Ex post evaluation – PR China

Sector: Environmental policy, protection and sustainable use of natural resources (CRS code: 31220, forestry development)
Programme: North China Desertification Control Programme, Ecological Landscape Restoration in Water Catchment Areas (Miyun) Sub-Project (BMZ No. 2007 65 594)*, training component (BMZ No. 1930 04 140)
Project-executing agency: Beijing Municipal Bureau of Parks and Forestry (BMBPF)

Ex post evaluation report: 2020

		Project (Planned)	Project (Actual)	Training component (Planned)	Training component (Actual)
Investment costs (total)	EUR million	8.50	9.15	0.39	0.34
Counterpart contribution	EUR million	3.50	4.15	0.09	0.08
Funding	EUR million	5.00	5.00	0.30	0.26
of which BMZ budget funds	EUR million	5.00	5.00	0.30	0.26

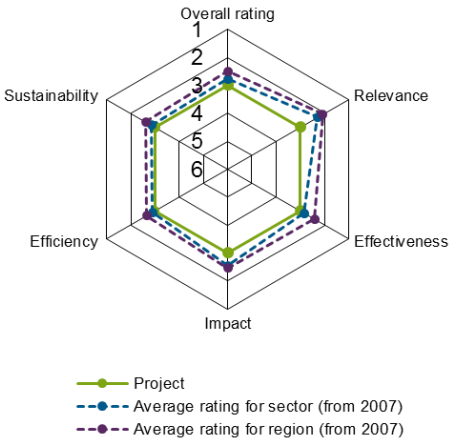
*) Random sample 2019

Summary: The project in Beijing and Hebei Province was aimed at functionally improving the water catchment areas in the drainage basin of the Miyun Reservoir (Beijing's most important water catchment area). During the project, action was taken to ecologically restore watercourses and transform or rehabilitate existing forested areas. The project was also intended to promote mechanisms to sustainably fund environmental services, to improve methods of cooperation between the Beijing forestry and water authorities and the provinces of Beijing and Hebei in their efforts to protect cross-jurisdictional water catchment areas, and to facilitate training measures.

Development objectives: The ultimate objectives of the project (impact) were (i) to improve the ecological water conservation function of forested areas and small watercourses to preserve the quality and quantity of the Miyun Reservoir's water resources, and (ii) to make close-to-nature forest management an integral structural part of the Chinese desertification programme. The module goals (outcome) were (i) to introduce and implement a close-to-nature forest management strategy across 10,000ha of forested water protection zone in the Miyun Reservoir's water catchment area, and (ii) to ecologically restore small watercourses.

Target group: The approximately 247,000 people living in the intervention areas in the city of Beijing and Hebei Province.

Overall rating: 3



Rationale: The close-to-nature forest management approach, based on thinning from above, has allowed the lower and middle levels of the forest to develop, supporting natural regeneration. This played a role in increasing the infiltration rate (groundwater) and levels of biodiversity. However, the model introduced is still not in line with the Chinese silviculture guidelines. Although individual concepts were incorporated into Chinese standards, necessary second and third thinnings were not carried out. As a result, the long-term effectiveness of the measure is limited. In terms of the renatured watercourses, some of the measures in Beijing clearly helped to improve the water quality, whereas the quality was seriously compromised in Hebei due to livestock farming and solid waste, meaning that there is no longer a demonstrably positive effect in the province.

Highlights: The administrative separation of forest management measures aimed at reducing fire risk versus pest control is ultimately sometimes incoherent. Payment for ecosystem services is sometimes charged in the form of money being exchanged for water protection measures in cross-provincial cooperation between Hebei and Beijing.

Rating according to DAC criteria

Overall rating: 3

Ratings:

Relevance	3
Effectiveness	3
Efficiency	3
Impact	3
Sustainability	3

Relevance

The project is part of the North China Desertification Control Programme. The expansion of deserts (desertification) is a key problem in China, with 2.6 million square kilometres of land (28% of Chinese territory; seven times the total area of Germany) already consisting of desert or at risk of being desertified. The consequences include sandstorms, inland lakes drying up, and sedimentation in wells and water systems. As a result, the overaching development objectives of this sub-project in Beijing and Hebei Province (impact level) were (i) to improve the ecological water conservation function of forested areas and small watercourses to preserve the quality and quantity of the Miyun Reservoir's water resources, and (ii) to make close-to-nature forest management an integral, structural part of the Chinese desertification programme. From today's perspective, the need to counteract progressive erosion and sedimentation processes within flowing and standing bodies of water is also fundamentally uncontentious. The project's module goals (outcome level) were (i) to introduce and implement a close-to-nature forest management strategy (CNF[1]) across 10,000ha of forested water protection zone in the Miyun Reservoir's water catchment area, and (ii) to ecologically restore small watercourses.

Considering the overarching programme objective of "reducing or even stopping erosion and sedimentation in extensive areas of northern China", the project can naturally only play a limited role given the enormous total size of the catchment area and the proliferation of impervious surfaces on the land due to the expansion of infrastructure in the Beijing catchment area.

In particular, the infiltration rate in the Miyun Reservoir's water catchment area was to be increased through close-to-nature landscape restoration and thinning from above. The intervention logic is fundamentally sound to the extent that close-to-nature forest management is a suitable means of curbing sedimentation processes. The activities carried out during the project are highly important when it comes to improving forest quality and biodiversity. However, it is difficult to assess whether the project activities can actually help to improve the overall function of the water reservoir – in particular, the supply of drinking water it provides to the Beijing metropolitan region – as there is not yet sufficient scientific evidence of a causal relationship. There is a logical connection here (i.e. positive impacts on the water quality and availability seem plausible), but this effect may only be limited in scope due to the measures' small scale relative to the large water catchment area (pilot-type project rather than a broad-based approach). The Miyun Reservoir's catchment basin (also relevant to the water supply provided to part of Beijing) was the specified target area in line with the original project objective. Although around two-thirds of the Miyun water catchment area is occupied by the two municipalities of Zhangjiakou and Chengde in Hebei Province, they were not included as part of the project area due to limited project resources. In retrospect, given the scarce funding, the most relevant project area does not seem to have been selected – areas above rather than below the reservoir would have made more sense in terms of infiltration related to the Miyun Reservoir. However, it is worth mentioning that the authorities' implementation capacity in particular was another factor taken into account in the selection process.

[1] Close-to-nature forest management.

Overall, the project was intended to help reduce the density of the tree canopy by felling selected trees. Reduced leaf surface causes less water to evaporate, in turn allowing more water to reach the forest floor. All in all, this increases the infiltration rate and local water availability. At the same time, this process (known as thinning from above) enables the diversity of tree species to increase naturally.

These practical effects of the project on the infiltration rate (as described in the 2016 impact assessment by Wang/Gampe) and the overall systemic effect of thinning rest on sound logic from a hydrological perspective, but are difficult to quantify.

In the period immediately following such an intervention, the resulting reduction in leaf surface area decreases evaporation from the forest as a whole. In this context, we can assume that the rainfall produced by the forest itself will decrease, which theoretically has the potential to reduce the general water supply (especially precipitation) over the long term with ongoing intensive thinning efforts. However, the project's effects in this regard are likely to be marginal and negligible in the situation at hand, considering the size of the drainage basin and processes occurring at the same time, such as the proliferation of impervious surfaces in the catchment area. In particular, the stabilisation of the forest's middle and lower levels also reduces the overall effect of reduced leaf coverage on water availability when regrowing stands are taken into account. Conversely, the increase in the infiltration rate (groundwater recharge), which was included in the project concept, was only expected to have a very limited effect. Further scientific findings on the impact of specific tree species on the water resources of catchment areas would be particularly pertinent in this context.

The project introduces important elements in terms of close-to-nature management of smaller water bodies and their riparian zones, but the measures implemented differ across the full set of seven sites, three of which were visited. Some of the measures focused on improving the local population's socio-economic situation to increase acceptance of the activities (Shanshuigou, Yanqing and Zhaociyugou, Fengning – including road and bridge construction). As a result, only limited direct priority could be given to renaturing existing river courses (Beizhai in Huairou District).

In summary, we rate the project's relevance as satisfactory with regard to the objective of improving and maintaining the water protection function of forests and renaturing sections of smaller watercourses in the Miyun Reservoir's drainage basin.

Relevance rating: 3

Effectiveness

In line with the programme proposal, the project objective at outcome level was to improve and sustain the water protection functions of forested areas and small watercourses. From today's perspective, however, the goal set in the programme proposal belongs more at impact level, meaning that the outcome objective had to be updated accordingly. In this EPE, the objectives at outcome level are to introduce close-to-nature forest management (CNF) over 10,000ha in the drainage basin of the Miyun Reservoir, to ensure that this is upheld over the longer term and to implement the ecological restoration of small watercourses.

Target achievement at the outcome level is summarised in the table below.

<table>
<tr><th>Indicator</th><th>Status PA, target PA</th><th>Ex post evaluation</th></tr>
<tr><td>(1) Sustainably managed forests in around 16 project townships in four counties in Beijing and one county in Hebei, resulting in multi-functional, close-to-nature forests in accordance with the management plans.</td><td>Status PA (2007): 0.
Target value PA (2007): 15,000ha.
Target value (updated, 2010): 10,000ha.*

*due to increased costs and intensity of thinning (30% removal instead of 20%).</td><td>Status 2019: achieved at 10,235ha in 32 townships (equivalent to 153,525 mu), according to executing agency.

Five sites in four districts visited[2] in which positive effects (natural regeneration, improved shrub layer) were visible:
- Two sites in Huairou District (Platycladus, CC6 (two thinnings)/CC4).
- 1 site in Miyun District (CC3; pine)
- 1 site in Yanqing District (CC4) (larch + additional site outside the scope of the project, CC3)
- 1 site in Fengning County (poplar/birch; CC4/CC5)</td></tr>
<tr><td>(2) Second thinning from above in accordance with forest management plans (FMPs) is financed and implemented from national funds.</td><td>Status PA (2007): N/A.
Target value PA: N/A.
Target values at final inspection (2015):

Hebei: 23,532.8 mu (=1,568.8ha)
Beijing: 21,685.4 mu (=1,445.6ha)</td><td>Status 2019: low degree of target achievement.

<table><tr><td></td><td>2017–2019</td></tr><tr><td>Hebei</td><td>0 (0%)</td></tr><tr><td>Beijing</td><td>17,271.7 mu (1,151.5ha; 62% of planned area) in line with Chinese guidelines[2]; 0 (0%) in line with FMPs</td></tr></table></td></tr>
<tr><td>(3) Classification of stands according to medium-term close-to-nature forest management objectives.</td><td>Status PA (2007): N/A.
Target value PA (2007): at least 75% of the area falls into the “excellent” and “good” categories.
Status at final inspection (2015): 85% good/excellent3 (i.e. lower crown closure, increase in natural regeneration, strong growth statistics for the target trees).</td><td>Status 2019: not achieved.

There is no structured and uninterrupted set of monitoring data available. The categorisation scheme introduced by the project no longer seems to be utilised. Visual impressions are positive and do not contradict the statements that have been provided.</td></tr>
</table>

[2] The selections made were intended to ensure that as wide a range of sites were visited as possible. The criteria factored into this process were geography, dominant tree species and thinning intensity (cost categories; the taller the trees, the more intensive the thinning). Logistical conditions (accessibility) were also taken into account.

[3] In accordance with the project guidelines. This involves taking into account crown closure, natural regeneration, growth data such as height, diameter at breast height (DBH), and tree species composition.

(4) Length of sustainably renatured watercourses.	Status PA (2007): N/A Target for final inspection (2015): 100km. Status at final inspection: seven river courses renatured (104km).	Status 2019: target achievement unclear. 2.3–35km. Reasoning: It was possible to confirm 2.3km during the appraisal mission. In the mission's view, based on document analysis, it is plausible that up to 35km were renatured. Some of the actual interventions were very limited in terms of physical expanse ("spot interventions") or consisted of measures that did not add calculable ecological value (e.g. installing information boards). Site visits: - Beizhai, Huairou District: 1.3km verified as renatured (total length: 1.3km) - Shangshuigou (Yangqing District): 1km verified as renatured (total length: 22.8km) - Zhaociyugou (Fengning): 0km verified as renatured (total length: 15.4km)

The positive effects of thinning from above (e.g. natural regeneration, improved shrub layer) are still visible, yet high crown closure at all sites clearly showed that additional thinning cycles are required to achieve a lasting impact. Due to the conflict with the Chinese silvicultural guidelines, no second thinnings as set out in FMPs were carried out in the project area. Erosion from previous thinning activities - potentially an unintended consequence - was not evident at any of the sites visited –. In view of the limited CNF funds, we can assume that the project's efficiency could have been increased by reducing the project area and carrying out second and third thinnings from above at all sites, with guaranteed second and third thinnings safeguarding the investments in the first thinning from above. However, the project concept had consciously assigned responsibility for this task to the Chinese authorities. In the final inspection it was agreed that a commensurate budget would be provided from the Chinese side, but this did not materialise.

Contrary to the recommendation to continually monitor the quality of the forest stand, the indicators (crown closure, natural regeneration, growth data such as height and diameter at breast height (DBH), and tree species composition) do not seem to be subject to further monitoring. Furthermore, different departments of the Forestry and Parks Bureau currently seem to be responsible for different activities (e.g. pest and disease control/afforestation/fire prevention). Simplifying and coordinating the activities would be advisable in order to achieve a harmonised approach to forest management.

Of the 104 kilometres of watercourse successfully restored according to the final inspection in March 2016, it was only possible to verify the project activities in the Beizhai water catchment area. This can be regarded as an example of best practice (rating: 1). The restoration of vegetation in the expanded riverbed in this area has helped to ensure even flow conditions and improved the purification capacity of the waters. Natural materials (rocks without use of concrete, newly planted vegetation) were used to stabilise

embankments, which also reduced the potential damage caused by floods. In addition, various species (including willows) were planted both near the banks and in some cases around the now meandering riverbed. We can assume that the filtering effect resulting from this will have a positive impact on the water quality along the watercourse. An expanded flood channel stabilised by newly planted vegetation can serve as a potential floodwater detention basin. The selected measures implemented may be unable to have much of a real, measurable effect in the overall context due to the immense size of the catchment area. However, the successful project activities can serve as an example for further potential renaturing of water bodies in a cultural landscape dominated by canals and concrete structures (faster run-off concentration as well as limited interflow between river water and groundwater) that will be limited in its capacity to successfully meet the future challenges associated with strategic flood control. Successful and sustainable ecological restoration (renaturing) of damage caused by earlier unregulated sand extraction – often carried out for the construction industry – is also evident.

In the Zhaociyugou water catchment area (Yanqing), improvements were made on a relatively selective basis (rating: 3). The expansion of the riverbed made it possible to increase the cross-section, reducing the speed of run-off. In some cases, dams were rebuilt, while other small dams were preserved – arranged in cascades, these both help to stabilise the run-off pattern along the watercourse and to trap sediment. The measures were appropriate to the topographical conditions, but had less impact on the renaturing process due to the mountainous river courses with steep gradients and slopes.

The effects are no longer visible in the Shangshuigou water catchment area (Fengning). These measures clearly focused more on the socio-economic infrastructure with the aim of improving the living conditions of the local population (construction of a bridge, 847 metres of road, out-of-service sanitation facilities), although they did not have any sustainable impact on the renaturing of the watercourse. The riverbed continues to be heavily polluted by solid waste, and the continued presence of livestock close to the riverbank has a significant adverse impact on the water quality (rating: 5).

From today's perspective, the achievement of the originally formulated project objectives has been largely satisfactory. However, the individual results at the sites visited are sometimes difficult to observe (Zhaociyugou water catchment area in Fengning) due to activities not being carried out sufficiently (implementation of planned second/third thinnings, lack of waste management/land use planning) or alternatively, the objectives were not clearly defined. For instance, the total length of the bodies of water was specified instead of the watercourse sections actually renatured, which meant that the past effects of the intervention were overestimated.

Effectiveness rating: 3

Efficiency

The total cost of implementing CNF is reasonable (RMB 165/mu or EUR 310/ha; not taking into account planning, equipment support, training, monitoring, project management and advisory services). The comparative cost per tree felled over time shows that the introduction of cost standards over the course of the project has significantly increased efficiency. Specifically, it was possible on average to roughly halve the cost per tree felled at the beginning of the project (RMB 16.7–32.8 or approximately EUR 2–4).

In terms of the ecological water body restoration, it is apparent that implementing best practice measures comes at a cost. Specifically, the investment cost for Beizhai came to RMB 4.8 million (around EUR 600,000), which can be deemed reasonable considering the materials used and the complex implementation process. The project measures were often not directly aimed at ecological water body restoration or general river management, instead focusing on the communities' socio-economic development (e.g. by building bridges or roads). These measures are a highly important part of the picture in terms of general community development and its indirect link to water management. However, they only have a limited direct impact on hydraulic and hydrological conditions in the context of the entire catchment area. The 19% overhead costs for consulting and project management are appropriate.

One limitation to the project's efficiency was that relatively small areas were thinned and relatively small lengths of watercourse renatured. Overall, the efficiency is satisfactory.

Efficiency rating: 3

Impact

As a result, the overaching development objectives of this sub-project in Beijing and Hebei Province (impact level) were (i) to improve the ecological water conservation function of forested areas and small watercourses to preserve the quality and quantity of the Miyun Reservoir's water resources, and (ii) to make close-to-nature forest management an integral, structural part of the Chinese desertification programme.

The impact analyses by Wang/Gampe (2016) assume that CNF management increases the additional water yield of thinned forests by about 150m³/ha annually, which seems realistic in principle. However, the accuracy of the assumptions on which this estimate is based cannot be verified in this EPE. In addition, we can assume that this positive effect will be neutralised as tree stands regrow if the thinning cycles are not repeated. Further studies and data collection on this subject are urgently recommended so that the different forest types can be assessed more accurately.

The project's water-related activities focused on helping to improve the water supply provided to the urban centres in the relevant catchment area. However, only a small part of the water yield assessed is directly related to Beijing's water supply (i.e. the Miyun Reservoir). Nevertheless, the increased infiltration (presumably a temporary effect) and the ensuing groundwater recharge and erosion prevention represent a valuable improvement to the ecosystem. A certain amount of the infiltrated water is reabsorbed by the roots of the forest system. As a result, not all of the infiltrated water is ultimately available for groundwater recharge – nor, in turn, for Beijing's water supply. It would be advisable to verify and quantify the direct relationship assumed between the forest water yield and the water supply for human use.

As thinning from above increases infiltration in forest soils, the forest's water balance is at least temporarily altered, reducing evaporation from the relevant forest. The impact assessment states that total evapotranspiration from the forest will decrease after thinning from above. Consequently, the same forest will generate less rainfall – which, if applied on a larger scale, could have a significant long-term impact on rainfall levels and patterns in the region and its surrounding areas. An analysis of monthly precipitation data for 2007 to 2018 from the weather stations in Miyun and Beijing showed that although annual precipitation in 2016 to 2018 was above the average 12-year annualised total, intra-annual variations that were observed may indicate the occurrence of more extreme weather situations. Further analysis focusing on these unintended consequences of the project is recommended. In addition to the weather station in Miyun, the stations in Huairou, Changping, and Yanqing are also representative for parts of the project intervention area and could be used for further research efforts. This additional precipitation data was not made available to the evaluation mission.

In terms of water quality, the authorities did not conduct regular checks. In two of the three intervention areas visited, the evaluation mission assumes that the water quality was good (class I/II potable water quality). The only improvement in quality reported was for the Beizhai watercourse (Huairou District). However, according to the water authority, the quality of the waters in the Shangshuigou watershed (Yangqing District) remains good (class II or III in line with Chinese standards). The water quality in Zhaociyugou (Fengning County) does not meet the Chinese drinking water standard due to pollution from solid waste and livestock farming (unchanged) close to the banks. Based on the information available, we can assume that the project had a positive impact on forested areas and water quality (with Beizhai serving as an example of best practice) – albeit to a lesser extent than expected. Structural impacts were achieved to some extent with the adoption of close-to-nature forest management (see also Sustainability section).

Target achievement at the impact level is summarised in the table below:

Indicator	Status PA, target PA	Ex post evaluation
(1) Additional water volume generated by thinning from above (water volume m³/ha).	Status PA: 5.3% water yield for precipitation. Target value (defined at final inspection): 7.95% water yield.	Target achievement unclear: 7.95% water yield according to impact assessment. /150m³/ha according to impact assessment. However, this is difficult to quantify or confirm. If this figure is sustainable, we

<table>
<tr><td></td><td></td><td>assume that it is currently lower due to the lack of repeated thinning cycles.</td></tr>
<tr><td>(2) No reduction in the amount of forested land in the project area.</td><td>Status PA (2007):<table><tr><th></th><th>km²</th><th>Forested area (%)</th></tr><tr><td>Hebei</td><td>78,918.4</td><td>41.8</td></tr><tr><td>Beijing</td><td>6,365.7</td><td>36.5</td></tr></table>Target value: ≥ status at PA.</td><td>Status 2019: achieved.<table><tr><th></th><th>km²</th><th>%</th></tr><tr><td>Hebei</td><td>108,560</td><td>57.5</td></tr><tr><td>Beijing</td><td>7,134</td><td>43.5</td></tr></table>According to the executing agency, none of the project sites were converted to a different type of land use.</td></tr>
<tr><td>(3) Water quality of small water catchment areas in the project area under normal precipitation conditions for at least 300 days a year.</td><td>Status PA: N/A.
Target value: at least drinking water quality standard II or III (Chinese standard).</td><td>Target achievement unclear: structured data unavailable.
Beizhai (Huairou District) – length: 1.3km, class: I or II (improvement)
Shangshuigou (Yangqing District) – length: 22.8km, class II or III (no change)
Zhaociyugou (Fengning County) – length: 15.4km, class: IV or below (potential deterioration due to livestock farming in close proximity to the water)</td></tr>
</table>

Impact rating: 3

Sustainability

From today's perspective, we only rate the sustainability of the project as satisfactory overall, and the development effectiveness of the project is very likely to decline significantly.

This is because no more thinning from above has been undertaken in the project area as set out in the forest management plans. This can be explained by the fact that the forest management plans developed during the project do not comply with national standards (e.g. felling quotas under Chinese standards do not allow for more than 15% thinning). However, without a certain amount of cyclical thinning activities, the renewed increase in crown closure dampens positive effects such as natural regeneration, greater biodiversity, improved shrub layers and additional water absorption. It would therefore be advisable to continue implementing CNF management to maintain the additional water yield or increased infiltration level and accomplish the intended sustainable diversification of tree stands in a largely monocultural environment.

With regard to close-to-nature (CNF) management of smaller water bodies, we can confirm the sustainability of the investments in Huairou and Yanqing districts, which were visited as part of the project. On the other hand, the sustainability of the activities in Fengning is not assured. As land in the immediate vicinity of the river is predominantly used for livestock farming, investments should be accompanied by appropriate management approaches (including land use planning) to help the infrastructure measures (including the construction of sanitation facilities/animal housing) to have the intended effect. In addition, funding

should be provided to ensure that solid waste is regularly cleaned from the river course and guarantee maintenance of the sanitation facilities, which were built but are currently unused. After the project ended, a small dam was built with a detention basin. This is useful for a mountain river in principle, although at the same time, it has the potential to impair the river's water quality.

On a positive note, the concepts introduced by way of the project have at least been partially incorporated into the Chinese standards on close-to-nature (CNF) forest management (Technical Regulations for Close-to-Nature Forest Management, DB11/T 842-2011, GB/T 15781-2015, replacing GB/T 15781-2009). Forest management concepts were consequently adopted, such as specifying target trees (specific trees whose growth and population should be supported by measures). However, the intensity of thinning and selection of competing trees continue to be handled differently in China. For example, the extraction intensity of the German-Chinese project is 20-28%, which is substantially higher than the intensity level envisaged by the current national forestry policy (15%). Stronger competitor trees are rarely removed, if at all. Approaches adopted in the watercourse renaturing measures, which were piloted with partial success, can also be found in projects executed by the Chinese government (e.g. stabilising banks with natural materials).

Cooperation across administrative boundaries (both regional and cross-sectoral) was highly successful overall during project implementation. Different provinces continue to collaborate with one another, with Huairou District for instance providing payments for ecosystem services to the communities in Hebei's Fengning County. In addition, a new project to combat desertification by planting 500,000 mu of forest (mixed conifer/broadleaf) is funded jointly by Beijing Municipality (15%), Hebei Province (25%) and the central government (60%).

Forestry and water authorities also continue to work across sectoral lines by sharing information. However, this is limited to issues at specific sites (e.g. planting along watercourses) and occurs much less frequently – about once a year at present, down from four times a year during the project period. We recommend ensuring improved cross-sector cooperation (e.g. on agriculture).

Sustainability rating: 3

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:

Level 1	Very good result that clearly exceeds expectations
Level 2	Good result, fully in line with expectations and without any significant shortcomings
Level 3	Satisfactory result – project falls short of expectations but the positive results dominate
Level 4	Unsatisfactory result – significantly below expectations, with negative results dominating despite discernible positive results
Level 5	Clearly inadequate result – despite some positive partial results, the negative results clearly dominate
Level 6	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).