

Ex post evaluation – Uganda

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Sector: Transport (CRS code: 21030)
Project: General overhaul of freight wagons belonging to the Uganda Railways Corporation (URC), BMZ no. 1998 66 831*
Implementing agency: Uganda Railways Corporation (URC)



Ex post evaluation report: 2019

All figures in EUR million	(Planned)	(Actual)
Investment costs (total)	4.52	6.76
Counterpart contribution	0.46	2.56
Funding	4.06	4.20**
of which budget funds (BMZ)	4.06	4.20**

*) Random sample 2017

**) Including residual funds of EUR 140,000

Summary: The programme covered the general overhaul of 562 freight wagons belonging to the Uganda Railways Corporation (URC) in two phases. During the first phase starting from May 2002 until June 2003, 197 freight wagons were overhauled. The implementation of the second phase was linked to the privatisation of the railways in Uganda. Following the privatisation (concession for operation and maintenance), a further 365 wagons were overhauled in the second phase between March 2012 and October 2014. The general overhauls were performed by Nalukolongo railway workshop in Kampala. The programme tied into the previous FC commitment in the Ugandan rail-based freight transport sector (repair, general overhaul and maintenance of train units as well as development of workshop capacities).

Development objectives: The outcome-level goal was the availability and use of the overhauled wagons. The aim of this process was to create a stop-gap for problems relating to the rolling stock and therefore contribute to safeguarding rail-based freight transportation services (impact-level goal).

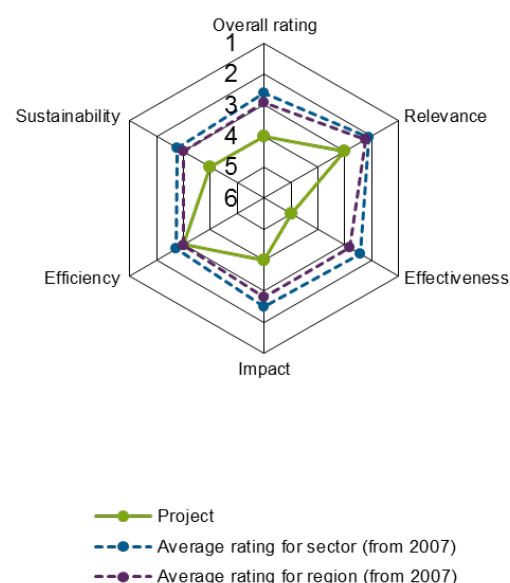
Target group: The programme's beneficiaries were URC, the concessionaire, and indirectly the users of rail-based transport services.

Overall rating: 4

Rationale: Even though the overhauled wagons – as a vital part of railway services – made a substantial contribution to the availability of the rolling stock, the programme was unable to make a significant contribution to safeguarding rail-based freight transport services due to other major technical issues with the railway as well as the failed and now terminated concession for railway operation and maintenance.

Highlights: Despite the sector's importance for Uganda's development, the problems in rail-based freight transport have remain unchanged for the past 20 years. The urgently needed extensive and cost-intensive investments for improving the dire installations, tracks and safety equipment were neglected before, during and still after the concession. However, they are the main obstacle to the sector's capacity and performance.

In addition to the plans to build a regional standard gauge network, Uganda is currently planning to maintain the meter gauge track over the medium term. However, this plan has yet to be supported with a suitable budget. It is still unclear when – if at all – the standard gauge track will be built. From today's perspective, it is not clear whether Uganda would have the financial scope to operate and maintain both networks.



Rating according to DAC criteria

Overall rating: 4

Ratings:

Relevance	3
Effectiveness	5
Efficiency	3
Impact	4
Sustainability	4

Relevance

In view of Uganda's inland situation, the Ugandan transport sector was and still is heavily influenced by the transport needs of foreign trade (particularly food exports and imports of industrial goods and fuels). The main transshipment port for exports and imports remains the Kenyan port of Mombasa. As it was the case in the past, the type (bulk goods, containers), quantities and loadability of the goods still determine that they are transported over the long distance (Kampala to Mombasa: 1,326 km) by rail. In light of the international railway network (which has been in place since colonial times), the potential economic effects, and positive environmental effects when compared to road-based transport (total vehicle fleet increased five-fold between 2005 and 2015), effective rail-based transportation is a logical and declared priority of Uganda, even from today's perspective.

At the time of the project appraisal (PA) in 1999, the Ugandan railway sector was highly deficient. The rail fleet, construction systems, platforms and safety systems were in a poor condition as maintenance and servicing were inadequate. The maximum permitted track speed was reduced to 50 km/h. Sections of track with condition-related speed restrictions made up 25% of the total route. Furthermore, the train control system for train safety was out of service and the trains were managed manually using phones and radio. In view of these conditions, the performance capacity and the railway capacities available to the market deteriorated rapidly. In the period from 1996 to 1998 alone, freight transport performance fell from 187 million ntkm to 147 million ntkm and was therefore significantly below 50% of the market potential according to the project appraisal report (PAR). At the time of the PA, only 20-25% of export trade was processed on the railways even though the transport tariffs for rail were much lower than road-based transportation. The round-trip times for the freight wagons were excessively long at 30 days on average. While it took just 3-5 days to transport imported goods from Mombasa to Kampala in an HGV, it took 20-25 days by rail. The core problem of the deteriorating performance capacity and decreasing capacity for rail-based freight transport was therefore identified correctly.

During the programme, the aim was to complete a general overhaul of freight trains in order to contribute to the reliable provision of needs-based freight train capacity. At the same time, this approach was intended to create attractive entry conditions with a view to privatising railway operations; finally, the aim of privatisation was to help increase the performance of freight transport.

The programme tied into the FC commitment in the Ugandan railway sector that was underway at the time (general overhaul of trains). In view of the limited budget, addressing the general overhaul of the freight wagon fleet after this step was an understandable and sensible decision (and this remains true from today's perspective) as ensuring suitable freight wagon capacities on top of the refurbished train units was necessary for freight transportation. At the same time, the capacity required to keep the railway workshop running could also be protected. According to estimates in the PAR, 82% of the entire freight wagon fleet was (over)due for a general overhaul in 2000, a figure which rose to 100% in 2002. Despite the poor condition of the railway infrastructure, it could still be travelled at a reduced speed.

However, because the railway infrastructure was in such poor condition, a general overhaul of the freight wagons without extensive and cost-intensive investment in fixed railway infrastructure was not actually suitable for making a substantial contribution to the impact chain and solving the core problem. At the

time, only the EU committed EUR 10 million for emergency repairs on the main route from Kampala to Malaba. While the programme may have addressed an important sub-component regarding the performance capacity, the programme's measures were not able to solve the core problem. Instead, the core problem was solved – if indeed it was resolved – by the leverage created by the structural reforms, i.e. the envisaged privatisation of operations (concession) and the investments anticipated as a result. While the programme, just like the EU, attempted to bring about privatisation by tying the implementation of phase II to an acceptable privatisation concept for railway operations, the rolling stock itself did not play a decisive role for the concessionaire's integration when the context is viewed as a whole. Both then and now, the programme assumes much more of a bridging role since the availability of the rolling stock helped to secure the transport services until operations were privatised, and also helped to ensure compatibility with the (re)investments anticipated as a result. From today's perspective, the extent to which it was realistic and sensible to expect an operating concession to yield extensive (re)investments is questionable.

Since it tied sensibly into the previous DC commitment in the Ugandan railway sector and because it assumed a bridging role in relation to securing transport services until privatisation, the relevance is rated as just satisfactory.

Relevance rating: 3

Effectiveness

The outcome-level goal of the underlying ex post evaluation was the availability and use of the overhauled freight wagons. The following indicators are used to assess outcome-level target achievement:

Indicator	Status PA, Target PA	Ex post evaluation
(1) Availability of the overhauled freight wagons until the next general overhaul (annual average in %)	80 ¹⁾ , 90	76 ^{2), 3)}
(2) Freight transport performance in million net tonne kilometres (ntkm) per year	147, 200	40 ⁴⁾

1) Availability of the entire fleet.

2) Only the phase-II freight wagons are included in the evaluation. For the freight wagons in phase I, the average residual nominal life ended in 2018; at the PA the nominal life was estimated to be 15 years after a general overhaul.

3) From the 278 freight wagons overhauled in phase II and available at the time of the ex post evaluation, as many as 165 have already exceeded the deadline for the next scheduled general overhaul.

4) Based on the 12-month period from February 2018 to January 2019.

The target availability rate of 90% for the freight wagons overhauled during the programme had not been reached at the time of the ex post evaluation (EPE). The availability rate of the freight wagons overhauled during phase II is currently 76% (278 out of 365). The situation is significantly worse when viewing the entire fleet of freight wagons. At the time of the PA, the availability of the entire fleet was 80%. In the early years of the operating and maintenance concession (2007–2010), it was 67% on average. In the final years of the concession before it ended in 2017 it was just above 50%, and it is currently 51%. Despite the project measures and the high proportion of overhauled freight wagons in the entire active fleet (45% at the end of phase II and currently 35%), there are significant problems with the freight wagon fleet and the availability rate would be even lower without the programme. At the end of 2020, all of the freight wagons overhauled during the programme will be due for another general overhaul.

The freight transport performance target of 200 million ntkm was also not achieved. At the time of the PA (1998), the freight transport performance was 147 million ntkm.¹ During phase I (2003), the rail-based freight transport performance was 105 million ntkm; during the eleven-year concession it was

¹ Between the time of the PA and 2008, freight was also transported on ferries across Lake Victoria. There was no information available at the time of the PA regarding what proportion of the total freight transport performance related to ferry-based transport.

140 million ntkm on average; and during the final year of the concession (2016/2017) it fell to 118 million ntkm. Last year, the freight transport performance was just 40 million ntkm.

The target values set for the availability rate and freight transport performance were appropriate. Failure to achieve the indicator targets can be traced back primarily to the immense backlog in investment, which has now prevailed for several decades. The conditions for the concession and the concessionaire's weaknesses also played a major role here. As described under Relevance, the Ugandan railway sector was highly deficient at the time of the project appraisal (1998). Granting a concession for operation and maintenance and generating (re)investments as a result were to help improve this situation. Originally planned to take place in the early 2000s, the concession was not awarded until 2006 and even the most urgent (re)investments were delayed until that point. The only work completed was the emergency repairs on 30 km of the main track financed using EUR 10 million from the EU. In light of the disastrous conditions alone, extensive and cost-intensive (re)investments were needed, particularly in the railway network. From 2007, the concessionaire managed to generate income from freight transport – which increased at first but later stagnated – though this income was not high enough to even cover the running costs. Barely any funds from the operations side were available for maintenance and the urgently needed (re)investments. The equity capital provided by the concessionaire could be used to invest in the track and rolling stock, though these investments were significantly delayed and did not reach the planned scope. Even the subsequent restructuring of the concession and complementary loans to the concessionaire from various donors were unable to turn the tide. All of this combined meant that the railway continued to be used during the eleven years of the concession until it was “worn out”.

The inadequate maintenance of the equipment and vehicles, and the more or less complete neglect of infrastructure improvements ultimately caused the condition of the railway infrastructure and rolling stock to deteriorate further, resulting in a downturn in freight transport performance and freight wagon availability. The inadequate maintenance of the rolling stock and the resulting decrease in the freight wagon availability rate (see above) is demonstrated by various factors, including the fact that no general freight wagon overhauls have been performed at the Nalukolongo railway workshop – which was part-owned by the concessionaire – since the programme ended (at the end of 2014).

Since the concessionaire failed to meet major targets and agreements set out in the concession contract, the Ugandan government ended the concession at the end of 2017. URC reassumed responsibility for operations and maintenance in January 2018. As URC took over the operations and maintenance again, freight transport performance slumped once more (see above) – as it is not unusual in such transitional phases. The uncertainty regarding the reliability and performance capacity of the railway and the lack of security surrounding the Ugandan government's stance on future railway infrastructure development have a long-term adverse effect on customer confidence. Since it reassumed responsibility for operations and maintenance, URC is now facing a huge backlog of maintenance work and investments with wholly inadequate sector financing. Beyond small-scale repairs it is not financially able to perform any regular, more extensive maintenance work, let alone any (re)investments that would affect freight wagon availability and freight transport performance. Almost 50% of the entire freight wagon fleet is currently unsuitable for transport and would have to be refurbished. URC has estimated that the maintenance backlog and refurbishment costs for the freight wagons alone would cost USD 12.4 million, though this could be even higher. The cost for updating the main line between Kampala and Malaba has been estimated at around EUR 140 million.

The programme's effectiveness is rated as insufficient.

Effectiveness rating: 5

Efficiency

The costs for the general overhaul were approximately EUR 10,000 per freight wagon in phase I (2002/2003) and approximately EUR 13,000 per freight wagon in phase II (2012/2014). These unit costs are common for the industry. In a similar programme in Egypt (similar time-frame to phase I), the unit costs were almost EUR 11,000 per freight wagon. The higher unit costs in phase II when compared to phase I are mainly the result of an increase in costs over time. Since the concessionaire injected a much larger share of capital, a total of 563 freight wagons were overhauled instead of 462. The freight wagon

output of both phases is regarded as adequate in terms of both quality and quantity. The freight wagons inspected locally were in a condition suitable for their age.

Instead of a general overhaul, the alternative would have been to procure new freight wagons. In microeconomic terms, the general overhaul of the existing freight wagons is regarded as efficient. The costs for the general overhaul were just 22-26% of the estimated costs for procuring new freight wagons. A rough calculation – assuming the 15-year residual service life assumed during the PA, straight-line depreciation and ongoing maintenance – indicates the microeconomic benefits of this approach.

In view of the programme's bridging role – within the availability of the rolling stock was intended to contribute to the safeguarding of transport services until privatisation and the (re)investments anticipated as a result – the use of funds is also regarded as appropriate from a macroeconomic perspective. It is plausible that, if the availability rate and freight transport performance were even lower, the resulting loss in income and negative macroeconomic effects would have been higher than the costs for the general overhaul of the freight wagons.

The implementation of the programme took 14 months in total instead of the four years proposed during the PA. The completion of the programme was ultimately delayed by ten years compared to the plans. The general overhaul work for phase I was completed between May 2002 and June 2003, while the work in phase II was carried out between March 2012 and October 2014. Effectively, the general overhaul work was therefore completed in just under 4 years as per the original plans. The delay prior to phase I was caused by a change to the scope of the wagons to be overhauled; the delay between phases I and II was a result of the link-up between phase II and the privatisation of operations. On the one hand, the awarding of the concession was delayed; on the other hand, there were further delays during the cooperation with the concessionaire concerning the definition of the work to be financed during phase II and the tendering of the supply contracts. With regard to the delays, it must be noted that – in light of the difficult starting conditions and expected delays to the structural reforms (privatisation of operations in the form of a concession) – the time-based assumptions made during the PA relating to privatisation and the resulting improvement to operations were far too optimistic and are outside of the programme's sphere of influence.

Despite the delays, the efficiency is rated as satisfactory overall.

Efficiency rating: 3

Impact

The impact-level goal was to contribute to safeguarding rail-based freight transportation services by creating a stop-gap in problems with the rolling stock.

By overhauling the freight wagons, the programme made a substantial contribution to the availability of the wagon capacities required to safeguard rail-based freight transport services. The percentage of wagons overhauled from the entire fleet was 20% during the first phase and 45% during the second phase. At present, the percentage of freight wagons overhauled during the programme is 35%. Furthermore, having the general overhauls performed at Nalukolongo railway workshop helped to retain local workshop capacities, which are essential for safeguarding and protecting transport services.

However, these positive contributions did not generate any developmental impact beyond the project term because, on the one hand, a lack of simultaneous investment in improving the dire condition of the fixed infrastructure caused a major bottleneck, and on the other hand, the concessionaire's weaknesses and the decision to end the concession caused the performance capacity to fall over time. Currently, it is at an all-time low following the termination of the concession (see Effectiveness).

After decades of ongoing and acute under-financing of the Ugandan railway sector (see Effectiveness) and a lack of improvement, its condition has remained unchanged since the PA (see Relevance): the rolling stock and tracks are in a very poor condition, the maximum speed under the current "Works and Transport Development Plan" is 35 km/h and is below 30 km/h on average according to URC. Speed restrictions are currently in place on 30% of the track. The freight wagons' round-trip times remain excessively long at 30 days on average. According to URC, the transport tariffs per metric tonne are currently not much lower than those for roads. The Ministry of Works and Transport estimates that the proportion of transport that takes place on the railways is currently well below 5%. In view of this situation, any other

positive effects attributed to the rail-based transport sector are barely taking effect, such as cheaper handling of export goods, the socio-economic development induced as a result of this, and less strain on the environment compared to road-based transportation.

In summary, the programme may have contributed to safeguarding transport services by ensuring freight wagon availability in its bridging role and the performance capacity may have been adversely affected without the programme due to poor wagon availability. However, in light of the poor condition of the fixed infrastructure (which is a major obstacle to performance capacity), the programme's contribution to safeguarding transport services is rated as low – despite the high percentage of overhauled freight wagons in the entire fleet.

Impact rating: 4

Sustainability

Sustainability is hugely impaired by the uncertainty in the rail-based transport sector after the end of the concession, the plans to build standard gauge tracks across the country, and the huge ongoing lack of funding for the sector.

As part of the “New Silk Road” concept, the East African Community has agreed to develop a regional rail-based transport system in the form of an electric standard gauge railway, wherefore the development has advanced in the recent years. However, it was intended to replace the existing meter gauge railway. It is assumed that, once the standard gauge system is completed, goods will be able to be transported more quickly, more reliably and in larger quantities. According to the Kenya National Bureau of Statistics, the standard gauge railway in Kenya has now gone into operation in the form of a single-track, non-electrified route between Mombasa and Nairobi, running around 50 trains a day. The Bureau has also reported that construction on another section of track is due to be completed in the near future. Funding is likely to be granted for the next section, which will run to the Kenyan port of Kisumu on Lake Victoria. It is currently unclear whether the standard gauge track will be continued to Malaba on the Kenyan-Ugandan border as originally planned or whether the track will end in Kisumu due to the immense costs. If this is the case, goods will then be transported on railway ferries across Lake Victoria to the neighbouring countries. The Ugandan railway sector therefore depends heavily on the developments in the Kenyan railway sector. However, there is no doubt that building a standard gauge track in Uganda would only make sense if the rail connection were to run from Kenya via Malaba and on to Kampala (and potentially to the north).

Uganda also depends on Kenya when it comes to the meter gauge track. At present, it is not questioned from either Uganda or Kenya regarding the maintenance of the meter gauge track between Mombasa and Kampala, which is important for URC to ensure consistent operation. However, Kenya has yet to provide any guarantees that it will maintain the existing infrastructure in a usable condition (the condition of the infrastructure and the investment backlog in Kenya is similar to the situation in Uganda).

In principle, the overhauled freight wagons will be able to be used for the rest of their service life if the meter gauge track remains in use and suitable maintenance is performed. The tracks, rolling stock and existing railway workshops for the meter gauge track would not become unusable until the standard gauge track completely replaces the meter gauge track in Uganda. Taking the described scenario into account, this is rather unlikely over the next ten years. Instead, it can be assumed that the meter gauge track will remain in use in Uganda over the medium term and will be the only form of railway. In view of the freight wagons' limited residual service lives, they may not be affected by early decommissioning, even if the meter gauge track were to be completely replaced by the standard gauge.

However, going beyond the uncertainty regarding the development of the railway sector, there is still a huge lack of funding for operation and maintenance by URC, even after the end of the concession (see Effectiveness). For the budget year 2017/2018, URC requested UGX 40 billion (~ EUR 9.3 million) to resume maintenance and operations, whereby it received just UGX 21 billion (~ EUR 4.9 million). In the current budget year 2018/2019, it received just UGX 10.5 billion (~EUR 2.5 million) instead of the UGX 38.9 billion (~EUR 8.4 million) requested. The budget allocation for the year 2019/2020 does not show much reason for hope that anything will change in the near future. Instead of the UGX 29.8 billion (~EUR 7.0 million) requested, just UGX 8.5 billion (~EUR 2.0 million) was made available. In view of the most recent budgets, the huge backlog in investments and maintenance will not shrink but instead will continue to

grow. Since no further general overhauls have been completed at the railway workshops since the end of 2014, it is likely that not enough funding will be available for planned maintenance and repairs going forward. Even though the railway workshops have the organisational structure and capacities required for maintenance, they are still confronted with huge staff problems and a lack of required spare parts due to an insufficient budget.

Uganda has since announced that its policy will be to maintain the meter gauge track for the medium term at least because the investments in the development of the standard gauge track have been delayed, and development will apparently only be able to advance gradually (if at all) in view of the huge amount of investment required. However, this political commitment to maintaining the meter gauge track is not supported by the recent budget allocations. According to the Ministry of Works and Transport, 17% of the national budget is allocated to the transport sector. That said, 88% of this amount is attributed to the sub-sector of roads, and just 0.2% is allotted to the railway sub-sector.

The EU recently cooperated with the Ugandan government to commit a total of EUR 35 million for (urgently required) repair work on the northern route from Tororo to Gulu. These funds are linked to the development of the northern corridor and the planned northern transport hub in Gulu, north Uganda. It is currently unclear how much more funding can be acquired for more extensive refurbishments to the route. In the event that the standard gauge is implemented faster than anticipated, the freight wagons could still be used on the northern route at the very least.

Due to the under-financing and the resulting failure to perform the planned maintenance work, and taking into account that all of the overhauled wagons from phase II will be due for the next general overhaul at the end of 2020, sustainability has been rated as unsatisfactory.

Sustainability rating: 4

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).