Ex post evaluation – Nigeria

Sector: Infectious disease control (12250)
Project: Programme to control polio (Phase IV 2012 66 568*, Phase V 2013 66 194, Phase VI 2014 67 646), support for the security plan within the scope of the fight against polio (2013 66 822*)
Implementing agency: Federal Ministry of Health, National Primary Health Care Development Agency

Ex post evaluation report: 2017

		All Phases** (Planned)	All Phases (Actual)
Investment costs (total)	EUR million	779.6	889.6
Counterpart contribution	EUR million	31.2	73.5
Funding	EUR million	N/A	786.5
of which BMZ budget funds	EUR million	61.5	61.5

*) Random sample 2016

Summary: Nigeria is one of three countries in which the wild poliovirus, almost eradicated worldwide, is still endemic. The Financial Cooperation (FC) programme to control infantile paralysis (polio) supports the national polio control plan in Nigeria, thus contributing to polio's global eradication. The Global Polio Eradication Initiative (GPEI) is the overarching global framework for these measures. The contribution of Phases IV to VI financed WHO and UNICEF operating costs for implementing the respective current national polio control plan. Alongside the design and implementation of mass vaccination campaigns, the operating costs also include mobilisation efforts, as well as the monitoring of vaccination workers and suspected polio cases. The support for the security plan has seen additional funds supplied for adapting the vaccination activities to the difficult security situation in the north-east of the country.

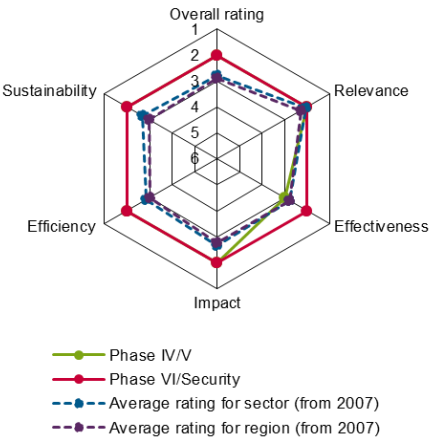
Development objectives: The programme's objective (impact) was to make a contribution to the worldwide eradication of polio by permanently cutting off polio's transmission in Nigeria. Comprehensive immunisation of at least 80% of all children below five years old is necessary to stop this transmission (outcome). Since routine vaccination programmes cannot guarantee this, children in the high-risk states (in which the poliovirus is still circulating) were aimed to be reached with extensive special vaccination campaigns (output). The measures were partly implemented in conflict zones and planned in a conflict-sensitive manner. However, since polio control is not suited to promoting peace, no stabilisation goals were pursued by means of the programme.

Target group: All children in Nigeria below five years of age, particularly in the high-risk states.

Overall rating: 2 (all phases)

Rationale: Rationale: The FC contribution to the national polio control programme was characterised by its flexible applicability in all phases. It has allowed acute funding gaps to be overcome and enabled an appropriate reaction to the intensified security situation in the North. Altogether, substantial progress has been made in the fight against polio, although this remains slightly below the high expectations. Phase VI and the security plan have supported particularly innovative special measures, which work as targeted solutions to problems arising from inoculation coverage and make a broader development policy impact.

Highlights: ---



Rating according to DAC criteria

Overall rating: 2 (all phases)

The programme has been implemented in a context increasingly characterised by fragility and violence. During the phases evaluated in this document (2012-2015), the security situation in north-eastern Nigeria deteriorated considerably, as the presence of the violent non-state actor Boko Haram left extensive areas inaccessible to the state and humanitarian organisations. Despite these difficult circumstances, significant progress was achieved in the fight against polio. This was primarily due to the introduction of new strategies (hit and run, wall-fencing, permanent health teams), which made polio vaccinations possible even in fragile security conditions; the ability to reach more children with the classic vaccination campaigns was another factor.

General conditions and classification of the project

The fight against polio in Nigeria has been supported by the German Financial Cooperation (FC) since 2004. This FC programme is a contribution to the national polio control programme, which is also financed by other donors, international organisations and the Nigerian Government itself. The FC contribution helped to finance the procurement of vaccines during the first three phases. As of Phase IV, however, it has been possible to use the contribution for various operational costs. Smaller conceptual changes were adopted during Phase VI. Supporting the security policy met an extra need in 2014, as a new security policy for difficult-to-access areas had become necessary.

Breakdown of total costs

	Phase IV (Planned) 2012	Phase IV (Actual) 2012	Phase V (Planned) 2013	Phase V (Actual) 2013	Phase VI + security (Planned) 2014-2015	Phase VI + security (Actual) 2014-2015
Investment costs (total)*	223.0	230.2	206.0	228.7	350.6	430.7
Counterpart contribution (2013-2016)	Planned: 31.2 / Actual: 73.5**					
Funding	N/A	N/A	225.6	274.0	119.0	N/A
of which BMZ budget funds	15.0	15.0	31.5	31.5	10.0 + 5.0	10.0 + 5.0

* All figures in millions of EUR

** Details only available for the 2013-2018 Strategic Plan. Loans to the government from JICA and the World Bank have been deducted.

Relevance

The international community resolved to eradicate polio already in 1988. Subsequently, the annual number of polio cases was reduced by 99%. Since then, the virus only continued to be endemic in three countries: Afghanistan, Pakistan and Nigeria. However, as long as the poliovirus is not eradicated in these countries, there is a high risk of the disease re-emerging to spread globally. For example, between 2003 and 2013, the poliovirus was exported from Nigeria to 26 formerly polio-free countries. Eradicating the virus would prevent many permanent cases of disability around the world and save on vaccination costs. Germany also has committed to this international goal, promising a total of €105 million for the worldwide fight against polio between 2013 and 2018. Most recently, in May 2016, the G7 summit reaffirmed the importance of eradicating polio as global public good. The Government of Nigeria has also subscribed to the global targets and is working together with the WHO and UNICEF to prepare polio control plans at regular intervals. A large number of donors, including this FC programme, are making a contribution towards financing these plans. Accordingly, the programme is consistent with the German, Nigerian and global development agenda.

Interrupting the transmission of polio in endemic countries is a priority in achieving the goal of its eradication worldwide. If more than 80% of the target group is vaccinated in these areas, herd immunity arises, which makes the transmission of poliovirus extremely unlikely. Nigeria's polio control plan therefore aims to increase vaccination coverage with extra vaccination campaigns, thus interrupting transmission of the virus. This chain of effects is plausible and complies with WHO recommendations.

The FC programme financed vaccines for the national polio control programme during Phases I to III, while the contributions since Phase IV can be used for operational costs by WHO and UNICEF. This was in the interests of the partners, because there was a global strategic change in the fight against polio in 2012, and this gave rise to financial shortfalls. The World Health Assembly declared polio an emergency for public health in 2012, since the goal of eradication had been missed several times. The Nigerian polio control programme was also strengthened in this context. In order to enhance popular acceptance of the inoculation, traditional and religious leaders were integrated, awareness and mobilisation campaigns were conducted and the polio vaccine was offered along with other basic health services. There was potential to increase the effectiveness of vaccination campaigns with improved training and supervision of vaccination workers, as well as using GPS data to identify households that had not been covered. From Phase VI onwards, measures were taken to compensate for the difficult security situation in the North East.[1] In particular, these included short, intensive campaigns as soon as the security situation permitted them (hit and run), the creation of a "vaccine protection belt" around inaccessible areas, as well as vaccination efforts in refugee camps and at border crossings and public transit points, in order to take migratory movements of the population into account. The FC contribution was used to fill serious financial gaps for the vaccination campaigns and special measures; it therefore aimed for especially rapid deployment within only a few months.

The programme supports a vertical intervention in the healthcare field, staged in consultation with the national and local authorities. However, it does not aim to develop or strengthen structures at a political level or at the level of health institutions. In this sense, the programme only has minor relevance for the multifarious structural problems in Nigeria's health sector. Additionally, polio is only of limited significance for Nigeria's disease burden. The conflict in the North East has worsened its population's health situation. Poor hygienic conditions in refugee camps, the destruction of numerous health posts and undernourishment due to displacements and failed harvests pose a far greater threat than poliovirus to the health of the target group. Nevertheless, consistently continuing the fight against polio is sensible as a means to prevent the outbreak of a polio epidemic and in turn an additional health problem.

Overall, flexible use of the funds during all phases, along with rapid deployment of additional security plan support funds, was capable of supporting the national fight against polio as needed.

Relevance sub-rating: 2 (all phases)

Effectiveness

Significantly improved vaccination rates demonstrate that Nigeria is well on track to eradicating polio. The support's objective was to immunise the target group sufficiently to interrupt the transmission of polio. To achieve this, more than 80% of the target group (indicator) must be vaccinated in all the high-risk states' local government areas (LGAs).[2] As there is only reliable data for the LGAs where campaigns have been conducted, the indicator is checked for whether there are regions where no campaigns could be conducted due to the security situation.[3] Vaccination coverage ultimately increased significantly, although the indicator could not be achieved.

Indicator: proportion of LGAs in the high-risk states that achieve a vaccination rate of at least 80% (target rate) within the scope of the vaccination campaigns.

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[1] Boko Haram attacked polio vaccination teams in a targeted manner, meaning some areas were completely inaccessible.

[2] The number of high-risk states with a particularly high risk of transmission varied during the course of the programme from 12 to 11 to 14.

[3] There is also no precise data to this end for the entire period, so this check is merely for whether there were inaccessible areas and the "all LGAs" goal could therefore not be met.

Measures	Basic and target values as per programme appraisal (PA)	Target achievement	Ex post evaluation (end of 2016)
Phases IV + V	PA status: as of the start of 2012, 16% of LGAs reached in the high-risk states achieve the target rate. PA target value: as of the end of 2013, all high-risk states' LGAs achieve the target rate.	End of 2013: 72% of LGAs reached have a vaccination rate of at least 80%. Individual areas are inaccessible.	End of 2016: 97% of LGAs reached have coverage exceeding 80%. Individual areas remain inaccessible, though they are falling in number.
Phase VI + security plan	PA status: as of the start of 2014, 81% of LGAs reached in the high-risk states achieve the target rate. Individual areas are inaccessible. PA target value: as of the end of 2014, all high-risk states' LGAs achieve the target rate.	End of 2014: 97% of LGAs reached achieved the target rate. Many areas are inaccessible due to the state of conflict (Borno: at least 9 LGAs).	

Despite the target being missed, the 16% to 97% increase in LGAs reached with adequate vaccination coverage demonstrates excellent progress in the effectiveness of the vaccination campaigns. Since the Phase IV and V outcome falls below the ambitious expectations (72% of LGAs reached, rather than all), we classify the effectiveness for these phases as satisfactory. After Phase VI and support of the security plan, the target was also narrowly missed. Nevertheless, in spite of the increasingly adverse security situation, the significant rise in vaccination rates represents a substantial achievement. As of the end of 2014, the main problem was no longer insufficient coverage in the areas where vaccination campaigns were possible, but rather the inaccessibility of individual areas due to the conflict. This problem is additionally addressed by the special measures within the scope of the new security plan. The effectiveness of both these measures is therefore assessed as good.

Effectiveness sub-rating: 3 (Phases IV and V), 2 (Phase VI and security plan)

Efficiency

The financial need for the fight against polio has increased since 2012. This has been caused by the global change of strategy; after extensively reducing polio cases by 99%, this aims to also prevent the remaining 1%. Since the cases at hand involve the children who are most difficult to reach, new annual emergency plans have been adopted in Nigeria. Additional measures such as more frequent campaigns, better training of vaccination workers and special measures for difficult-to-access areas have raised the operational costs per child in the high-risk areas from USD 0.25 to USD 0.28. The increased use of funds has allowed more children to be reached, which has raised the total costs but also facilitated enormous progress. Since polio transmission in Nigeria has not yet been interrupted, and the special vaccination campaigns have lasted longer than planned, the total future costs of a polio-free Nigeria will also now be significantly higher than it was assumed during the programme appraisal. The WHO and UNICEF were an appropriate choice as recipients of the funds, as there is a better chance of the disease being eradicated when globally coordinated and implemented by vertical health programmes than if this were dependent on the respective national capacities. Overall, the programme demonstrates good production efficiency, despite the total costs rising.

In terms of allocation efficiency, investments in polio eradication are justified by the global savings expected to result from its reduction and eventual eradication. The global fight against polio cost USD 9 bil-

lion between 1988 and 2000, thus saving approximately USD 27 billion.[4] Estimates from 2010 assumed that eradicating polio could save USD 40-50 billion between 1988 and 2035 (see Duintjer et al., 2010). Since the disease burden from polio is fairly small in Nigeria, the allocation efficiency is lower on a national level. From a national perspective, controlling other diseases such as malaria, measles or diarrhoea would be more efficient, and would decrease child mortality in Nigeria much more significantly. Additionally, the execution via the WHO and UNICEF is efficient in the short term, but losses of efficiency are to be expected when the executing agency NPHCDA continues the vaccination programme. However, the use of funds was suitable and without alternative to achieve the global goal of eradicating polio in the near future. The programme also helped to avoid massive costs that would arise in case of a resurgence of the epidemic.

Efficiency sub-rating: 2 (all phases)

Impact

The programme's overarching development goal was to interrupt the transmission of the wild poliovirus in Nigeria by 2014 (Phases IV, V) or 2015 (Phase VI, security plan), thus contributing to the global eradication of polio and a decrease in child mortality. The WHO guideline for declaring a country polio-free is used as an indicator; this is the case when no new infections are reported for three years. This target was ambitious considering the volatile new infections rate, which increased from 62 to 122 between 2011 and 2012, before falling back to 53 in 2013. At the same time, the results show that the target was realistic: no polio infections were reported in Nigeria for two years up to August 2016. Nonetheless, the indicator was narrowly missed. In 2016, cases of wild polio were recorded once again, indicating that transmission had also not been interrupted in 2015, and had instead simply been undetected. However, the four cases exclusively occurred in inaccessible areas, which emphasises the successful geographic containment. Overall, we note that the programme has had a strong impact towards achieving the goal of eradicating polio worldwide. The number of polio infections reported globally has decreased from 223 (2012) to 74 (2015). The reduction of polio cases in Nigeria during the same period contributed significantly to this result.

Indicator: no new wild poliovirus infections over at least a three year period.

Measures	Basic and target values as per PA	Target achievement	Ex-post evaluation (end of 2016)
Phases IV + V	PA status: 62 new infections in 2011 PA target value: 0 new infections from 2014 onwards, for at least three years	2014: 6 new infections 2015: 0 new infections 2016: 4 new infections	The four cases in August 2016 show that the transmission of polio has not yet been interrupted.
Phase VI + security plan	PA status: 53 new infections in 2013 PA target value: 0 new infections from 2015 onwards, for at least three years	2015: 0 new infections 2016: 4 new infections	

Protection from polio infection is the immediate developmental benefit for the target group. Without this protection, many children would be suffering from permanent disabilities. This would create considerable

[4] The greatest savings effect is achieved by preventing permanent disabilities.

costs in terms of money and (care) time for their families, as well as reduced employment opportunities for the children in later life. Along with the children themselves, their mothers – the children's potential caregivers – particularly benefit from polio vaccination.

From 2014 (Phase VI) onwards, the means of accessing the population created for polio control purposes were increasingly used to tackle other children's health problems. These measures served to alleviate the catastrophic health situation in the country's North East and to increase acceptance of the polio vaccination. Accordingly, 30-40% of funds spent on the polio control programme were not used for polio vaccinations, but rather were combined with basic health services. These include administering vitamin A, deworming tablets and malaria medications, as well as providing health information.[5] This has a secondary positive effect, also proving advantageous for controlling other infectious diseases, including after polio is eradicated.

The attenuated agent in the oral polio vaccine can elicit polio-like symptoms in immunocompromised children (probability 1: 2.7 million) or can mutate back into a pathogenic virus if it spreads through a population that has not been adequately immunised. That is a negative side-effect accompanying the polio vaccination programme. The GPEI is providing counter-measures to this via a globally agreed vaccine strategy and booster inoculations for vaccine-based polio cases. However, in some instances, the International Monitoring Board has criticised the GPEI for reacting slowly to vaccine polio cases. There is a minor risk of a vaccine polio epidemic jeopardising the programme's effects.

Although the positive side-effects were smaller in scale during Phases IV and V, we rate the overarching development impacts as good due to their same principal effect across all phases.

Impact sub-rating: 2 (all phases)

Sustainability

The annual number of polio cases has been reduced by 99% since 1988, when the Global Polio Eradication Initiative was created. One must not assume, in light of these significant achievements and the confirmed political support, that the international community is to abandon the goal of eradication and related financing. However, the GPEI is suffering from recurrent financing shortfalls and the Nigerian government regularly falls short of its pledges for the healthcare sector and polio control. The Nigerian government has strengthened its political and financial commitment in 2016 following the new infection reports, and is cooperating closely with the WHO and UNICEF, which are coordinating and executing the polio control programme in large part. In another positive development, the WHO in Nigeria has been able to acquire substantially more funds during the programme phases, and has specifically strengthened its capacities.

The GPEI will be dissolved once polio eradication has been certified on a global scale, meaning that no polio infections have been reported in any country for three years. The national health systems will be responsible for maintaining immunisation protection, as well as utilising the structures created for the fight against polio to control other infectious diseases. At the latest, this would occur in the event of polio being eradicated nationally in Nigeria prior to its global eradication; however, it could occur sooner. As per the GPEI's strategy, the positive side-effects of the programme are intended to be retained and expanded to prevent the existing development achievements in these areas from being jeopardised.

The Nigerian routine vaccination programme, coordinated by the executing agency NPHCDA, made progress between 2012 and 2016. Overall, it has increased vaccination coverage, although this still remains at a low level (2015: 57.4%). Distribution, cooling and financing of the vaccines and campaigns are core problems for the routine vaccination programme. Additionally, strikes by healthcare employees result in vaccination campaigns often failing. It has therefore not yet been possible to guarantee continued immunisation protection. The deficits suggest structural deficiencies, and their prospective persistence if polio has been eradicated in Nigeria is of concern. The disbursement of the FC contribution to the WHO and UNICEF is efficient and guarantees correct use of the funds, although this does not address the executing

[5] Permanent health teams and volunteer community mobilisers go door-to-door in difficult-to-reach areas and raise awareness of general children's health topics (e.g. clean water, routine vaccinations); further healthcare services are provided in temporary health camps.

agency NPHCDA's organisational weaknesses. The array of programmes create a risk of marginalising the executing agency, with a negative impact on sustainability.

To minimise such risks to sustainability and promote use of the structures already created, the GPEI is seeking to support the countries in preparing a transition plan. Nigeria is planning to adopt its transition plan in 2017. The capacities of the Emergency Operations Committee for polio were already utilised successfully during the outbreaks of Ebola (2014) and Lassa fever (2015). However, even in this case, the extent to which these plans' financing is secured is uncertain.

The state of conflict in the North East is a difficult-to-calculate and uncontrollable risk for the continuation of the polio vaccination programme. Overall throughout its duration, the programme has developed a very good ability to adapt to the difficult security situation with new measures, although access to areas under Boko Haram's control continues to be denied. Vaccination campaigns can be conducted in areas that are reclaimed, through close cooperation with the military. The question of where vaccination is possible in the future will therefore depend heavily on how the conflict progresses.

Overall, the programme is rated as still having good sustainability. The GPEI has taken the aspect of sustainability into account in a number of ways, although the conflict and structural weaknesses in the health sector pose certain risks to sustainability.

Sustainability sub-rating: 2 (all phases)

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).