

Ex post evaluation – China

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Sector: Securing food supplies, agriculture / fishery (CRS code: 43040)
Project: Sustainable development in disadvantaged rural regions, Qinghai (BMZ no. 2008 65 048) *
Implementing agency: Poverty Alleviation and Development Office (PADO) in Haidong prefecture, Qinghai



Ex post evaluation report: 2018

All figures in EUR million	Project (Planned)	Project (Actual)
Investment costs (total)	9.80	15.93
Counterpart contribution	4.80	10.93
Funding	0.00	0.00
of which budget funds (BMZ)	5.00	4.99

*) Random sample 2017 **). The "actual" counterpart contribution is the sum of the Chinese counterpart contribution from the provincial financial authority, provincial water authority and district poverty authorities (EUR 7,763,221.26) and a calculated counterpart contribution from the personal contributions paid by users (EUR 3,162,732.00). The differences between the planned and actual figures are the result of changes in the exchange rate.

Summary: Between 2007 and 2014, Financial Cooperation (FC) promoted a poverty-alleviation programme pursuing a number of approaches in rural minority areas in the western provinces of Yunnan, Hunan, Xinjiang and Qinghai. This evaluation looks at the project in Qinghai, which supported the poverty alleviation authorities in Haidong prefecture and its three districts of Hualong, Minhe and Xunhua by funding EUR 5 million. The FC project consisted of 1) Investments in livestock farming (46% of the total costs) through the construction of winter stables and the procurement of adapted stable-based breeds to promote stable feeding, 2) Investments in the water supply (house connections; 36% of the total costs), and 3) Education and training measures for the target group plus project management. Due to a lack of support from the partner, the planned pasture monitoring measures and a village development fund financed by resident payments were not implemented.

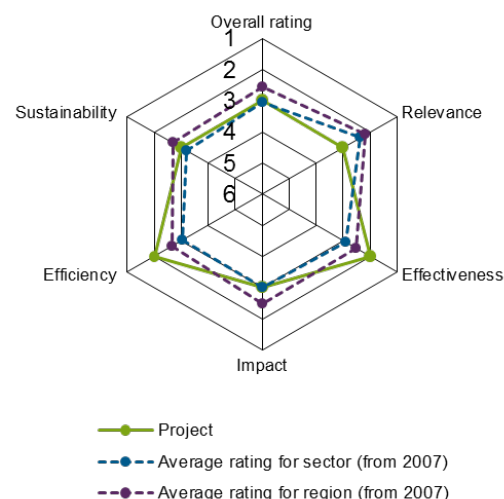
Objectives: The development objective (impact) was to improve the living conditions of the rural population in selected rural regions occupied mainly by minorities of which the household income was below the national poverty line at the time of the project appraisal. There were two dimensions to the module objective (outcome): (1) increase agricultural productivity in livestock farming, and (2) use a sufficient and hygienic water supply.

Target group: The target group was the 76,615 people living in Qinghai households that made their living from small-scale subsistence farming at the time of the project appraisal (PA).

Overall rating: 3

Rationale: The project addressed problems experienced by poor households in the selected, particularly poor, districts. The project made sustainable improvements to the target group's water supply, while the promotion of livestock farming contributed to a sometimes significant improvement or at least an increase in the security of the households' financial situations. There were limitations as a result of the lack of pasture monitoring, which led to visible soil erosion in two of the three districts.

Highlights: Real incomes increased significantly, though partly as a result of a shift to wage labour and rural-urban migration. Although the importance of wage labour will increase over the long term, the project improved the situation among the members of the household who stayed and enabled households to balance out fluctuating income levels caused by the seasonality of paid work or by illness. Nevertheless, the project also resulted in damage to pastures, which had an adverse effect on sustainability.



Rating according to DAC criteria

Overall rating: 3

Ratings:

Relevance	3
Effectiveness	2
Efficiency	2
Impact	3
Sustainability	3

Relevance

The project province of Qinghai is located in the west of the People's Republic of China and is geographically part of the north-east of the Tibetan Plateau. The project was embedded in a poverty-reduction programme set up by the provincial government in Haidong prefecture. This programme also included training and inclusion measures for very poor households. It was based on China's 11th 5-year development plan (2006–2011) and constituted a part of the poverty-alleviation programme in China's western provinces, whose rural population still contains the largest number of Chinese people living in absolute poverty despite China's success in alleviating poverty since the 1980s. The Chinese central government's development policy is one of the main driving forces in the economic development of the Tibetan Plateau. In this regard, the FC project was well integrated into the partner's strategy. The focus of Chinese-German development cooperation on poverty alleviation as a priority at the time of the project appraisal also ensured that the project evaluated here was embedded into the German Federal Government's strategy.

The aim of the FC project was to improve living conditions for the rural population in the three project areas in Qinghai Province, many of whom live off small-scale subsistence farming. At the time of the project appraisal (PA), this province had an above-average share of poor households, while 45.5% of the population was from minority groups. Within the project region, as many as 88% of the 800,000 or so inhabitants belong(ed) to the national minorities of Hui (47%), Tibetan (23%), and Sala (18%). The evaluated project pursued two approaches for alleviating poverty based on the minority groups' tradition in agriculture. One approach was to promote the rearing of stabled livestock and the planting of forage crops to increase the income of poor households and protect pastures from degradation. The other approach was promoting the water supply as it aimed to reduce transaction costs (time and money) for water transport and also to make water available for livestock farming.

The fact that a direct access to water inside houses can improve living conditions for poor people is clearly plausible. Both the basic educational and health-related situation and the level of electrification (which was far-reaching, even in rural areas) were good in the prefecture at the time of the project appraisal. By promoting the drinking water supply, the project therefore aimed to address the development bottleneck related to supplying the population with basic public services. The technical concept for supplying remote mountain regions with gravity systems that do not require electricity for pumps and the participative approach both correspond to the Federal Ministry for Economic Cooperation and Development's (BMZ) sector concept for water.

The evaluation of the underlying chain of effects is much more complex for the components of cattle and pasture farming. Given the lack of farmland and that the climate conditions were not conducive to arable farming, the promotion of sheep and cattle rearing was selected for the project. A decision was made not to promote goat farming due to the negative ecological consequences that goats can have on pastures, principally via damage to the soil. The logic behind the intervention was to improve the production basis for income-generating livestock farming by purchasing livestock and building stables and water supply systems. The promotion of stationary stable-based farming instead of free pasture-based farming aimed to protect the soil from being damaged as a result of trampling by the grazing animals. However, as cattle and sheep cannot be kept exclusively in stables and this approach goes against traditional forms of livestock farming, it was important to consider that the intensification of livestock farming would also involve

an increased risk of soil erosion. The aim was to counteract this risk with ecological pasture management and monitoring. Yet it was precisely this component of the project that failed to receive suitable support from the Chinese governmental partners, which led to some of the initially planned project indicators concerning pasture monitoring being removed. In this regard, it was impossible to rule out that the agricultural components of the project would not have adverse effects on the natural resource of soil over the medium term.

Furthermore, it must be noted that the project design phase and its focus on intensifying livestock farming failed to sufficiently take into account the seasonal migration to cities (due to the opportunity to increase income), which was a trend at the time of the project appraisal and has increased since then.

From today's perspective, the development bottlenecks were still identified correctly and the approaches were generally suited to achieving the goal of alleviating poverty. In terms of the livestock farming component, however, it must be noted that unwanted ecological side effects were indeed foreseeable, as was the trend for many households to place more value on income from paid work/labour-related migration in future. The relevance is therefore only rated as satisfactory.

Relevance rating: 3

Effectiveness

The achievement of the project objectives can be summarised as follows:

Indicator	Status PA, Target value PA	Ex post evaluation
(1) Households who benefit from the livestock farming component are either planting forage crops or are using other secondary products as animal feed	Status PA: n.a. Goal: > 70%	Achieved. Farmers with larger herds also buy in animal feed.
(2) Growth in livestock-based production	Indicator expanded during ex post evaluation. At the start of the project, only a small number of households kept livestock.	The indicator can be considered achieved. The majority of households have increased livestock-related production (livestock for sale). The secondary products are mainly used for own consumption.
(3) The number of households in the project villages who use the improved water supply	Status PA: n.a. Goal: 90%; distance < 1.5 km; at least 20 l/person per day	Achieved: 95% (source: Haidong project management office)
(4) Number of households with supply interruptions lasting >24 h caused by the gravity systems in the project villages	Status PA: n.a. Goal: < 25%	Achieved. Temporary restrictions occur in one of the 38 villages due to a shortage of water. However, the number of households affected is low.
(5) Samples meet the World Health Organization's (WHO) water quality standards [%]	Indicator expanded during ex post evaluation.	The test results received for a random sample met the WHO standards for drinking water quality. Furthermore, the province authorities also issued an official

		recommendation to boil any water before consumption, which is also applied in practice.
(7) In the event of damage to the water systems, the causes can be identified and resolved [yes/no]	Status PA: n.a. Target: Yes	Yes

According to the executing agency's documentation, the procurement of 5,794 cows, 22,064 sheep and 276 machines for livestock farming was promoted technically and financially in 41 villages in the three rural districts. The technical expertise needed to construct 6,964 simple winter stables was provided by the project; the provincial government provided the building material as a counterpart contribution. A total of 6,964 households (31,408 people) benefited from this component. The construction of eight gravity water supply systems was also financed, providing 29,211 people from 5,778 mainly agricultural households in 38 villages in the three rural districts with house connections. The investments were complemented by training on hygiene and health, on the process for dealing with repairs to water supply systems, and on livestock farming practices. The measures therefore met most of the plans in the programme proposal. The planned revolving village development fund, financed by payments from households using the water supply and designed to fund future village development investments, could not be implemented because it was not compatible with the poverty alleviation authority's regulations. The participative methods applied to identify households in need of promotion was highlighted as positive by the project participants and was still in use in individual cases, even during the ex post evaluation. Nevertheless, the project did not implement the planned component to propagate the participative Rapid Rural Appraisal (RRA) approach to identify households for income-generating measures outside of the province. In addition to the original target groups, the semi-nomadic group of Tibetans from the plateau region also received support.

All water supply systems are used and were designed to provide sufficient capacity for the population. In Minhe Country, three nearby villages from the neighbouring province were also connected to the water supply system. The population of one settlement with a water supply system (Gancha village) has increased so much that the grid has to be extended. According to the information available, the reservoir constructed for the measures does not have to be expanded. Any damage that has occurred to the water supply systems to date has been resolved by the user groups using the tools and replacement parts procured in the project. In the largest water supply network in Minhe county, the responsible water authorities are supporting villages with larger-scale repairs as a total of 36 villages are connected to the grid (16 more than supported by the project). The water quality for all systems is assessed on a regular basis. The intervals between tests and thus the number of tests vary from village to village depending on the size of the system. For instance, the water quality is measured and tested several times a month in the largest village. The test results received for all random samples met the WHO standards and were in line with drinking water requirements. The water authorities generally recommend boiling water before consuming it or using it for cooking. The users questioned confirmed that they follow this recommendation.

According to the information provided, the provincial government's previous efforts to promote livestock farming were not successful. The German expertise regarding adapted breeds and animal care (e.g. using mineral salt blocks) in the evaluated project was highlighted as being very helpful and important for success by the Chinese project participants. The success of the livestock farming component is reflected in livestock numbers. Most farmers increased their herd size slightly and a few have since become medium-sized commercial sheep farmers (herds consisting of more than 50 and up to 200 sheep). Since household figures are only available in aggregated form for all of the villages, however, the project's individual contributions to this positive development cannot be isolated.

Effectiveness rating: 2

Efficiency

The water supply reached the desired number of households and people at a reasonable cost (despite the fact the costs for the systems differed as a result of the geographic conditions). To assess production efficiency, the specific costs for the investments in the water supply are taken into account here. These costs were calculated in relation to the residents who were connected to the distribution system. The specific costs per head amounted to RMB 1,653 on average (EUR 247.46) according to the calculations in the evaluation. The specific water supply costs are naturally higher in rural areas than in urban centres due to the lower population density. Nonetheless, the specific costs for the project evaluated here are rather high in comparison to threshold figures in rural water supply financing (EUR 1 = RMB 6.68 at the time of the final review). However, the systems in the project under evaluation were equipped with house connections while many other rural water supply systems are only designed with standpipes. In terms of the assessment of production efficiency, one positive point was that the water is not only used within the households but also for livestock farming. The executing agency's information on the collection rate (> 90%) can also serve as an indication that the users value the convenient water supply, which in turns reflects good allocation efficiency for the water supply.

In terms of the procurement of livestock for farming and breeding purposes within the households, a sum of RMB 4,000 per cow (EUR 598.8) and RMB 1,270 per sheep (EUR 190, internal auditing report, Qinghai Zhonghengxin Accounting Firm) was allocated using project funds. Comparable figures show that these costs are appropriate. A survey of the families also showed that the costs of purchasing the animals (at an average of three animals per household) are accompanied by an additional annual income of RMB 1,000 – 2,000 per year once the animal reaches reproductive age. However, no information was available concerning the costs for keeping the animals and the length of time needed to generate income. As a result, no conclusive statement can be made concerning the profitability of livestock farming. Since the project managed to reach poor, minority families and their income was increased, a suitable level of allocation efficiency is assumed on the whole, even in the area of livestock farming. However, this is ignoring the risk of soil erosion caused by increased livestock herds and the lack of good pasture monitoring for the time being (see Impact and Sustainability).

Efficiency rating: 2

Impact

Positive development policy effects were achieved, particularly by the new water supply to remote areas previously without water. According to the women questioned, these effects are manifested mainly in the elimination of time stress and physical strain for women, who used to be responsible for collecting water in many households. Furthermore, this component had positive effects on livestock farming, which also benefited from the water supplied. Water costs decreased for households who previously collected water by tractor as the transport costs exceeded the current water tariffs (an average of RMB 30 per household in Xiongxin in the Hualong district as at the ex post evaluation).

The introduction of stable-based livestock farming and forage crop cultivation was deemed innovative by many farmers, with some seeing it as a way forward into commercial agriculture. The project approach was also adopted and replicated by the relevant agricultural bodies. According to the executing agency's data, the real household income from agriculture increased in all project districts, with two of the three districts recording significant growth (from RMB 1,734 to RMB 3,958 in Minhe and from RMB 749 to RMB 1,590 in Hualong). However, the largest increase in real income was generated by paid work, often as a result of (seasonal) labour migration. This corresponds to the trend for the whole of Qinghai Province. Graph 1 shows that real income from both commercial earnings and from salaries and wages rose at province level between 2002 and 2012. An unquantifiable number of the target group even gave up livestock farming completely to dedicate all their time to paid work. Nevertheless, although the rural population in Haidong prefecture fell from 1,177,000 to 940,500 between 2008 and 2016 as a result of rural-urban migration and declining population levels, the rural populations in two of the project districts (Hualong and Minhe) actually increased slightly. Overall, the average nominal income in the districts for 2016 was significantly higher than the national poverty line (RMB 2,300): RMB 8,270 in Hualong (+176%), RMB 8,994 in Yunhua (+177%) and RMB 8,976 in Minhe (+188%; EUR 1,238 – EUR 1,346). At the beginning of the project, the average nominal incomes were RMB 2,996 in Hualong, RMB 3,250 in Yunhua

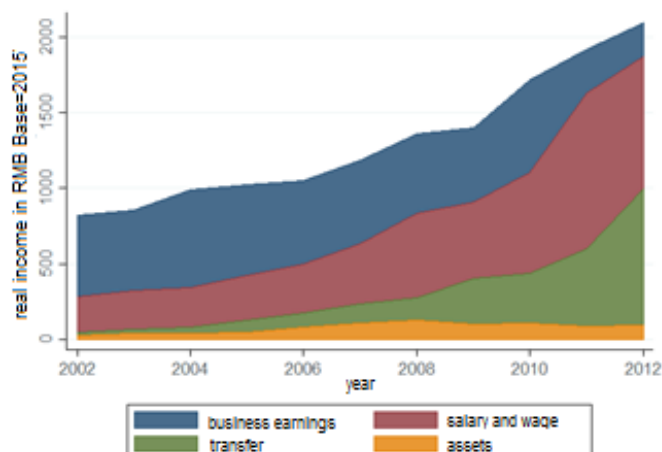
and RMB 3,121 in Minhe. At the same time, the income among the rural population in the three districts was still below the national average for rural income.

The goal in terms of the impact was to improve the living conditions of the rural population. The target achievement was assessed as follows:

Indicator	Status PA, Target value PA	Ex post evaluation
(1) The income of at least 80% of the households involved in the agricultural measures has increased	Status 2003: RMB 3,712 Target value PA: n.a.	Data is available for a random sample from the target group in 2013 and aggregated data is also available for the districts. Using this data as a basis, it can be assumed that the target was achieved.
(3) Households who were not forced to sell their livestock in an emergency (“distress sales”).	Status PA: n.a. Target value PA: 80%	Achieved.

Sources: Statistics offices from the poverty alleviation authorities (PADO) and GFA, 2013, monitoring & evaluation report “Sustainable Rural Development in Disadvantaged Areas, Qinghai” and non-representative, semi-structured interviews with farmers from the target group during the ex post evaluation

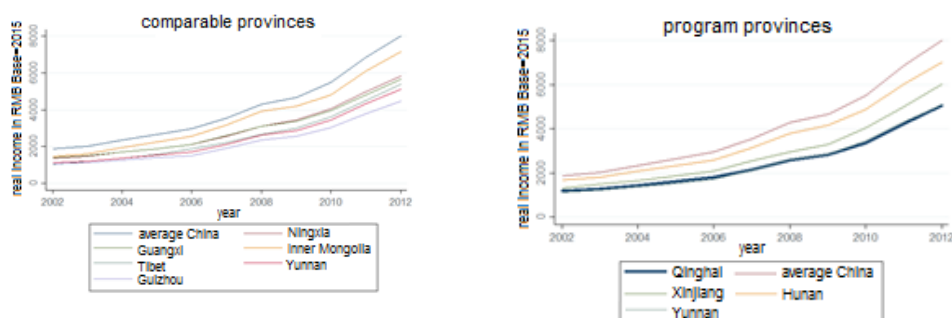
Graph 1: Real income by income source in Qinghai, 2002–2012



Source: Created in-house on the basis of wage data from the National Bureau of Statistics China, descriptive statistics, no links between the effects and the project are presented, accessed on 3 January 2018, available at: <http://data.stats.gov.cn/english>

Graph 2: Real income of rural populations by province, 2002–2012

Programme provinces were part of the FC-funded poverty alleviation programme; the provinces provided for comparison are other official minority provinces



Source: Created in-house on the basis of wage data from the National Bureau of Statistics China, descriptive statistics, no links between the effects and the project are presented, accessed on 3 January 2018, available at: <http://data.stats.gov.cn/english>

A household survey from 2013 (not representative, 38 households questioned) showed that project households could generate an annual income of RMB 1,000 to 2,000 from the procurement of young female livestock, once the animals reach reproductive age. As a result, the majority of project households could increase their annual income to above the national poverty threshold of RMB 2,300 from the second or third year of purchasing the animal. At the time of questioning, 83% of the project households generated a gross profit from livestock farming. A large number of the project households used the animals financed by the project to expand their own herds and primarily sold young males only. According to the information available for the ex post evaluation, most livestock farmers did not think that the average of three animals promoted in the project was sufficient to generate the costs for their children's university degrees. These costs could not be covered until the herd reached at least 15 to 20 sheep. According to the information available (2013 surveys and for the ex post evaluation), the project still contributed to the diversification of income sources and improved the project households' resilience to crises, if, for example, they were unable to take part in the physically demanding, seasonal paid work on building sites.

However, soil erosion damage was observed in two out of the three districts as an unintended negative effect, most likely triggered by the intensification of livestock farming. Although the project promoted stable-based farming, it never expected or intended for the livestock to be kept in stables only. Instead, plans were in place to introduce ecologically sustainable management of pasture land. As the executing agency did not provide unlimited support for this approach and refrained from implementing strict monitoring based on suitable indicators during the project, this type of consequential damage could have been predicted. These effects are aggravated in the event of commercial agriculture with larger herds. Since only the latter method of farming – as described above – led to more significant increases in income, the project accepted this trade-off between the goal of improving incomes and protecting the natural resource of soil. For this reason, the impact is only rated as satisfactory.

Impact rating: 3

Sustainability

The project is making a sustainable contribution to the improved water supply in the participating villages. The ongoing operation of the systems is ensured and will be covered by the income. However, the tariffs are defined by policy and not according to cost coverage principles. Each household is charged a flat rate. Only one district (Minhe) measures water consumption using water meters and charges by volume. Costs for repair measures are therefore covered, though maintenance costs and reserves for reinvestment are

not. The responsible water authorities believe that large-scale replacement investments eventually needed will be financed from state budgets. At the moment, none of the villages involved in the project have any proper form of waste water disposal. While this is concerning over the long term due to the general increase in consumption resulting from the new house connections, it is deemed acceptable over the medium term due to the low population figures.

Based on the information available, the poorest households in the project region's poorest villages have received sustainable support. In economic terms, the livestock farming component only helped lift a small number of farmers permanently out of poverty, though many households are now better equipped against crises and/or have better security for old age thanks to the project. For the majority of households, however, the income from paid work is more important for escaping poverty. This dichotomy will be further enhanced should the ecological degradation of agricultural land continue.

As described above, livestock farming can also have negative environmental effects if pasture farming is used more extensively than stationary stable-based farming, as trampling can cause damage and reduce the soil quality. The impact of the livestock farming component on pasture farming and the surrounding area has not been systematically monitored. A sound evaluation from an ecological perspective is therefore not possible. Visual impressions of the project sites visited during the ex post evaluation indicate that in areas where grazing is prohibited and where the agricultural office applies controls and sanctions (Minhe), more animals appear to be kept in stables and there is full vegetation coverage on the hills. After the harvest, animals are also allowed onto the cleared areas and used for fertilisation. Free grazing was only observed in some cases.

In the case of the mountain nomads on the Tibetan Plateau who practise summer grazing, there were visible signs of soil erosion in direct proximity to the villages. The highest degree of soil degradation caused by pasture farming was observed in Hualong. Farmers there have rejected stable-only-based farming. The extent to which stable-based livestock farming, forage crop cultivation and the recycling of leftovers contribute to the elimination of overgrazing and soil degradation cannot be assessed. The sustainability in relation to ecological effects must therefore be considered questionable. Minhe had already experienced the ecological degradation of farmland in the past. The bans in place there on grazing and reforestation initiatives demonstrate that the authorities are aware of the problem. An effective expansion of the grazing ban if soil erosion were to increase to a critical level would likely lead to even more households being reliant on an income outside of agriculture in future. Larger commercial farmers will be able to maintain their herd size by purchasing feed, while medium to small-scale farmers will probably have to rely more on paid work as a source of income.

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).