Ex post evaluation – Vietnam

Sector: Medical services (CRS Code 12191)
Project: CP Decentralised Healthcare 2008 (BMZ No. 2008 65 279)*
Implementing agency: "Provincial People's Committees of the Provinces Nghệ An and Thái Bình"

Ex post evaluation report: 2018

		Project A (Planned)	Project A (Actual)
Investment costs (total)	EUR million	9.60	7.69
Counterpart contribution	EUR million	1.90	Completed**
Funding	EUR million	7.70	7.69
of which BMZ budget funds	EUR million	7.70	7.69

*) Random sample 2017; **) Not to be quantified

Summary: The provinces of Nghệ An and Thái Bình were the regional focus area of the FC component of the FC/TC Cooperation Programme "Decentralised Healthcare 2008. The FC measures included the delivery of medical equipment to selected provincial and district hospitals and the development of capacities for servicing and maintenance as well as for waste and wastewater disposal. In parallel to this, hospital management was supported within the scope of German TC and a healthcare and hospital management information system, also financed from FC funds, was rolled out and promoted at selected facilities.

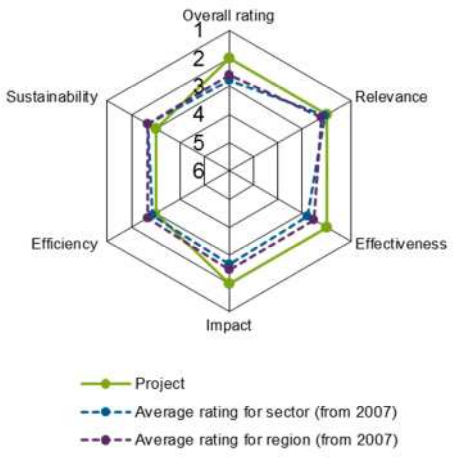
Development objectives: The overarching developmental objective was to improve the health of the population living in the provinces of Nghệ An and Thái Bình (impact). This was to be achieved by improving the population's access to a better quantity and quality of healthcare services in the two provinces (outcome). Consequently, the objective of the FC measure was that "the population in the catchment areas of the promoted hospitals make more use of the better quantity and quality of services (including environmental compatibility)".

Target group: The target group of the measure was the population in the catchment areas of the selected district and provincial hospitals in the provinces of Nghệ An and Thái Bình.

Overall rating: 2

Rationale: The financial improvement regarding access to healthcare services by means of social health insurance (demand), and the simultaneous increase in the supply of more and better diagnoses and treatments thanks to improved equipment had positive impacts on the health situation in the provinces. The selection of the provinces and the transfer of responsibilities for project execution to the provincial administrations reinforced the political leadership's ownership and sense of responsibility. There is no "preventive maintenance" strategy in place. Maintenance still simply involves ad-hoc repairs when a piece of equipment breaks down, causing the sustainability of the investments to lose marks in the evaluation.

Highlights: The introduction of the hospital information system, which was initially met with great scepticism, is a success story today. Alongside recording routine data, it brought about greater transparency and information is used to make decisions, e.g. concerning staff management and planned investments, as well as to develop new business models to promote the autonomous and independent operation of hospitals (hospital autonomy).



Rating according to DAC criteria

Overall rating: 2

Ratings:

Relevance	2
Effectiveness	2
Efficiency	3
Impact	2
Sustainability	3

Relevance

The core problem in the two provinces, Nghệ An (NA) and Thái Bình (TB), which benefited from FC financing was correctly identified at the time of the PA in 2008. The quantitative and qualitative health services at the time did not meet the demands and needs of the population and were not fully accessible to all sections of the population. An improvement in health care was also urgently needed from a developmental perspective.

The provinces of Nghệ An and Thái Bình were among the most economically weak and poorest provinces in the country. The provinces were chosen based on the criteria defined for the DC programme (including high proportion of poor, inadequate socio-economic indicators, no overlap with other donors' support) and in close coordination with the project-executing agency. In 2008, the national poverty rate was 13.4%. Nghệ An was one of the ten poorest provinces in the country, with a poverty rate of 22.5%. Thái Bình was above the national average, with a poverty rate of 9.8%.[1] At around VND 4 million, the gross domestic product (GDP) per capita in the provinces was only half the national GDP. Ethnic minorities made up 15% of the total population in Nghệ An and 0.2% in Thái Bình. Both provinces had relatively high maternal and child mortality rates (maternal mortality: Nghệ An 55/100,000, Thái Bình 30/100,000; child mortality: Nghệ An: 23/1,000, Thái Bình: 40/1,000).

The selection criteria for the districts in the provinces were a high population density with a high poverty incidence and a high proportion of minorities, a large catchment area for the hospitals, high utilisation rates, good pre-existing staffing levels and sufficient availability of physical infrastructure.

The population in the selected districts of the provinces NA and TB was defined as the target group of the FC project, with special reference to the poor as well as to disadvantaged population groups (ethnic minorities, women and children). The focus on the poor, on ethnic minorities as well as on the population living in remote areas, which was partially intended at the programme appraisal (PA), was taken into account by selecting institutions with a broad impact with regard to these specific target groups. Focusing on this target group was based on the assumption that access to health care services by expanding health insurance would be improved for these population groups in particular. However, supporting the supply side alone could not ensure that medical services were used equally by all population groups. The selection of the provinces and the promoted health institutions was reasonable from the EPE's perspective, and the FC project was and still is relevant.

The health situation in the provinces continues to be marked by poverty-related diseases, especially in the poorer areas. At the same time, however, so-called diseases of civilisation are rapidly on the rise as wealth increases, as is the number of traffic accidents. Recent years have seen a rise in epidemics of new infectious diseases, increasing the number of hospital admissions for these diseases. Rising life expectancy means that the number of elderly people in the population is growing, resulting in an increased need for more specific health services. This constantly changing health situation made continuous adaptation inevitable. New diagnostic and treatment opportunities opened up new prospects for the provision of tai-

[1] General Statistics Office (GSO), measured for the EPE according to GSO-WB and the respective district hospitals; the following criteria were met: a district near the coast (Diễn Châu, Tiền Hải) and a district in the interior for each province

lored health care which was more effective and efficient, facilitated by the project's investment in the promoted hospitals. The funding and support of the introduction of the information management system was particularly relevant to the success of the project.

The cause and effect relationships underlying the project concept are plausible. Better medical equipment, including maintenance and repair, were to improve the quantitative and qualitative provision of services in the promoted provincial and district hospitals. Better services were to be used more by the population in the promoted institutions' catchment areas – supported substantially by the Vietnamese health insurance system – thereby contributing to the improvement of the health situation in the districts of Nghệ An and Thái Bình provinces. Improved wastewater and medical waste disposal were to improve the environmental compatibility.

The programme met the target of the Vietnamese government at the time, which is still valid today, of ensuring "universal health coverage for all by 2020". Since the beginning of 2015, the emphasis has been on strengthening – including financially – the lower levels (local to district level) with the Vietnamese state intending to finance the local level and the donors to concentrate on the district and provincial levels. This approach is in line with that of the project, which supported two provincial and eight district hospitals. Health is generally a key issue for the Vietnamese government, as is also evident from the "Socio-Economic Development Strategy for the Period of 2011–2020". In the strategy, the government confirms the high priority given to developing the health care system and improving the supply of high-quality health services to the population, and plans a continuous increase in government spending in the health sector until 2020.

Health was a priority of German DC with Vietnam until 2013. The project was in line with the BMZ's goals of strengthening the decentralised health care system in Vietnam (Priority Area Strategy Paper 2007). The cooperation and division of work between FC and TC in the context of the overall DC programme had the potential to make an efficient and effective contribution to this priority area. The project was carried out in coordination with and complementary to the activities of other donors in the provinces.

Relevance rating: 2

Effectiveness

Project objective (outcome): "The population in the catchment areas of the promoted hospitals make more use of the quantitatively and qualitatively improved health services (including environmental compatibility)". The achievement of the project objective can be measured using the following indicators:

Indicator	Status PA, target value PA	Ex post evaluation
(1) The proportion of health workers who report being satisfied with the physical infrastructure available for priority services increases.	38%, target value 85%	85%
(2) The utilisation rate of medical equipment increases.	20%, target value 85%	100% for all functioning devices
(3) The number of health institutions which have a maintenance plan and perform appropriate maintenance and repair works increases.	9%, target value 90%	70%, according to the PDoH (could not be verified during the EPE – see Sustainability)
(4) The number of health institutions with environmentally sound waste and wastewater manage-	0%, target value 80%	90% of visited institutions have waste and wastewater management systems (supported in NA by the

ment systems increases.		World Bank (WB), and in TB by the WB, various NGO initiatives, and hospital measures).
(5) Occupancy rates for beds		Between 90% and 105%
(6) Number of admissions per year increases		Nghệ An (District) 2012: 30,361 2016: 35,774 Nghệ An (Provincial) 2012: 48,098 2016: 60,417 Thái Bình (District) 2012: 26,800 2016: 29,139 Thái Bình (O&G Hospital) 2012: 21,530 2016: 24,262
(7) Number of surgical procedures performed annually increases		District hospitals 2012: 1,375 2016: 4,956 Provincial hospitals 2012: 27,071 2016: 33,513

Indicator 1 was verified during the EPE by means of a brief survey among staff and department heads, in the final meeting with hospital management and at the debriefing in the Departments of Health. The proportion of staff who indicated they were satisfied fell slightly compared to the final inspection (survey at the end of 2014). Satisfaction depended on the functionality of the equipment available and ranged from 40% to 100% (e.g. the head of the laboratory at the TB Provincial Hospital was dissatisfied with the fact that two of her devices had failed and two more frequently malfunctioned, necessitating repairs and leading to lengthy interruptions in functionality). Indicator 2 should be considered with one restriction: although 100% of the functional devices were in use, the survey showed that, in total, around 20% of the supplied equipment was not functional and therefore could not be used. Devices that were no longer in use can be divided into three categories: a) not usable from the beginning (~3%); b) defective, cannot be repaired (~5%); c) defective, repair started (~12%).

The project has made an important contribution to improving environmentally sound waste management by providing technical advice and assistance in the development of adapted waste and wastewater management concepts (indicator 4), as well as through coordinated training of senior and relevant technical staff.

Bed occupancy rates (indicator 5), which were calculated on the basis of officially planned beds, indicated overcrowding at approximately 140-150%. The current number of available beds has been steadily increasing in recent years and was between 30% and 100% higher in the hospitals visited at the time of the EPE than planned. The occupancy rates were therefore difficult to calculate, but were between 90% and 105%, indicating a good level of utilisation. No disaggregated data is available for indicator 6. Based on the population size in the provinces and the number of district hospitals, we can estimate an average number of admissions of 6,000-7,000 in NA and 13,000-14,000 in TB. The assumption is that there are no major differences between the hospitals. Overall, a significant increase in the number of patients – both inpatient and outpatient – was observed. The number of surgical interventions has also increased many times over. As mentioned above, all hospitals have increased the number of beds, some to a significant extent. According to hospital administrators, it was possible to increase the number of beds by adapting to the increasing population. In addition, all of the hospitals visited were upgraded one grade (national scale 1-4) due to the high number of patients and the greater range of services, and social health insurance also approved the increase in the number of beds that can be settled through insurance. The autonomy of hospitals allows hospital administrators to hire additional staff as required, provided they can financially afford it.

Not all positive changes can be attributed to the project. The continued expansion of social health insurance, with coverage rates of 81.3% in Nghệ An and 82.5% in Thái Bình, also allows poorer populations access to better-quality health care without a significant financial burden. As a result of the impressive economic development of the country (and the selected provinces), the poverty rate has fallen significantly (NA 9.5%, TB 4.61%). The economic upswing and the removal of the referral system requirement have also made a significant contribution to the increasing utilisation of services in the supported district hospitals. The comparison with the unsupported districts shows that, despite similar positive trends, the utilisation rate of services on offer is lower than in the institutions that were promoted. However, there is still a financial risk for the poorest of the poor from remote areas, as access to adequate healthcare is restricted due to the indirect costs not covered by insurance (transport, expenses for accompanying persons, etc.).

The assumption that the referral system would be strengthened has only been confirmed to a limited extent. During discussions with representatives from the social health insurance (VSS), it was mentioned that the number of patients in the Communal Health Stations has declined, while the number of patients in district hospitals has increased sharply and the number of provincial patients has risen only slightly. This impression was confirmed during the mission on the basis of these statistics and the statements of the district and provincial partners. This development is described as positive and as a success in the Ministry of Health's five-year plan for 2016-2020.[2] However, there is a risk that the district hospitals will be overburdened by the wider range of services and the associated increase in patient numbers, and will no longer be able to provide good quality care.

The equipment financed by the FC project was primarily used to replace out-of-order equipment and devices which no longer met the latest state-of-the-art standards. The equipment required for essential health services at the provincial, district and municipal levels was chosen by means of a thorough needs assessment, without overstretching the know-how of the available technical staff. Equipment procured for diagnostic examinations included a CT scanner for a provincial hospital, X-ray equipment, ultrasound equipment, electrocardiogram equipment, and analysis instruments for faster and improved laboratory analyses of blood and urine samples. Equipment procured for improved and faster treatment included incubators for premature births, anaesthesia equipment, surgical instrument sets, operating tables, intensive care beds, infusion pumps and in particular, equipment for endoscopic surgery (minimally invasive surgery, MIS).

The financing and roll-out of the information system made an essential contribution to increasing effectiveness, and this system has now been adopted by non-promoted hospitals in neighbouring districts, to varying degrees. Following initial scepticism, the hospitals can now no longer imagine life without the promoted IT systems. Improved patient management, improved staff management, more transparent invoicing, better-informed hospital management decisions, and shorter patient waiting times are just some of the positive aspects that have improved the management of the hospitals and their effectiveness and efficiency. The hospitals have become more attractive thanks to the positive changes which are also visible to patients, and now pull in higher patient numbers.

All the promoted hospitals as well as the Departments of Health have expressed their great appreciation for and satisfaction with the project.

Effectiveness rating: 2

Efficiency

The implementation of the project took 66 months in total. The project was originally planned with a total duration of 42 months. A total of EUR 3,942,577 was spent on medical equipment in NA, and EUR 2,917,883 in TB. EUR 185,377 in NA and EUR 346,111 in TB was spent on the introduction and development of the management information system. The consulting costs amounted to EUR 172,000 in NA and EUR 135,600 in TB. The international tender for the equipment and the national tender for the IT hardware and software allowed the best prices to be obtained. The consulting costs are reasonable, as the high coordination effort meant that more time was needed and frequent trips to the provinces were required.

[2] For People's Health Protection, Care and Promotion, Plan 2016-2020

The delay was the result of changes in the Vietnamese approval procedure, system reforms, and the vote on the final selection of equipment to be procured. The transfer of project execution to the provincial level and of implementation to the respective provincial health departments necessitated additional consultation loops for better coordination. However, this allowed ensuring that the equipment actually met local needs. At the same time, ownership was increased as the project met the strategic objectives of the provincial governments. It also facilitated consultation and coordination with other donors who were active in the provinces. The delays in the project preparation were repeatedly criticised during the EPE, as these led to a significant increase in the use of own resources to procure equipment that was urgently needed to meet the ever-increasing demand; these funds had to be raised by the hospitals themselves. In addition, complaints were made about a certain loss of confidence: the increase in the number of beds and the continuous expansion of social health insurance, which gave many patients financial access to the health services, meant that the expectations and needs of the population increased significantly. The hospitals, which became more and more dependent on health insurance payments, came under pressure to deliver.

The selection of the health institutions was carried out carefully in three steps. The provinces were selected by the Vietnamese partners in consultation with DC, taking into account the relevant social indicators. The districts and health institutions were selected following a comprehensive “mapping” procedure (by TC). The equipment was chosen on the basis of a needs analysis, which was tailored to the clinical needs and disease patterns of the respective catchment areas. Procurement took place through an international invitation to tender, with lots being created for the provinces. This process was time-consuming and was subject to scrutiny by the partners. It was mentioned as positive factors, however, that all ordered equipment was delivered at one time and that the provinces and hospital administrators use a single company as their contact for maintenance and repair works. This increased the efficiency of the measure.

The considerably increased utilisation of the promoted hospitals suggests good allocation efficiency. This is due to the elimination of financial obstacles on the one hand, and to the improved equipment on the other. Cases of overloading or even misuse of the delivered devices have been reported, however. Social health insurance representatives expressed the suspicion that the devices were being used not only to increase hospital revenue, but also for private consultations. However, this could not be verified during the evaluation, because no data was provided.

The division of labour and cooperation between German FC and TC made a significant contribution to the efficiency of the German DC programme thanks to good coordination and complementary measures.

Efficiency rating: 3

Impact

The ultimate objective (impact) of the FC project was to improve the population’s health in Nghệ An and Thái Bình. The achievement of this objective can be assessed based on the trend of the following indicators:

Indicator	Status PA, target value PA	Ex post evaluation
(1) Maternal mortality has decreased.	2008 Nghệ An: 55/100,000 live births Thái Bình: 30/100,000 live births No target value defined	Nghệ An: 14/100,000 Thái Bình: 16/100,000 National figure from 2015: 54/100,000
(2) Child mortality (up to five years of age) has decreased.	2008 Nghệ An: 23/1,000 live births Thái Bình: 40/1,000 live births No target value defined	Nghệ An: 10/1,000 (PDoH) 24.8 (General Statistics Office) Thái Bình: 6/1,000 (PDoH) 15.1 (General Statistics Office)

The information and data provided by each provincial department for the indicators reveal a significant improvement in the health situation with regard to maternal and child mortality. However, the data are not in line with the data published by the General Office of Statistics, which shows significantly higher figures (especially for NA province), and are therefore not reliable.

The project has made an effective contribution to improving the health situation by means of quantitative and qualitative improvements in provincial and district health services and their increased utilisation. Another positive aspect is the project's broad impact. Although only a few district hospitals in the provinces have received support, the importance of good-quality, functional equipment in optimising services has also reached other districts and has attracted the attention of provincial political leadership in particular. This, in turn, has led to private initiatives and further investment from hospital budgets or the provincial budget.

The improvements cannot be attributed solely to the project, however. The rapid economic upturn, the impressive reduction in the poverty rate, political reforms, the introduction and continuous expansion and adaptation of social health insurance, innovative private initiatives, as well as national and international donor investments have made significant contributions to the positive developments in the health sector.

Impact rating: 2

Sustainability

Various aspects were considered in the assessment of sustainability. The project has helped to raise greater awareness among the political leadership at the provincial, district and hospital levels of the importance of functioning and needs-oriented equipment. The existing autonomy of hospitals, the expansion of social health insurance, further reform measures and, above all, the population's increasing demand for high-quality services make further investments necessary. The relevance and importance of functioning and needs-oriented equipment has also been recognised by the political leadership in the provinces. It was confirmed during the final debriefing meetings that, in the event of continued support, the provincial governments have committed to increase investments in line with demand. This commitment as well as increasing revenues from health insurance, which reimburse 100% of inpatient and outpatient treatment costs in district hospitals, appear to ensure the financial sustainability of the hospitals.

Human resources are available for maintenance and repair works. Each institution assigns between one and four technicians who are responsible for in-house maintenance. The staff was trained as part of the project in advanced training courses for all five programme provinces. Newly recruited personnel are trained on-the-job by more experienced employees. Salaries for these staff members form part of the recurrent budget, and are not managed separately under Maintenance. To this day there is no budget line for maintenance and repair works in the recurrent budget of the hospitals, although the Separate Agreements of the FC project stated that up to 3.5% of the budget must be allocated for maintenance. Contrary to statements by the Provincial Departments of Health (PDoH) indicating a 70% target achievement for the presence of maintenance plans, no systematic maintenance plans could be found in any of the hospitals. Logbooks are kept for all supplied devices until the expiration of the two-year maintenance contracts. Since late 2016/early 2017, there have only been sporadic entries when smaller-scale repairs have been made. For larger repairs that are not performed internally, either a local maintenance company or the device supplier is contacted. Long waiting times are to be expected. In urgent cases, and provided the defective part is suitable for transport, a technician can also arrange for transport to Hanoi or a provincial capital. The funds for this relatively inefficient method of ensuring ad hoc repairs come from the Hospital Development Fund, which is sourced from profit surpluses, donations and other income. According to consensus statements from all hospitals, about 50% of the funds are spent on device repairs, 30% on construction measures, and 20% on new investments.

The hospital management information system introduced and supported by the project is already firmly established in the hospitals. The importance of a functioning IT system is clear to all hospital administrators. Even the institutions which did not receive support now have functioning systems and networks. The potential of the IT systems has not yet been fully exploited, but even the current level of use has already resulted in efficiency gains. Some hospital managers use the IT systems for staff scheduling, to procure materials, and for quality control. The hospitals have hired IT experts and fund further development and maintenance from their own funds. Minor repairs can be made by the technicians themselves. The software is reviewed and adapted every six months based on the contract with the supplier.

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).