efficiency is considered satisfactory. We have judged production efficiency - in view of the project's focus, as described above - as satisfactory. Rating (Phase I): 3

Contracts for the infrastructure financed through the project were awarded following public invitations to tender. There were no indications of any abnormally high unit costs.

With respect to the efficiency of the management plans and their implementation, the deficiencies described earlier in the section on Effectiveness had a bearing.

With regard to allocative efficiency, it may be observed that, for the most part, the investments made in infrastructure (which was by far the biggest item) were designed appropriately and are being suitably put to use. Discussions during field visits did not identify any other significant investment needs. Rating (Phase II): 3

**Overarching developmental impact:** The overarching developmental goal of both phases was to contribute to the conservation of natural resources in the catchment area of the upper reaches of the Río Yaque del Norte, and to help to improve the living conditions of the local population. Subsequently, an objective with a global dimension was added to the second phase, namely to contribute to the protection of biodiversity. During ex-post evaluation, the following indicators were introduced to measure progress towards the objectives of the first phase:

An increase in forest cover in the catchment area of the upper Río Yaque.

- a) An improvement in the water balance in key project regions.
  - b) A fall in outward migration (as an indicator of improved living conditions).
- Ref a) According to the GIZ final report, between 2003 and 2010 the area under forest within the water catchment area rose by 1.1%. However, over the same period the area of grazing land increased by 9.9%, whereas the area covered in scrub (i.e. plant growth below 5 m in height) and the area covered by coffee plantations fell by 6.4% and 5.3% respectively. Since 2010, Plan Yaque, the successor organisation to the project, has afforested a further 0.4% of the area (308 ha). Due to this conversion of scrubland into grazing land, this indicator can only be considered as being partially achieved.

- Ref b) In those areas where project activities were most concentrated, watercourses were said to contain considerably greater and/ or more regular flows of water than before the project started.
- Ref c) The target group's living conditions were improved through subsidy payments, support provided for self-help activities and through microprojects, some of which addressed electricity and water supplies. From discussions during field visits, it became clear that these two measures in particular had led to fewer people migrating elsewhere.

Although this indicator - an increase in the area under forest within the project region - was only partially fulfilled, the project measures (afforestation & agroforestry) concerned only 7% of the total area of the water catchment, and had substantially greater impact on the local context. Taking the remaining indicators into account, overarching developmental effectiveness comes out as satisfactory. Rating (Phase I): 3

For the second phase, the following indicator was set retrospectively:

- Recovery in the stocks of endangered species within the protected areas:  
No local biodiversity monitoring is being undertaken within the protected areas. However, those staff that were interviewed all reported a recovery in the stocks of individual species of flora and fauna. In view of the improvement in the management of these areas, this seems a plausible observation.

Moreover, the following observations were noted on the effects achieved by the second phase:

- Although illegal activities within the protected areas have reduced overall, logging, hunting and livestock grazing continue to pose a threat. In the case of the Valle Nuevo National Park there is the added complication that, as was already the case at project appraisal, informal settlements are established and agricultural farming is taking place within the park. A future expansion of these activities cannot be ruled out. However, at present their impact is of a purely local nature.
- The number of visitors to the protected areas is negligible (ranging from 2,500 to 6,000 per year), and it fluctuates with the seasons. As a result, only a few of those living in the boundary zone are profiting from the project in economic terms (e.g. as guides). Predictably, any beneficial impact from enhanced biodiversity for those living nearby can only be discerned in a very indirect fashion.

The positive development seen in biodiversity is founded less on the investments made in infrastructure, and more on operational improvements. Since these improvements can only be partly attributed to the project, the overarching developmental impact of the second phase has been judged as satisfactory. Rating (Phase II): 3

**Sustainability:** When considering the sustainability of the afforested areas it is worth noting that, for the most part, even those plantations which are in a poor condition are still not being put to any alternative use. The following reasons for this may be adduced:

- To encourage environmentally sound behaviour, the design of the project included distinct participatory processes, measures to develop an awareness of environmental issues, support in helping the target group to organise, and microprojects. All this contributed to an increased awareness of environmental issues within the target group, and to a greater value being placed on the project itself. In the course of conversation, project participants repeatedly pointed out that the plantations had not been logged prematurely, both for reasons of environmental protection and because of their own close association with the project.
- Since even those plantations that are not expected to offer any worthwhile yields are still surviving, and in view of the marked trend in migration, it is reasonable to assume that there are hardly any economically attractive alternatives in the less fertile locations.

At the present time it is not possible to forecast which of these factors will prove dominant for the issue of sustainability. It is reasonable to assume that sustainability will prove adequate over the medium term. In the longer term, however, this will depend on whether the financial yields after logging will be valued sufficiently highly for silviculture to continue. At present, in view of the substantial bureaucratic and fiscal obstacles that exist, together with the low price of timber, we have some reservations in this respect. As today, on the basis of individual commercial operations, afforestation can only stand comparison with alternative agricultural products if pursued in a commercially unattractive location with the initial investment fully subsidised.

Due to the sharp rise in the price of coffee, the sustainability of the coffee plantations funded by the project is deemed to be good. However, the plantations of citrus fruit (lemons) were mostly unsuccessful, because of the complex tending required and difficulties in marketing.

The microprojects display varying degrees of sustainability. In those where charges are payable (e.g. small-scale hydro power stations, coffee processing), most tariffs are charged regardless of consumption and only just serve to cover operating costs. Since this component only represents around 10% of total costs and the individual projects only involved very small sums, it carries a lower weighting than other areas.

In principle, setting up the Plan Yaque NGO to continue the project and carry out further afforestation can be seen as a positive development. However, this is not a measure that was originally planned, but rather a supplementary outcome of the project. On a temporary basis, Plan Yaque is being predominantly financed by MMARN. However, in the medium term Plan Yaque must gain financial independence and obtain its own funding. At present, its staff are motivated and well qualified. Rating (Phase I): 3

No increase in funding from MMARN for the routine operation of the protected areas was identified for the period between 2009 and 2012, even though the number of these areas increased substantially.

In the case of the Reserva Científica Ébano Verde (23 km<sup>2</sup>) project sustainability is high, as it is operated by a financially strong, technically competent NGO, which has been operating successfully for some years. A similar cooperation agreement was signed very recently with a well-known NGO, covering the Valle Nuevo National Park (910 km<sup>2</sup>). In the Armando Bermúdez National Park (779 km<sup>2</sup>), the Park Director succeeded in mobilising additional funds by involving the target group and through external contacts. However, the question remains to what extent it will be possible to maintain these sources of finance in the event of personnel changes. Since the remaining National Park, José del Carmen Ramírez (775 km<sup>2</sup>), is solely financed out of MMARN funds, its sustainability is uncertain.

There is no possibility of ensuring sustainable finance from entrance fees alone. These cover a proportion of running costs ranging from 5% (at Armando Bermúdez) to 10% (in Ébano Verde). According to reports, an increase in entrance charges for all the Parks has already been announced by MMARN.

Apart from the problems in the Valle Nuevo National Park that were described earlier, discussions during field visits gave the impression that the population living in the buffer zone has a positive attitude towards the protected areas, due to the participative process used when preparing the management plans, and also, in the case of the Armando Bermúdez National Park, due to the opportunity to earn additional income. Hence, the threat to natural resources is not expected to increase. Rating (Phase II): 3

### **General conclusions and recommendations**

The main conclusion from Phase I is that if there is no prior experience in the sector and if there is a demand-oriented project concept with a broad spectrum of development measures, overly detailed targets should be avoided. This will ensure flexibility and avoid delays. Also, activities in the area of land titles are only to be recommended, if there is a high probability that (a) this will eradicate a major constraint on sustainable land use and (b) if prospects for achieving improvements in this area, at least in the medium term, are favourable.

With regard to Phase II, it may be noted that the scope and content of use plans and management plans should be aligned with the operational and political opportunities that exist for their implementation. Furthermore, the participation of an experienced, financially strong NGO running the protected areas has proved to be a success.



## Notes on the methods used to evaluate project success (project rating)

Projects (and programmes) are evaluated on a six-point scale, the criteria being relevance, effectiveness, efficiency and overarching developmental impact. The ratings are also used to arrive at a final assessment of a project's overall developmental efficacy. The scale is as follows:

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|---|---|
| 1 | Very good result that clearly exceeds expectations  |
| 2 | Good result, fully in line with expectations and without any significant shortcomings   |
| 3 | Satisfactory result – project falls short of expectations but the positive results dominate                                     |
| 4 | Unsatisfactory result – significantly below expectations, with negative results dominating despite discernible positive results |
| 5 | Clearly inadequate result – despite some positive partial results, the negative results clearly dominate                        |
| 6 | The project has no impact or the situation has actually deteriorated  |

Ratings 1-3 denote a positive or successful assessment while ratings 4-6 denote a not positive or unsuccessful assessment

### **Sustainability is evaluated according to the following four-point scale:**

Sustainability level 1 (very good sustainability) The developmental efficacy of the project (positive to date) is very likely to continue undiminished or even increase.

Sustainability level 2 (good sustainability): The developmental efficacy of the project (positive to date) is very likely to decline only minimally but remain positive overall. (This is what can normally be expected).

Sustainability level 3 (satisfactory sustainability): The developmental efficacy of the project (positive to date) is very likely to decline significantly but remain positive overall. This rating is also assigned if the sustainability of a project is considered inadequate up to the time of the ex post evaluation but is very likely to evolve positively so that the project will ultimately achieve positive developmental efficacy.

Sustainability level 4 (inadequate sustainability): The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and is very unlikely to improve. This rating is also assigned if the sustainability that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.

The overall rating on the six-point scale is compiled from a weighting of all five individual criteria as appropriate to the project in question. Ratings 1-3 of the overall rating denote a "successful" project while ratings 4-6 denote an "unsuccessful" project. It should be noted that a project can generally be considered developmentally "successful" only if the achievement of the project objective ("effectiveness"), the impact on the overall objective ("overarching developmental impact") and the sustainability are rated at least "satisfactory" (rating 3).