# 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 |

This table presents the financial analysis of three botanic gardens (Zomba, Lilongwe, and Mzuzu) in Malawi, implemented without public subsidies. The private partner contributed 100% of the funding, with 25.3% equity and 74.7% debt. The construction cost accounted for 84.5% of the total funds, with the remaining 15.5% allocated to capitalized interests. The Equity IRR ranged from 1.05% to 21.99%, while the Project IRR ranged from -1.09% to 16.47%. The minimum Annual Debt Service Coverage Ratio (ADSCR) varied from 0.08 to 0.95.

## 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 |

This table presents the results of implementing various botanic gardens without public subsidies. The private sector primarily funded the projects, with construction costs accounting for 84.5% of total funds. Equity accounted for 25.3% of funding sources, while debt accounted for 74.7%. The project IRRs ranged from -5.86% to 8.68%, with the whole project having an IRR of 2.60%. The minimum ADSCR varied significantly, from 0.02 to 0.53, indicating different levels of financial viability among the gardens.

## 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 |

The table presents a financial analysis of three botanic gardens implemented without boundary fences and public subsidies. Private partners funded the gardens, with debt accounting for 74.7% of the funding sources and equity for 25.3%. The Zomba Botanic Garden had the highest project IRR (5.59%), followed by Lilongwe Botanic Garden (14.73%) and Mzuzu Botanic Garden (-0.13%). The equity IRR ranged from 1.75% to 19.28%, with the Zomba Botanic Garden having the lowest and the Lilongwe Botanic Garden having the highest.

## 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 implemented with public subsidy, comparing the whole project with only its tourist components. For the whole project, the private partner contributed 16.2% in equity and 47.8% in debt, while the public sector provided a 36.0% investment subsidy. The project IRR is 2.60%, while the equity IRR is 8.91%. In contrast, the tourist components show a higher equity IRR of 21.57% and a project IRR of 9.81%. The public debt for the tourist components is 100% of the funding sources, with an NPV of public debt service of -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 |

The table presents the financial analysis of a project involving the construction of tourist facilities without public subsidy. The project's total cost is 10,412,370,000 MK, with 84.5% allocated to construction and 15.5% to capitalized interests. Funding is primarily through debt (74.7%) and equity (25.3%), with no investment subsidy. The project's target equity IRR is 30.7%, while the actual equity IRR is 15.00% and the project IRR is 11.61%. The minimum ADSCR is 0.62.

## 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 |

Table F6.3.2.6 compares occupancy rates for accommodation and conferences under two scenarios: optimistic and current reserved. The optimistic scenario projects higher occupancy rates for both accommodation and conferences across all three botanic gardens, with an average occupancy rate of 82% for accommodation and 83% for conferences in year 4 and onwards. The current reserved scenario, on the other hand, shows lower occupancy rates, with an average of 60% for accommodation and 63% for conferences in year 4 and onwards.

## 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 the financial analysis of a project involving the construction of tourist facilities, with a 42% public subsidy. The private partner contributes 15.7% in equity, while the remaining 46.3% is financed through debt. The public sector provides a subsidy of 38.0% and incurs a debt of 100.0%. The project is expected to generate an equity IRR of 30.87% and a project IRR of 13.07%.

## 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 |

This table presents the financial analysis of a tourism project with 40% public subsidy, highlighting the uses and sources of funds for both the private partner and the public sector. The private partner's primary use of funds is construction costs (90.1%), while the public sector's main use is the investment subsidy to the private partner (79.4%). The project's target equity IRR is 30.7%, while the actual equity IRR is slightly lower at 29.70%. The public sector's NPV of public debt service is negative (-2,943,736), indicating a financial burden.

# 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 outlines the financial implications of a public sector project under the PSC model in Scenario 6, considering only tourist facilities and optimistic occupancy rates. The project is anticipated to generate a negative NPV of -4,816,388,000 MK, primarily driven by high O&M costs and debt service payments, despite positive operation revenues. The inclusion of risks further exacerbates the NPV, resulting in a more negative value.

## 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% |

This table presents the financial analysis of a PPP project scenario involving tourist facilities and a 42% public subsidy, assuming optimistic occupancy rates. The key finding is that the project has a positive Value for Money (VfM) of 2,657,425 MK, representing 55.2% of the total investment. This indicates that the project is financially viable and offers a favorable return on investment for the public sector.