# Selected scenarios

## CResults of the analysis of the implementation of the different gardens without offices and boundary fences - without public subsidy

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Active Scenario | Zomba Botanic Garden | Lilongwe Botanic Garden | Mzuzu Botanic Garden | Whole project |
| Private partner |  |  |  |  |
| Uses of funds (000'MK) | 3 947 072 | 4 664 241 | 3 627 532 | 12 238 845 |
| Construction cost | 3 333 988 | 3 939 762 | 3 064 081 | 10 337 831 |
| % | 84.5% | 84.5% | 84.5% | 84.5% |
| Capitalised interests | 613 084 | 724 479 | 563 451 | 1 901 014 |
| % | 15.5% | 15.5% | 15.5% | 15.5% |
| Sources of funds (000'MK) | 3 947 072 | 4 664 241 | 3 627 532 | 12 238 845 |
| Equity | 1 000 196 | 1 181 928 | 919 224 | 3 101 349 |
| % | 25.3% | 25.3% | 25.3% | 25.3% |
| Debt | 2 946 875 | 3 482 312 | 2 708 308 | 9 137 496 |
| % | 74.7% | 74.7% | 74.7% | 74.7% |
| Investment subsidy | 0 | 0 | 0 | 0 |
| % | 0.0% | 0.0% | 0.0% | 0.0% |
| Target equity IRR | 30.7% | 30.7% | 30.7% | 30.7% |
| Equity IRR | 11.32% | 21.99% | 1.05% | 12.68% |
| Project IRR | 8.95% | 16.47% | -1.09% | 9.81% |
| Minimum ADSCR | 0.58 | 0.95 | 0.08 | 0.53 |
| Public sector |  |  |  |  |
| Uses of funds (000'MK) | 0 | 0 | 0 | 0 |
| Sources of funds (000'MK) | 0 | 0 | 0 | 0 |
| Public debt | 0 | 0 | 0 | 0 |
| Annual operating revenue to public | 0 | 0 | 0 | 0 |

The table presents a financial analysis of three botanic gardens in Malawi without offices or boundary fences, implemented without public subsidy. The private partner contributed 12.2 billion MK, covering 84.5% of the total project cost. The remaining 15.5% was financed through capitalized interests. The project was funded entirely through private equity and debt, with no public sector involvement. The equity IRR ranged from 1.05% to 21.99%, while the project IRR ranged from -1.09% to 16.47%.

## AResults of the analysis of the implementation of the different gardens (separately/ whole project) - without public subsidy

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Zomba Botanic Garden | Lilongwe Botanic Garden | Mzuzu Botanic Garden | Whole project |
| Private partner |  |  |  |  |
| Uses of funds (000'MK) | 9 243 272 | 10 002 921 | 14 997 101 | 34 243 293 |
| Construction cost | 7 807 549 | 8 449 204 | 12 667 657 | 28 924 410 |
| % | 84.5% | 84.5% | 84.5% | 84.5% |
| Capitalised interests | 1 435 723 | 1 553 716 | 2 329 444 | 5 318 883 |
| % | 15.5% | 15.5% | 15.5% | 15.5% |
| Sources of funds (000'MK) | 9 243 272 | 10 002 921 | 14 997 101 | 34 243 293 |
| Equity | 2 342 265 | 2 534 761 | 3 800 297 | 8 677 323 |
| % | 25.3% | 25.3% | 25.3% | 25.3% |
| Debt | 6 901 007 | 7 468 159 | 11 196 804 | 25 565 970 |
| % | 74.7% | 74.7% | 74.7% | 74.7% |
| Investment subsidy | 0 | 0 | 0 | 0 |
| % | 0.0% | 0.0% | 0.0% | 0.0% |
| Target equity IRR | 30.7% | 30.7% | 30.7% | 30.7% |
| Equity IRR | 5.17% | 11.18% | -5.37% | 4.25% |
| Project IRR | 3.68% | 8.68% | -5.86% | 2.60% |
| Minimum ADSCR | 0.35 | 0.53 | 0.02 | 0.26 |
| Public sector |  |  |  |  |
| Uses of funds (000'MK) | 0 | 0 | 0 | 0 |
| Sources of funds (000'MK) | 0 | 0 | 0 | 0 |
| Public debt | 0 | 0 | 0 | 0 |
| Annual operating revenue to public | 0 | 0 | 0 | 0 |

The table presents a detailed analysis of the implementation of three botanic gardens in Malawi without public subsidy. The private sector accounted for all funding, with the majority (84.5%) allocated to construction costs. The equity IRR varied significantly across the gardens, ranging from -5.37% to 11.18%, while the project IRR ranged from -5.86% to 8.68%. The minimum ADSCR (Annual Debt Service Coverage Ratio) also varied widely, indicating differences in the ability of the gardens to meet their debt obligations.

## BResults of the analysis of the implementation of the different gardens without boundary fences - without public subsidy

|  |  |  |  |
| --- | --- | --- | --- |
| Active Scenario | Zomba Botanic Garden | Lilongwe Botanic Garden | Mzuzu Botanic Garden |
| Private partner |  |  |  |
| Uses of funds (000'MK) | 7 372 386 | 6 014 716 | 5 026 330 |
| Construction cost | 6 227 260 | 5 080 473 | 4 245 609 |
| % | 84.5% | 84.5% | 84.5% |
| Capitalised interests | 1 145 125 | 934 243 | 780 721 |
| % | 15.5% | 15.5% | 15.5% |
| Sources of funds (000'MK) | 7 372 386 | 6 014 716 | 5 026 330 |
| Equity | 1 868 178 | 1 524 142 | 1 273 683 |
| % | 25.3% | 25.3% | 25.3% |
| Debt | 5 504 207 | 4 490 574 | 3 752 647 |
| % | 74.7% | 74.7% | 74.7% |
| Investment subsidy | 0 | 0 | 0 |
| % | 0.0% | 0.0% | 0.0% |
| Target equity IRR | 30.7% | 30.7% | 30.7% |
| Equity IRR | 7.29% | 19.28% | 1.75% |
| Project IRR | 5.59% | 14.73% | -0.13% |
| Minimum ADSCR | 0.44 | 0.88 | 0.05 |
| Public sector |  |  |  |
| Uses of funds (000'MK) | 0 | 0 | 0 |
| Sources of funds (000'MK) | 0 | 0 | 0 |
| Public debt | 0 | 0 | 0 |
| Annual operating revenue to public | 0 | 0 | 0 |

This table presents the financial analysis of implementing three botanic gardens without boundary fences and without public subsidy. The private sector is solely responsible for funding and operating the gardens, with construction costs accounting for approximately 84.5% of the total funds used. Equity and debt financing are utilized, with a target equity IRR of 30.7%. The Equity IRR and Project IRR vary across the gardens, with Lilongwe Botanic Garden showing the highest returns.

## DResults of the analysis of the implementation of the whole project (all facilities/ tourist facilities only) - with public subsidy (40%)

|  |  |  |
| --- | --- | --- |
| Active Scenario | Whole Project – All project facilities | Whole Project – Tourist components only |
| Private partner |  |  |
| Uses of funds (000'MK) | 32 115 740 | 11 478 439 |
| Construction cost | 28 924 410 | 10 337 831 |
| % | 90.1% | 90.1% |
| Capitalised interests | 3 191 330 | 1 140 608 |
| % | 9.9% | 9.9% |
| Sources of funds (000'MK) | 32 115 740 | 11 478 439 |
| Equity | 5 206 394 | 1 860 810 |
| % | 16.2% | 16.2% |
| Debt | 15 339 582 | 5 482 497 |
| % | 47.8% | 47.8% |
| Investment subsidy | 11 569 764 | 4 135 132 |
| % | 36.0% | 36.0% |
| Target equity IRR | 30.7% | 30.7% |
| Equity IRR | 8.91% | 21.57% |
| Project IRR | 2.60% | 9.81% |
| Minimum ADSCR | 0.43 | 0.88 |
| Public sector |  |  |
| Uses of funds (000'MK) | 14 565 517 | 5 205 840 |
| Construction cost | 0 | 0 |
| % | 0.0% | 0.0% |
| Investment subsidy to private | 11 569 764 | 4 135 132 |
| % | 79.4% | 79.4% |
| Capitalised interests | 2 995 753 | 1 070 708 |
| % | 20.6% | 20.6% |
| Sources of funds (000'MK) | 14 565 517 | 5 205 840 |
| Public debt | 14 565 517 | 5 205 840 |
| % | 100.0% | 100.0% |
| Public debt annuity (first year of operation) | -3 631 715 | -1 298 006 |
| NPV of public debt service | -8 236 334 | -2 943 736 |
| Annual operating revenue to public | 0 | 0 |
| NPV of operating revenue to NHBG | 0 | 0 |

The table presents a financial analysis of a project with public subsidy, comparing the entire project with only the tourist components. The results show that the entire project has a lower equity IRR (8.91%) compared to the tourist components (21.57%). However, the project IRR is higher for the entire project (2.60%) compared to the tourist components (9.81%). The public sector's NPV of public debt service is negative for both the entire project (-8,236,334,000 MK) and the tourist components (-2,943,736,000 MK).

## EResults of the analysis of the implementation of the whole project with tourist facilities only - without public subsidy – Duty-free CAPEX

|  |  |
| --- | --- |
| Active Scenario | Whole Project – Tourist components only - Duty-free CAPEX |
| Private partner |  |
| Uses of funds (000'MK) | 10 412 370 |
| Construction cost | 8 795 055 |
| % | 84.5% |
| Capitalised interests | 1 617 315 |
| % | 15.5% |
| Sources of funds (000'MK) | 10 412 370 |
| Equity | 2 638 517 |
| % | 25.3% |
| Debt | 7 773 853 |
| % | 74.7% |
| Investment subsidy | 0 |
| % | 0.0% |
| Target equity IRR | 30.7% |
| Equity IRR | 15.00% |
| Project IRR | 11.61% |
| Minimum ADSCR | 0.62 |
| Public sector |  |
| Uses of funds (000'MK) | 0 |
| Sources of funds (000'MK) | 0 |
| Public debt | 0 |
| Annual operating revenue to public | 0 |
| NPV of operating revenue to NHBG | 0 |

This table presents the financial analysis of a project involving the implementation of tourist facilities without public subsidy. The private partner's investment of 10,412,370,000 MK is primarily used for construction costs (84.5%) and capitalized interests (15.5%). Funding sources include equity (25.3%) and debt (74.7%). Despite a target equity IRR of 30.7%, the project's actual equity IRR is only 15.00%, resulting in a project IRR of 11.61%. The public sector has no financial involvement in this scenario.

## F6.3.2.6 Scenario 6 – Whole Project with tourist facilities only, with public subsidy not exceeding 40% and with optimistic occupancy rates for hospitality services

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Colonne1 | Occupancy rates - Accommodation | Colonne2 | Colonne3 | Colonne4 | Occupancy rates - Conferences | Colonne5 | Colonne6 | Colonne7 |
| Years | Year 1 | Year 2 | Year 3 | Year 4 onwards | Year 1 | Year 2 | Year 3 | Year 4 onwards |
| Optimistic scenario: |  |  |  |  |  |  |  |  |
| Zomba Botanic Garden | 0.75 | 0.83 | 0.9 | 0.9 | 0.58 | 0.65 | 0.73 | 0.8 |
| Lilongwe Botanic Garden | 0.55 | 0.6 | 0.65 | 0.65 | 0.72 | 0.78 | 0.9 | 0.9 |
| Mzuzu Botanic Garden | 0.67 | 0.76 | 0.84 | 0.92 | 0.64 | 0.72 | 0.8 | 0.8 |
| Whole project average | 0.66 | 0.73 | 0.8 | 0.82 | 0.65 | 0.72 | 0.81 | 0.83 |
| Current reserved scenario: |  |  |  |  |  |  |  |  |
| Zomba Botanic Garden | 0.5 | 0.55 | 0.6 | 0.6 | 0.4 | 0.45 | 0.5 | 0.55 |
| Lilongwe Botanic Garden | 0.55 | 0.6 | 0.65 | 0.65 | 0.6 | 0.65 | 0.75 | 0.85 |
| Mzuzu Botanic Garden | 0.4 | 0.45 | 0.5 | 0.55 | 0.4 | 0.45 | 0.5 | 0.5 |
| Whole project average | 0.48 | 0.53 | 0.58 | 0.6 | 0.47 | 0.52 | 0.58 | 0.63 |

This table compares the occupancy rates for accommodation and conferences under two scenarios: an optimistic scenario with tourist facilities and public subsidy, and a current reserved scenario without these factors. The optimistic scenario shows higher occupancy rates for both accommodation and conferences across all three botanic gardens and over the entire projection period, with an average occupancy rate of 83% for accommodation and 81% for conferences. In contrast, the current reserved scenario has lower occupancy rates, averaging 60% for accommodation and 58% for conferences.

## HResults of the analysis of the implementation of the whole project (tourist facilities only) - with public subsidy at 42%

|  |  |
| --- | --- |
| Active Scenario | Whole Project – Tourist components only - with public subsidy (42%) - Optimistic occupancy rates |
| Private partner |  |
| Uses of funds (000'MK) | 11 440 419 |
| Construction cost | 10 337 831 |
| % | 90.4% |
| Capitalised interests | 1 102 588 |
| % | 9.6% |
| Sources of funds (000'MK) | 11 440 419 |
| Equity | 1 798 783 |
| % | 15.7% |
| Debt | 5 299 747 |
| % | 46.3% |
| Investment subsidy | 4 341 889 |
| % | 38.0% |
| Target equity IRR | 30.7% |
| Equity IRR | 30.87% |
| Project IRR | 13.07% |
| Minimum ADSCR | 1.29 |
| Public sector |  |
| Uses of funds (000'MK) | 5 466 132 |
| Construction cost | 0 |
| % | 0.0% |
| Investment subsidy to private | 4 341 889 |
| % | 79.4% |
| Capitalised interests | 1 124 243 |
| % | 20.6% |
| Sources of funds (000'MK) | 5 466 132 |
| Public debt | 5 466 132 |
| % | 100.0% |
| Public debt annuity (first year of operation) | -1 362 906 |
| NPV of public debt service | -3 090 923 |
| Annual operating revenue to public | 0 |
| NPV of operating revenue to NHBG | 0 |

The table presents a financial analysis of a tourism project with public subsidy at 42%. The project is funded by a combination of private equity (15.7%), debt (46.3%), and investment subsidy (38.0%). The private partner is responsible for 90.4% of the construction costs, while the public sector provides 79.4% of the investment subsidy. The project has a target equity IRR of 30.7%, an equity IRR of 30.87%, and a project IRR of 13.07%. The minimum ADSCR is 1.29.

## GResults of the analysis of the implementation of the whole project (tourist facilities only) – with 40% public subsidy

|  |  |
| --- | --- |
| Active Scenario | Whole Project – Tourist components only - with public subsidy (40%) - Optimistic occupancy rates |
| Private partner |  |
| Uses of funds (000'MK) | 11 478 439 |
| Construction cost | 10 337 831 |
| % | 90.1% |
| Capitalised interests | 1 140 608 |
| % | 9.9% |
| Sources of funds (000'MK) | 11 478 439 |
| Equity | 1 860 810 |
| % | 16.2% |
| Debt | 5 482 497 |
| % | 47.8% |
| Investment subsidy | 4 135 132 |
| % | 36.0% |
| Target equity IRR | 30.7% |
| Equity IRR | 29.70% |
| Project IRR | 13.07% |
| Minimum ADSCR | 1.24 |
| Public sector |  |
| Uses of funds (000'MK) | 5 205 840 |
| Construction cost | 0 |
| % | 0.0% |
| Investment subsidy to private | 4 135 132 |
| % | 79.4% |
| Capitalised interests | 1 070 708 |
| % | 20.6% |
| Sources of funds (000'MK) | 5 205 840 |
| Public debt | 5 205 840 |
| % | 100.0% |
| Public debt annuity (first year of operation) | -1 298 006 |
| NPV of public debt service | -2 943 736 |
| Annual operating revenue to public | 0 |
| NPV of operating revenue to NHBG | 0 |

The table presents the financial analysis of a project involving tourist facilities, with 40% public subsidy. The project is funded through a combination of equity, debt, and investment subsidy, with the private partner contributing 16.2% of the total funds. The project is expected to generate a target equity IRR of 30.7% and a project IRR of 13.07%. The public sector's contribution is primarily in the form of investment subsidy and capitalized interests, with no direct construction costs. The project is expected to have a negative NPV for the public sector due to the high cost of debt service.

# Value for Money Assessment

## Cost of the project for the Public Sector in the PSC (public procurement) model – Scenario 6: Whole project (tourist facilities only)/ optimistic occupancy rates

|  |  |
| --- | --- |
| NPV and VfM | Amount (‘000 MK) |
| NPV of public sector debt service | -6 261 062 |
| NPV of Taxes | 0 |
| NPV of O&M Costs | -81 537 792 |
| NPV of Operation revenues | 95 715 867 |
| Public Sector NPV - Risk Free | 7 917 013 |
| NPV of risks | -12 733 401 |
| NPV for the public sector - With risks | -4 816 388 |

The table presents the cost of the project for the Public Sector in the PSC (public procurement) model under Scenario 6, considering only tourist facilities and optimistic occupancy rates. The Public Sector NPV - Risk Free is 7,917,013,000 MK, while the NPV for the public sector - With risks is -4,816,388,000 MK, indicating that the project is not financially viable with the inclusion of risks.

## Value for Money of the PPP model – Scenario 6: Whole project (tourist facilities only) with a 42% public subsidy/ optimistic occupancy rates

|  |  |
| --- | --- |
| NPV and VfM | Amount (‘000 MK) |
| NPV of public sector debt service | -3 090 923 |
| NPV of Taxes | 3 320 291 |
| NPV of O&M Costs | 0 |
| NPV of Operation revenues | 0 |
| Public Sector NPV - Risk Free | 229 368 |
| NPV of risks | -2 388 331 |
| NPV for the public sector - With risks | -2 158 963 |
| Value for Money | 2 657 425 |
| Value for Money (%) | 55.2% |

Scenario 6 exhibits a positive Value for Money (VfM) of 2,657,425,000 MK (55.2%) for the public sector, despite a negative NPV of -2,158,963,000 MK with risks. This is primarily driven by the NPV of taxes (3,320,291,000 MK), which significantly offsets the negative NPV of public sector debt service (-3,090,923,000 MK).