

# Ex post evaluation – Ecuador

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**Sector:** Urban development (CRS code 43030) & decentralisation and support to subnational governments (CRS code: 15112)

**Programme/project:** Municipal development/BEDE (phase I) & municipal development phase II (2002 66 759 & 2012 66 063)\*

**Implementing agency:** Banco de Desarrollo del Ecuador (BDE)



## Ex post evaluation report: 2019

All figures in EUR million	Phase I (Planned)	Phase I (Actual)	Phase II (Planned)	Phase II (Actual)
Investment costs (total)	17.55	20.95	15.00	17.00
Counterpart contribution	4.51	8.00	5.00	7.00
Funding	13.04	12.95	10.00	10.00
of which budget funds (BMZ)	13.04	12.95	10.00	10.00

\*) Phase I was in the 2018 random sample, phase II was in the 2019 random sample

**Summary:** The FC modules “Municipal development I and II” were part of the DC programme “National modernisation, decentralisation and reinforcement of autonomous decentralised governments”. During both of the phases, credit lines were made available for the selected municipalities to finance infrastructure measures. The implementing agency passed the loans on to the municipalities. The financing was able to be used for municipal investments in drinking water, wastewater and waste disposal infrastructure, as well as urban mobility infrastructure in phase II; however, there was a lack of demand for urban mobility.

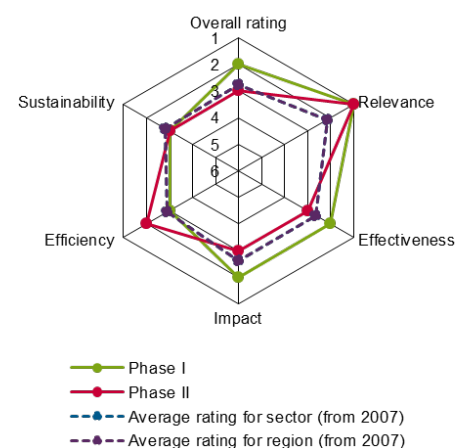
**Development objectives:** The aim of the financed measures was to improve the supply of basic services in the areas of water, wastewater, solid waste and urban mobility for the populations living in the selected municipalities; a further aim was to strengthen the municipalities' self-government capacities (outcome). The impact-level goals were to reduce poverty, improve the health of the population and protect the environment.

**Target group:** The target group was the population of the selected municipalities. This was around 415,000 people in 20 municipalities in phase I and 680,000 people in 14 municipalities in phase II, 120,000 of whom were reached directly. These figures may overlap, leading to some people being counted twice.

## Overall rating: 2 (Phase I), 3 (Phase II)

**Rationale:** In the majority of the promoted municipalities, the programme was able to significantly improve the population's supply of basic services and achieve positive environmental effects. As a result, it helped to achieve political goals defined by the government and also assisted the municipalities in fulfilling their duties. However, the municipalities' financial capacity could only be significantly strengthened in a sustainable manner where the municipal decision-makers possessed the political will to consistently collect fees for use of the services. In areas where this was not the case – like in the largest project in phase II – deficits in effectiveness and sustainability arose.

**Highlights:** The Ecuadorian system of financing municipalities from the national budget (15% of the country's income from oil is transferred to the municipalities) combined with the Finance Ministry's guarantee and control over municipal loans enables the implementing agency to finance the municipalities with almost zero risk of them going into too much debt. In view of this situation, credit-based financing of a decentralisation programme appears to be a successful innovation.



## Rating according to DAC criteria

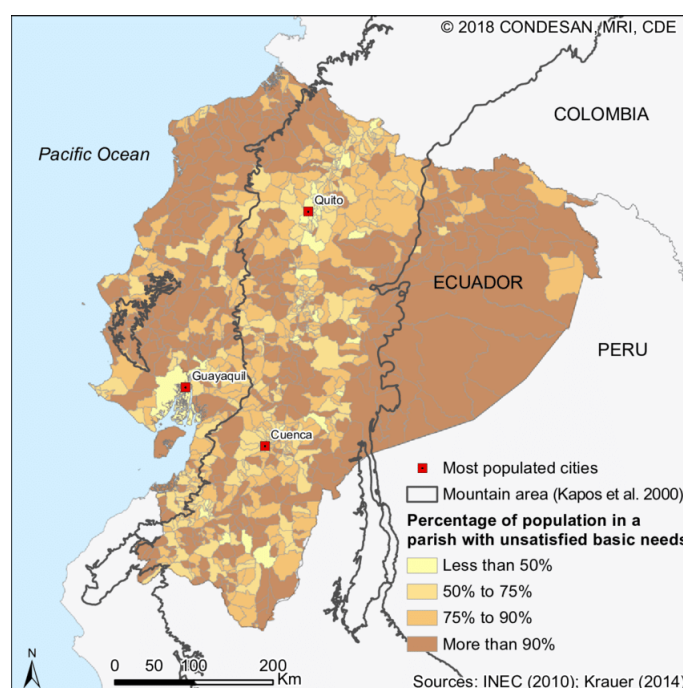
**Overall rating: 2 (Phase I), 3 (Phase II)**

**Ratings:**

	Phase I	Phase II
Relevance	1	1
Effectiveness	2	3
Efficiency	3	2
Impact	2	3
Sustainability	3	3

**Relevance**

Even at the time of the first phase's appraisal in 2002, Ecuador was an upper middle income country. However, it was marked by distinct inequality with a GINI coefficient of 53.4 (2003, information for 2002 not available). In 2007 (earliest point for which data is available), 36.7% of the population still lived off an income below the national poverty line, while in 2012 (the time of the appraisal for the second phase) this figure was still as high as 27.3%. The following map from the publication by Bracher et al 2018 – which is based on data from the year 2010 – shows that the supply of basic public services is still highly deficient in remote communities in particular.



Source of graphics: Bracher, C. P., Wymann from Dach, S., & Adler, C. (2018). Challenges and opportunities in assessing sustainable mountain development using the UN Sustainable Development Goals. p. 27.

The projects evaluated here in the area of decentralisation aim to contribute to the sustainable supply of basic services to the population (particularly in the sectors of drinking water, wastewater and waste, as well as urban mobility during the second phase) by strengthening the self-government capacities of selected medium-sized municipalities. As a result, they aim to reinforce the decentralisation process in Ecuador and improve the population's living conditions in the promoted communities (impact, DC programme goal).

To achieve these goals, FC addressed the problem that most municipalities lacked good access to financing for larger infrastructure investments. In 2002, the decentralisation process in Ecuador was already well underway. Responsibility for basic public services had gradually been transferred to the municipalities under the decentralisation act of 1997 (administrative decentralisation), local elections had been held (politi-

cal decentralisation), while fiscal decentralisation had also taken place as the municipalities received regular allocations from the central government, including income from oil extraction. However, this income did not allow for any larger-scale one-off payments, as required for infrastructure investments. The option of covering investment expenses by taking out loans from commercial banks was not available as small and medium-sized municipalities did not have a good enough credit rating despite their income and broad fiscal autonomy to define tariffs for example. The FC projects addressed this financing gap. The programme's executing agency – the state-owned Banco de Desarrollo (BDE), a specialist provider of municipal loans – was provided with concessionary refinancing lines, which were passed on to selected municipalities in the form of loans to be used for investments. During phase I, the Ecuadorian government topped up the loans with subsidies from the Fondo de Inversión Municipal (FIM) based on a ratio that increased the share of the subsidies depending on the municipality's poverty level. These subsidies were no longer available under phase II as FIM only supported studies by this point. According to the concept, the municipalities would service their loans from the state allocations, which would be deducted directly from the municipality's account at the central bank. Since the state assumes a guarantee for the payments, a central check by the Ministry of Finance has and still does also ensure that the municipalities do not exceed their capacity for debt. As such, there is almost zero credit default risk for the executing agency BDE. The aim was that the municipalities should also provide their own contribution in the form of financing for measures such as feasibility studies or the purchase of property. During phase I, the disbursement of loans was linked to the precondition that the municipalities could demonstrate improvement in their financial management, primarily through progress in cost coverage, e.g. by increasing tariffs. In this context, the municipalities were to receive support from GIZ's Technical Assistance (TA) or, during phase I, from the German Development Service (DED), which reinforced the executing bank's TA department. Furthermore, the selection of investments to be financed was restricted to those that could generate potential income through charges, i.e. water, wastewater and waste disposal in phase I, plus urban mobility in phase II.

This impact chain – based on providing loan financing (paired with subsidies) and increasing capacity (input) to enable municipalities to make larger infrastructure investments (output) with the intended aim of both improving basic services for the population and strengthening the municipalities (outcome) in order to support the decentralisation process and improve living conditions (impact) – is convincing in every respect. This impact logic seems to be almost ideally tailored to the context in Ecuador.

The selected investment priorities appear to correspond to the preferences of the municipalities' populations. A survey of the municipalities' residents performed as part of the evaluation process revealed that 65% of the 887 respondents named water or health as their main priority in terms of needs – the latter of which is promoted by improved wastewater and waste disposal and environmental protection measures.

The projects are also in line with the Ecuadorian central government's priorities. The right to water is even guaranteed in the Constitution of Ecuador published in 2008 and the provision of water is listed as one of the state's main duties (see Title I Constituent Elements of the State, Chapter 1 Basic Principles, Article 3, Sentence 1). With the publication of this constitution, Ecuador also became the world's first country to enshrine the rights of nature (see Title II, Rights, Chapter 7). The enforcement of environmental standards has become stronger over the years, for instance through the establishment of an environmental authority in 2005, the introduction of a municipal-level information registry for recording compliance with environmental standards (including in the areas of wastewater and waste in 2012), and the toughening of penalties in the event of non-compliance. The projects also correspond with the priorities of the German Federal Government, particularly those of the Federal Ministry for Economic Cooperation and Development (BMZ), as “state, democracy and participation” have been a focus of its cooperation with Ecuador for many years alongside the protection of the environment and resources. Although designed at the time of the Millennium Development Goals, the projects can also be expected to contribute to the Sustainable Development Goals, particularly SDG 6 “Water and sanitation for all”, SDG 11 “Sustainable cities and communities”, and SDG 15 “Protection of terrestrial ecosystems”. With their anticipated contribution to SDG 11, the projects are even ahead of their time to a certain extent as sustainable urban development and the related problems in municipal financing have only been a focal point of development policy for a few years. For this reason and on account of the fully developed design and impact logic that are ideally suited to the context in Ecuador, we rate the relevance of both projects as exceptionally high.

**Relevance rating: 1 (both phases)**

## Effectiveness

The target outcomes of the FC decentralisation measure relate to the infrastructure dimension on the one hand (population's use of improved infrastructure) and the governance dimension of reinforcing municipalities on the other. In phase I, the indicators for assessing target achievement were based exclusively on the goal of reinforcing the municipalities (at least 70% of the communities achieve financial sustainability and levy charges to cover costs in the improved sectors) and neglected the infrastructure dimension. For this reason, the ex post evaluation (EPE) for the two phases is based on the more suitable indicators for phase II, some of which have been refined. They are listed in the following table along with the values achieved.

Indicator	Phase I – EPE status	Phase II – EPE status
1) At least 15 (phase I, because subsidies were available and FC funds were higher) or 10 individual projects (phase II) are financed and run in a sustainable manner (further detail added during EPE: at least 80% are in operation 5 years after investment).	Achieved: 20 municipalities were supported with a total of 24 individual investments, 12 of which were in the water sector, 7 in the wastewater sector and 5 in the waste disposal sector. All projects were visited by local experts. Only 4 single projects were found to be no longer operational. In some cases, the investment took place over 10 years ago.	Achieved: 14 municipalities were supported with a total of 14 individual investments, 11 of which were in the waste disposal sector, 1 in the waste water sector and 2 in the water sector. All projects were found to be operational during the visits by the local experts. In some cases, the investment took place less than 5 years ago.
2) The implementation of individual investment measures was less than 15 calendar months on average.	Not achieved: The planned term of 4 years was massively exceeded. It took more than 11 years for all of the funds to be paid out. Comments included under Efficiency.	Achieved, all FC funds were paid out in around 2.5 years. Comments included under Efficiency.
3) The service reaches the populations of the municipalities, who are satisfied with the performance (further detail added during EPE).	Largely achieved. The population of the municipalities is specified as 415,000. During a survey of 623 randomly selected residents, the majority (56% for water, 55% for waste disposal) stated that they were satisfied or very satisfied with the service.	Largely achieved. According to a final check, the promoted municipalities were found to have a total population of 680,000, some 120,000 of whom were reached directly. During a survey of 264 randomly selected residents, the majority (56% for water, 74% for waste disposal) stated that they were satisfied or very satisfied with the service.
4) The number of municipalities in arrears with their payments to the executing agency BDE is zero.	Achieved. No payments in arrears. Some loans have already been paid off.	Achieved. No payments in arrears.
5) At the end of the programme, most of the municipalities (phase I at least 70%, phase II at least 50%) exhibit	Only partially achieved. The level of financial sustainability required in the assessment report for phase I was not clearly	Partially achieved. According to information from the executing agency and its final report, most of the municipalities' incomes

<p>an increased degree of financial sustainability.</p>	<p>reached, though many municipalities increased their incomes.</p>	<p>from service charges have increased, sometimes significantly. However, this income is highly volatile and is not sufficient to cover the additional costs in all municipalities.</p>
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In addition to the local experts' visits to all of the individual measures, the evaluation team visited a total of 7 municipalities and inspected 3 investments from phase I, and 4 investments from phase II. These inspections confirmed that the overwhelming majority of the systems were operational, as originally noted by the local experts. However, deficiencies were identified in individual cases. The office building for the new waste disposal site in Sigchos (phase II) was not in use because the municipality had (so far) failed to provide basic services (power, water) as many as six months after the disposal site was commissioned. One of the 8 small biological wastewater treatment plants in rural municipalities in the Pillaro catchment area (phase II) failed to meet the standards for effluent values. The city's administration had already commissioned and received an expert opinion, which contained a recommendation on how the problem could be resolved. In Ventanas (phase II), cost factors mean the water is not subjected to microbiological testing. Even though the water exceeds reference values for manganese, it is not treated accordingly and the municipality has failed to provide even small-scale, urgent investments. Nevertheless, there were also some outstanding positive examples: in the city of Pujillo (phase I), the director of the waterworks has very good memories of the drinking water supply project, which took place more than 10 years ago now. He believes it would not have been possible to secure the water supply in this fast-growing city without this project. At present, the financed drinking water plant contributes roughly 50% of the city's total production. Through the TA, the project also contributed to the water supply being spun off into an independent public company, enabling professional management structures to be established. The systems in Cañar (drinking water, phase II), Rumiñahui (drinking water, phase I) and Mejía (solid waste, phase I) were operated in an exemplary manner; in Cañar and Mejía, the income from the fees charged by the municipalities cover the service operator's running costs, including maintenance.

However, the collection and recovery of these fees was found to be highly deficient in some of the municipalities visited. In most cases, it was policy-based requirements that led to customers in default continuing to be supplied, claims from unpaid invoices being waived, public facilities being supplied for free (e.g. swimming pool in Pujilí) and tariffs not being increased. In the water sector, collection rates of way below 60% are not uncommon. When asked to explain this situation, operators inevitably referred to the fact that the constitutional right to water for everyone prevented them from switching off the service for customers who had not paid. The collection of wastewater treatment fees is also affected by the same problem. Furthermore, solid waste charges are sometimes either not collected at all or are affected by payment problems. The system operators who do not receive enough income from charges have to rely on subsidies from the central government's fiscal transfers to the municipalities. In this regard, the evaluation team believe that the public service being spun off into an independent public company could in fact be a disadvantage. Even though the TA measure included the provision of information on how to calculate tariffs that cover costs – and some of the interviewees were able to remember this information – there has been very little success in raising tariffs to a level that cover costs on a wide scale. In terms of fee collection, a positive distinction must be made concerning the municipalities who consistently suspend their services when invoices are not paid. In these municipalities, payment arrears were often reduced to under 5% of the calculated output. Municipalities do not necessarily need to contravene the constitutional right as citizens can theoretically have access to drinking water even if it is not delivered directly to their home. In the case of solid waste disposal, linking the fees to electricity bills has proven successful because nobody wants to risk having their power switched off.

Since all of the financed investments involve some additional costs for operation, maintenance and interest but the goal of strengthening municipalities' finances through income from service fees has remained below expectations, the following conclusions seem likely: firstly, the new systems probably could not be operated at the noted standard without support from the municipal fiscal allocations; and secondly, it can be assumed that the new systems do not relieve financial strain from some municipalities and in actual



fact are an additional burden, thus weakening their finances – even though the expansion of the municipalities' capacity has had very positive results.

Due to the good to very good level of target achievement in some cases contrasted by the significant weaknesses concerning fee collection by the municipalities – which nevertheless are able to be absorbed by the effective fiscal transfer system – we rate the effectiveness of phase I as good. This is because it mainly enabled vital projects concerning the drinking water supply to be financed with the use of substantial subsidies. During phase II, a waterworks in Ventanas was financed with USD 5.2 million (47% of the total FC amount for the phase). This project is particularly affected by the technical and administrative weaknesses described above. Aside from this, the solid waste disposal projects were the focal point. They had to be financed exclusively by loans without any subsidies, meaning that the problem of weakening the municipalities' finances is especially prevalent here. For this reason, the effectiveness of phase II is rated as satisfactory.

**Effectiveness rating: 2 (Phase I) and 3 (Phase II)**

### Efficiency

While phase II was completed more or less on schedule, the efficiency of phase I was clearly affected adversely by extreme delays (see table of indicators under effectiveness). Some of these delays can be explained by the fact that a parallel programme run by another donor was providing municipalities with financing for identical investments but was linked to significantly higher grant elements than the FC project. In contrast to the FC programme, the parallel programme was not tied to the same conditions precedent for fund disbursement to the municipalities. In principle, conditions like these should be welcomed as they act as an incentive and reinforce the capacity-expansion measures that accompanied the FC programme in the municipalities. However, the expansion of capacity did not take place in close coordination with the FC programme as planned but instead ended as early as 2010, meaning that the municipalities in phase I did not receive support over several years. Furthermore, the capacity expansion goals – which focused almost exclusively on cost-covering fee payments – were much too ambitious for the context in Ecuador, where the cross-subsidisation of basic services through fiscal transfers is commonplace. As a result, the municipalities were provided with drinking water services (which dominated phase I) much later than planned.

The costs for the new infrastructure remained within the scope customary for the country. In individual cases, inefficiencies were detected in that the new systems were too large, such as the new waste disposal site in Sigchos (phase II).

With regard to allocation efficiency, it is important to highlight that the programme and phase I in particular focused on the water supply in poorer communities, often located in the highlands of Ecuador. A survey of one of the target groups (though not representative) conducted during the evaluation confirmed this tendency: 38% of the respondents from phase I indicated that they earn less than USD 250 a month. In phase II, this figure was just 31%. The national minimum wage is USD 386 a month. The fact that the communities in phase II are less poor on average reflects the differences related to the conditions in phase I (no subsidies to top up the loan) and the service sectors addressed, i.e. wastewater and solid waste as well.

Overall, the efficiency of phase I is rated as just about satisfactory and the efficiency of phase II is rated as just about good.

**Efficiency rating: 3 (Phase I), 2 (Phase II)**

### Impact

In terms of the impact goals – which, in phase II, were identical for the TC and FC module and taken from the goal for the EC programme “Public administration / Economic reforms in Ecuador” – the two dimensions, i.e. the impact of better services and the impact on the decentralisation process, are important.

Improved public services: the systems built in phase I, most of which were used for the drinking water supply, clearly contributed to an improvement to living conditions in communities that were poorer than the country's average. In many municipalities, drinking water was treated according to the valid standards

for the first time, and in a few municipalities, the water supply was connected to houses for the first time – with clear positive effects, particularly for women and girls, who are traditionally responsible for collecting water. By contrast, the focus on wastewater and solid waste disposal during phase II (11 out of 14 projects) meant that the direct impact on residents' living conditions was smaller. The fact the improved waste disposal solutions resulted in a more hygienic environment, which was therefore less hazardous to health, is more of an indirect effect for residents. One example that illustrates this is the professional approach to handling hazardous waste from hospitals introduced as part of the project. Furthermore, significant positive environmental effects were recorded in phase II. Waste is brought to organised disposal sites with drainage systems and reservoirs for collecting toxic seepage water and ventilation pipes for catching any escaping gases (though the gas is not burnt or recovered); rubbish separation for organic waste and non-organic waste was introduced, the former is composted; recyclable materials are sorted out of all other waste and separated for re-use. Thanks to the (only) wastewater project in phase II, wastewater is now cleaned and released into the environment, normally into a nearby river. This project even generated demonstration and potentially also multiplication effects as neighbouring municipalities are also considering purchasing their own small treatment systems.

However, unintentional negative effects were also recorded in individual cases. During a visit, one local expert documented a case of staff working at a waste disposal site without protective clothing. At a waste disposal site, the evaluation team observed that the seepage water reservoir was too small and was not sufficiently protected from rain water, meaning that toxic seepage water is able to contaminate the environment without any regulation.

Reinforcement of the decentralisation process: even though the achievements concerning the reinforcement of municipalities, particularly in terms of income from services, were significantly smaller than initially expected in phase I at least, there is no doubt that the municipalities became stronger during the project term; and it is plausible that the programmes contributed to this. On the one hand, the municipalities bear more responsibility for providing their citizens with basic services; they were put in a position that enables them to fulfil public requirements better, e.g. protecting the environment; and professional management structures have been introduced, e.g. through the use of electronic customer registers, regional planning, costing tools and the creation of public companies for supplying individual services.

However, these positive examples should not belie the fact that major weaknesses still remain, particularly in poorer municipalities. These problems range from a lack of expertise or poor staff capacity levels to financial shortages.

As such, the impact rating for phase I is good on the whole but only satisfactory for phase II due to the unintentional negative effects on the environment.

**Impact rating: 2 (Phase I), 3 (Phase II)**

### Sustainability

The sustainability of the projects financed in phase I is verified to the extent that some of them have been running effectively for over 10 years now and only four of the 24 individual investments were found to be inoperational by the local experts. The sustainability of both phases depends on the municipal government's political will to provide the operating units with the required human and financial resources. When it comes to sustainability, a clear positive distinction must be made for those municipalities who have a consistent approach to fee collection (see Effectiveness) and who do not change their technical staff after each local election. This applies regardless of the sector in question. The choice of operator model appears to have no significant effect on sustainability. Municipalities who have set up a public company often exhibit more awareness of the cost/profit situation for the systems. Nevertheless, public companies are often denied access to the necessary financial resources because their tariff structures and fee collection processes are dictated on the one hand and, on the other hand because they are cut off from fund allocations from the municipalities' budgets with the explanation that they are independent companies (e.g. in Pujili). In the case of systems that are operated by the local administration itself, financing for the necessary operating and maintenance costs (including through cross-subsidisation in certain circumstances) is more self-explanatory (e.g. in Cañar). In both cases (public companies and directorates of the local government), the income ideally covers the interest, running costs and maintenance. Larger replacement

investments normally require subsidisation from the municipal budget. However, this appears reasonable in light of the substantial fiscal transfers from the central government.

The systems promoted with funds from phase II have been in use for a lot less time. Although they are still in operation, a lack of funds for correcting problems has already been detected in some cases. The lack of rain protection for the seepage water reservoir and the lack of basic services for the office building at the waste disposal site in Sigchos are both examples of this. Ventanas is another negative example in this regard as the income is far from sufficient for covering maintenance costs.

While the system maintenance staff who were interviewed by the evaluation team appeared to be highly motivated and professional, some of them indicated that there was a shortage of staff, which had an adverse effect on routine maintenance work.

For this reason, sustainability is rated as just about satisfactory.

**Sustainability rating: 3 (Phase I & II)**



### 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:

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

Rating levels 1-3 denote a positive assessment or successful project while rating levels 4-6 denote a negative 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. Rating levels 1-3 of the overall rating denote a "successful" project while rating levels 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" (level 3).