

# POPULATION DATA DECISION GUIDE FOR MALAWI'S LOCAL GOVERNMENT SECTOR

Population and Development Unit (PDU) |  
 March 2026 | Audience: MoLGRD, EP&D, NPC,  
 District Planning Officers | Frameworks:  
 MW2063, MIP-1, Local Government Act, DDP,  
 NLGFC RAF, NPP 2023



## PURPOSE:

This guide helps national and district planners use demographic data to inform decisions about local government service delivery, infrastructure investment, workforce deployment, and budget allocation. Primary uses: District Development Plans (DDPs)

- PSIP capital investment submissions
- NLGFC grant negotiations
- DDP Socio-Economic Profiles (SEPs)
- MIP-1 district monitoring
- MW2063 Urbanisation Pillar planning
- DDP/PSIP population evidence base.

## HOW TO USE THIS GUIDE:

Navigate to the planning question most relevant to your current decision. Follow across the row to find: the indicator to measure, how to analyse it using district data, what it means in the Malawi local government context, where to source the data, and which tools support deeper analysis.

| PLANNING QUESTION  | DEMOGRAPHIC INDICATOR  | REQUIRED ANALYSIS   | INTERPRETATION   | DATA   | ANALYSIS TOOLS   |
|--|--|---|--|--|--|
| What do I need to know?  | What to measure?   | How to analyse it?  | What does it mean?   | Where to get data  | What to use  |
| What is the district's current population size, growth rate, and age structure?  | <ul style="list-style-type: none"> <li>• Total population by district</li> <li>• Annual population growth rate</li> <li>• Age-sex pyramid: % under 15, 15-64, 65+</li> <li>• Dependency ratio (youth + old-age)</li> </ul> | Pull district population from the 2018 Census and NSO projections. Calculate growth rate: $(P2 - P1) / P1 \times 100$ . Derive age structure from NSO district projections. | Growth rates above ~2.5-3%/year indicate rapidly rising demand for devolved services. Dependency ratios above ~80 signal constrained own-source revenue and higher per-capita service cost.  | <ul style="list-style-type: none"> <li>• NSO 2018 Census</li> <li>• NSO district projections</li> <li>• MIP-1 Indicator Handbook</li> </ul>  | <ul style="list-style-type: none"> <li>• DemProj (Spectrum)</li> <li>• NSO projection workbooks</li> </ul> |
| Is population growth in this district predominantly rural, urban, or peri-urban? | <ul style="list-style-type: none"> <li>• Urban population as % of district total</li> <li>• Urban vs. rural annual growth rate</li> <li>• Number and size of trading centres / boma</li> </ul>                             | Apply national urban/rural growth rates differentially: urban 4.2%/year vs. rural ~1.8%/year. Flag districts where urban growth rate exceeds national average.              | Urban growth rates above ~3-4%/year indicate rapid peri-urban expansion requiring accelerated infrastructure investment. Districts substantially above the national urban average of 4.2%/year are priority areas for spatial planning under the National Urban Policy (2018). | <ul style="list-style-type: none"> <li>• NSO Census</li> <li>• World Bank urbanisation data</li> <li>• National Urban Policy 2018</li> </ul> | <ul style="list-style-type: none"> <li>• DemProj (urban/rural split) GIS mapping</li> </ul>                |






| <b>PLANNING QUESTION</b><br>What do I need to know?   | <b>DEMOGRAPHIC INDICATOR</b><br>What to measure?   | <b>REQUIRED ANALYSIS</b><br>How to analyse it?  | <b>INTERPRETATION</b><br>What does it mean?  | <b>DATA</b><br>Where to get data  | <b>ANALYSIS TOOLS</b><br>What to use  |
|---|--|---|--|---|---|
| <b>Is the current primary school infrastructure sufficient for the school-age population?</b> | Number of primary school classrooms, Pupil-Classroom Ratio (PCR) Pupil-Teacher Ratio (PTR) Net Enrolment Rate (NER) primary  | PCR gap = actual PCR – national standard (60:1). PTR gap = actual PTR – national standard (60:1). Enrolment pressure = school-age population (6-13) × target NER.   | PTR above ~60:1 indicates overcrowded classrooms; above ~80:1 is very high. PCR above ~60:1 indicates an infrastructure deficit. MIP-1 target: PTR to 45:1 by 2030. Large positive gaps signal the need for classroom construction and teacher deployment in PSIP submissions.                         | <ul style="list-style-type: none"> <li>MoE EMIS NSO district projections</li> <li>National NESP DHIS2</li> </ul>  | <ul style="list-style-type: none"> <li>DemProj Rapid SDG Model</li> </ul>           |
| <b>Is the ratio of health facilities to population adequate at district level?</b>            | Number of health facilities by level (health post, health centre, district hospital) Population-per-facility ratio % population within 5km of a health facility                    | WHO guidance: 1 health centre per 10,000-20,000 population. 5km coverage gap = % of district population >5km from nearest facility. Map facilities against population distribution using GIS + census data. | Population-to-facility ratios above ~10,000-20,000 per health centre indicate inadequate geographic access. Coverage below ~80% within 5km signals major access gaps. HSSP-III 2030 target: 100% within 5km.   | <ul style="list-style-type: none"> <li>DHIS2 MoH facility register</li> <li>NSO district projections</li> <li>HSSP-III CIP</li> </ul>                           | <ul style="list-style-type: none"> <li>GIS (QGIS) DemProj HealthSites.io</li> </ul> |
| <b>Is safe water coverage within 500m reaching the growing population?</b>                    | Number of functional water points by sub-district Population per water point % households with safe water source within 500m Water point functionality rate (%)                    | National Water Policy (2021) standard: 1 borehole per 25 households, or safe water within 500m. Coverage gap = (population ÷ 25) – functional water points. Adjust for functionality rate (~65-70%).        | Water point functionality rates below ~65-70% or population per water point above ~500 indicate inadequate coverage. Gaps between required and functional water points above ~20% justify new construction and maintenance budget requests under the National Water Policy (2021) 500m standard.       | <ul style="list-style-type: none"> <li>DHIS2 WASH module</li> <li>National Water Policy 2021</li> <li>NSO district data</li> <li>MoLGRD water sector</li> </ul> | <ul style="list-style-type: none"> <li>DemProj GIS water point mapping</li> </ul>   |
| <b>Are agricultural extension services keeping pace with the farming population?</b>          | Number of AEDOs deployed Farmer-to-AEDO ratio by district % farming households reached by extension Arable land per capita   | MoAIWD standard: 1 AEDO per 800-1,000 farming households. Extension gap = farming households + standard – deployed AEDOs. Arable land per capita: total arable area ÷ agricultural population.              | Farmer-to-AEDO ratios above ~1,000 households per AEDO indicate extension service gaps; above ~2,000 indicates severe understaffing. Arable land per household below ~0.5 ha signals land stress. Only ~20-25% of farming households currently receive extension contacts nationally.                  | <ul style="list-style-type: none"> <li>MoAIWD district data IHS 4/5 (NSO)</li> <li>DADO records MIP-1</li> </ul>  | <ul style="list-style-type: none"> <li>DemProj Rapid SDG Model</li> </ul>           |
| <b>Is local road and infrastructure access keeping pace with population distribution?</b>     | km of district/community roads per 1,000 population % of communities accessible by all-weather road Road condition index by district, Population density vs. road network coverage | Benchmark: roads per 1,000 population vs. national average. Accessibility gap = % of communities without all-weather road access. Map road network against population distribution and growth hotspots.     | Communities without all-weather road access above ~30-40% of the district indicate significant infrastructure deficits limiting service delivery reach. Road density below the national average, combined with high population growth, signals priority areas for road investment in PSIP submissions. | <ul style="list-style-type: none"> <li>MoTPW road inventory</li> <li>DRC records</li> <li>NSO district projections</li> <li>MIP-1</li> </ul>                    | <ul style="list-style-type: none"> <li>GIS routing tools DemProj</li> </ul>         |

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| What do I need to know?  | What to measure?   | How to analyse it?   | What does it mean?   | Where to get data   | What to use        |
| <b>Is the district's own-source revenue keeping pace with population growth and service demand?</b>          | Own-source revenue (OSR) per capita OSR as % of total council budget OSR growth rate vs. population growth rate LAPAS score — revenue mobilisation component  | OSR gap = population growth rate – OSR growth rate. Compare OSR per capita across councils using NLGFC data. LAPAS revenue score: below threshold triggers reduced development grant allocation.                            | OSR growth rates below the district population growth rate indicate declining per-capita revenue capacity. OSR below ~5% of the total council budget signals high grant dependence. Low LAPAS scores gate access to NLGFC development grants.   | <ul style="list-style-type: none"> <li>NLGFC budget data</li> <li>LAPAS scores MoLGRD financial returns</li> <li>NSO</li> </ul>                                      | <ul style="list-style-type: none"> <li>Rapid SDG Model</li> <li>Demographic Dividend Model</li> </ul> |
| <b>Are population-driven service gaps falling disproportionately on women, girls, and vulnerable groups?</b> | % female-headed households by district Girls' primary school completion rate vs. boys Women citing distance/cost as healthcare barrier (%) Female labour force participation rate                       | Disaggregate all service coverage indicators by sex and wealth quintile. Calculate girls' education gap: PTR and NER by sex. Map the concentration of female-headed households against service coverage gaps.               | Girls' primary-to-secondary transition rates below ~40-50% indicate early school dropout. Adolescent birth rates (ASFR 15-19) above ~100 per 1,000 indicate high early childbearing with compounding effects on girls' education and household poverty.   | <ul style="list-style-type: none"> <li>MDHS 2024 IHS 4/5</li> <li>MoE EMIS gender data</li> <li>MoLGRD gender unit</li> </ul>  | <ul style="list-style-type: none"> <li>SDG-RAPID Model and Demographic Dividend Model</li> </ul>      |
| <b>Is land administration keeping pace with population growth and competing demands on land?</b>             | Number of land transactions / plot registrations per district % of land parcels with formal title or certificate Agricultural land lost to urban expansion (ha/year) Number of land dispute cases filed | Track formal land registration rate against population growth. Calculate agricultural land loss rate: (agricultural area year 1 – year 2) ÷ year 1. Compare land dispute caseload trend against population growth rate.     | Formal land title coverage below 20-30% of parcels indicates weak tenure security, increasing vulnerability to land conflicts as the population grows. Agricultural land loss exceeding ~1-2% per year in peri-urban districts signals unsustainable encroachment and requires zoning enforcement.                          | <ul style="list-style-type: none"> <li>National Land Policy</li> <li>MoLGRD land registry</li> <li>NSO district projections</li> <li>MoAIWD land use data</li> </ul> | <ul style="list-style-type: none"> <li>GIS land use mapping DemProj</li> </ul>                        |
| <b>Is housing supply keeping pace with household formation driven by population and urban growth?</b>        | Number of new households formed per year Housing stock by type (permanent, semi-permanent, temporary) % households in informal settlements Average household size trend                                 | Annual household formation = population growth ÷ average household size. Housing gap = projected new households – formal housing units added per year. Map informal settlement growth against urban population projections. | A share of informal settlements above ~25-30% of urban households indicates that housing supply is not keeping pace with urban growth. Declining average household size combined with population growth accelerates household formation, increasing demand for serviced plots faster than population growth alone suggests. | <ul style="list-style-type: none"> <li>NSO Census</li> <li>NSO district projections</li> <li>National Urban Policy 2018</li> <li>MoLGRD housing data</li> </ul>      | <ul style="list-style-type: none"> <li>DemProj GIS settlement mapping</li> </ul>                      |

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| <p><b>Is population growth increasing exposure to climate hazards and disaster risk at district level?</b></p> | <p>Population living in flood-prone zones by district % of district area classified as high climate hazard (flood, drought, cyclone) Number of people displaced by climate events per year Post-disaster reconstruction cost vs. proactive resilience investment.</p> | <p>Overlay NSO population projections with district-level climate hazard maps. Exposure rate = population in hazard zones ÷ total district population. Track displacement trend across seasons and years. Compare the reactive reconstruction cost vs. cost of pre-emptive infrastructure relocation.</p> | <p>Population exposure above ~20-30% in high climate-hazard zones indicates significant disaster risk and requires integration into DDP spatial planning. Districts where population growth is concentrated in flood-prone peri-urban areas face compounding exposure - infrastructure built in hazard zones today creates future liability. MW2063 Environmental Sustainability enabler requires DDPs to integrate climate risk.</p> | <ul style="list-style-type: none"> <li>• DODMA hazard maps</li> <li>• NSO district projections</li> <li>• DHIS2 disaster data</li> <li>• Climate risk atlases MW2063 / NAPCC</li> </ul> | <ul style="list-style-type: none"> <li>• GIS hazard overlay</li> <li>• DemProj Rapid SDG Model</li> </ul> |

**LOCAL GOVERNMENT — Future Population-Driven Demand (5-10 Year Planning Horizon)**

|  |   |   |  |   |   |
|--|---|---|--|---|---|
| <p><b>How many additional people will this district need to serve by 2030?</b></p>                                   | <p>Projected district population 2025, 2027, 2030<br/>Absolute population increment: (P2030 – P2024)<br/>Projected age structure 2030</p>                                   | <p>Apply district-specific growth rate using NSO projections. Produce high/medium/low scenarios. Calculate absolute increment: additional residents requiring services in each planning period.</p>                     | <p>Absolute population increments above ~50,000 additional residents by 2030 signal large-scale infrastructure and workforce investment needs. NSO district-level projections are the authoritative evidence base for all DDP and PSIP need justifications.</p>  | <ul style="list-style-type: none"> <li>• NSO district projections, MIP-1 Indicator Handbook EP&amp;D PSIP guidelines</li> </ul> | <ul style="list-style-type: none"> <li>• DemProj (Spectrum) NSO projection workbooks</li> </ul>           |
| <p><b>How many additional school-age children will require classrooms and teachers over the next 5-10 years?</b></p> | <p>Projected population aged 6-13 by district (2025, 2030). Projected enrolment: age cohort × target NER Classroom deficit at 2030 enrolment vs. current stock</p>          | <p>Apply the age-specific growth rate to the 6-13 cohort. Projected enrolment = projected 6-13 population × target NER (95% per MIP-1). Classroom need = projected enrolment ÷ 60 (PCR norm) – existing classrooms.</p> | <p>Projected enrolment growth above ~5-8%/year indicates rapidly rising classroom and teacher demand. Districts where the 6-13 cohort grows faster than classroom construction rates will see PTR deterioration. Cohort projections above current PCR/PTR norms require immediate PSIP pipeline action, given 12-18 month construction lead times.</p> | <ul style="list-style-type: none"> <li>• NSO district projections</li> <li>• MoE EMIS</li> <li>• National NESP MIP-1</li> </ul> | <ul style="list-style-type: none"> <li>• DemProj Rapid SDG Model</li> </ul>                               |
| <p><b>How will the youth labour force entering the local economy evolve over the next 5-10 years?</b></p>            | <p>Projected population aged 15-24 by district (2025, 2030), Youth labour force participation rate (LFPR), New labour market entrants per year, Youth unemployment rate</p> | <p>Project 15-24 cohort using NSO district projections. Annual new entrants = (15-24 population) × LFPR ÷ 10. Compare with projected formal job creation — gap = youth unemployment risk.</p>                           | <p>Youth (15-24) labour force growth above ~3-4%/year indicates rapidly expanding demand for employment and vocational training infrastructure. MW2063 dividend capture requires districts to plan markets, industrial zones, and vocational facilities ahead of cohort entry.</p>   | <ul style="list-style-type: none"> <li>• NSO district projections IHS 4/5 MoLGRD</li> <li>• Labour surveys MIP-1</li> </ul>     | <ul style="list-style-type: none"> <li>• Demographic Dividend Model</li> <li>• Rapid SDG Model</li> </ul> |

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| <b>How will the women of reproductive age (WRA) cohort change health facility demand within the district?</b>              | Projected women aged 15-49 by district (2025, 2030). Projected annual births (WRA × ASFR)<br>Projected ANC, delivery, and PNC contacts  | Project WRA cohort by district using NSO age-sex projections. Projected births = WRA × district TFR ÷ 35.<br>ANC demand = projected births × current ANC coverage rate.  | WRA cohort growth above ~2.5-3%/year indicates rising maternal and child health service demand even if TFR is declining, due to demographic momentum. At 97% institutional delivery nationally, every projected birth is a direct facility contact.  | <ul style="list-style-type: none"> <li>NSO district projections,</li> <li>MDHS 2024 DHIS2 HSSP-III</li> </ul>   | <ul style="list-style-type: none"> <li>DemProj FamPlan (Spectrum)</li> <li>Rapid SDG Model</li> </ul>    |
| <b>How will intra-district urbanisation shift where service demand is concentrated?</b>                                    | Population of main boma/trading centre (current and projected), Urban vs. rural sub-district growth differential, Number of informal settlements, and estimated population  | Disaggregate district population projection by urban and rural sub-district. Identify the 2-3 sub-districts with the highest growth rates for infrastructure prioritisation. Apply 4.2% urban and 1.8% rural growth rates differentially.  | Sub-districts with urban growth rates above ~4-5%/year will outpace existing infrastructure within one DDP cycle (5 years). Trading centres doubling in population over 10-14 years require facilities sized for projected, not current, populations. Districts without Urban Structure Plans are non-compliant with the National Urban Policy (2018). | <ul style="list-style-type: none"> <li>NSO sub-district projections,</li> <li>National Urban Policy 2018, MoLGRD spatial plans</li> </ul>               | <ul style="list-style-type: none"> <li>GIS tools (QGIS)</li> <li>DemProj (urban/rural split)</li> </ul>  |
| <b>How will land and arable area per household evolve with population growth?</b>  | Total arable land area by district (ha) Agricultural population projection 2025, 2030 Arable land per farming household (current and projected) % households below 0.5ha threshold  | Arable land per household = total arable area ÷ projected farming households. Project farming households using rural population projection and average household size. Flag districts where per-household arable land will fall below 0.5ha by 2030.   | Arable land per farming household below ~0.8 ha indicates land pressure; below ~0.5 ha signals high stress associated with food insecurity and land conflict, particularly in the Southern Region.   | <ul style="list-style-type: none"> <li>MoAIWD land use data IHS 4/5 NSO district projections,</li> <li>National Land Policy</li> </ul>                  | <ul style="list-style-type: none"> <li>DemProj Rapid SDG Model</li> </ul>                                |
| <b>How will an ageing population affect social protection demand and district service costs over the next 10-20 years?</b> | Projected population aged 60+ by district (2030, 2040). Old-age dependency ratio (65+ ÷ 15-64 population). Current coverage of social cash transfer programmes, District hospital inpatient case mix: % chronic/NCD vs. acute | Project 60+ cohort using NSO age-sex projections. Old-age dependency ratio = (population 65+) ÷ (population 15-64) × 100. Apply NCD prevalence rates to the projected older population to estimate chronic disease caseload growth.  | Old-age dependency ratios above ~10-15 per 100 working-age adults indicate rising social protection and chronic disease costs, even in predominantly young districts. Districts urbanising fastest will see accelerated NCD burden as lifestyle transitions accompany urbanisation — requiring early investment in NCD-capable facilities.             | <ul style="list-style-type: none"> <li>NSO district projections,</li> <li>IHS 4/5 National Social Protection Policy,</li> <li>DHIS2 NCD data</li> </ul> | <ul style="list-style-type: none"> <li>DemProj OneHealth Tool Rapid SDG Model</li> </ul>                 |
| <b>How will in-migration and out-migration reshape district population size and service demand?</b>                        | Net migration rate by district (in-migrants minus out-migrants) Working-age population (15-64) trend: growing or shrinking % population born outside the district Seasonal vs. permanent migration flows                      | Net migration = (in-migrants – out-migrants) ÷ mid-period population × 1,000. Compare actual population change to natural growth rates; the residual is net migration. Identify receiving vs. sending districts: receiving districts need accelerated infrastructure; sending districts face OSR decline and ageing. | Net in-migration above ~5 per 1,000 indicates population growth substantially exceeding natural increase, requiring infrastructure plans that exceed NSO natural-growth projections. Net out-migration of working-age adults above ~3-5 per 1,000 signals shrinking tax base and rising elder dependency — OSR forecasts must be adjusted downward.    | <ul style="list-style-type: none"> <li>NSO Census migration data IHS 4/5 NSO district projections</li> <li>DHIS2</li> </ul>                             | <ul style="list-style-type: none"> <li>DemProj (migration module) GIS population flow mapping</li> </ul> |

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|---|--|---|--|--|---|
| <b>LOCAL GOVERNMENT — Future Population-Driven Demand (5-10 Year Planning Horizon)</b>                      |  |   |  |  |   |
| <b>How many additional classrooms and teachers are needed to maintain national PTR/PCR standards?</b>       | Projected primary enrolment 2025-2030 Existing classroom stock Classroom gap = (projected enrolment ÷ 60) – existing classrooms Teacher gap = (projected enrolment ÷ 45) – deployed teachers | Project 6-13 cohort; apply NER target; divide by PCR norm (60) for classrooms and PTR norm (45) for teachers. Produce annual gap trajectory — how many classrooms per year to stay on track? Prioritise by sub-district using population density and growth rate. | Classroom gaps above ~50 per district indicate large backlogs requiring multi-year PSIP pipelines. Teacher gaps above ~200 per district signal the need for immediate TSC advocacy, given 3-4 year training lead times. Annual classroom need above 8-10/year requires sustained construction investment across every DDP cycle.   | <ul style="list-style-type: none"> <li>NSO district projections</li> <li>MoE EMIS</li> <li>NESP MIP-1</li> <li>Indicator Handbook</li> </ul> | <ul style="list-style-type: none"> <li>DemProj Rapid SDG Model</li> </ul>           |
| <b>How many additional health facilities are needed to maintain adequate population-to-facility ratios?</b> | Projected district population by sub-district 2025-2030 Existing health facility count and level Population-per-facility ratio (current and projected) % population within 5km of a facility | Facility need = projected population ÷ WHO standard (1 health centre per 10,000-20,000). 5km coverage projection: apply population growth to estimate new out-of-range residents. Prioritise sub-districts with fastest growth and lowest current coverage.       | Facility gaps above ~5 additional health centres per district indicate substantial unmet infrastructure need. Catchment populations above ~15,000-20,000 per facility signal overcrowding. Facilities sized for current rather than 2030 projected population will be undersized within one PSIP cycle.  | <ul style="list-style-type: none"> <li>DHIS2 HSSP-III</li> <li>CIP NSO projections</li> <li>MoH facility register EP&amp;D PSIP</li> </ul>   | <ul style="list-style-type: none"> <li>GIS (QGIS) DemProj HealthSites.io</li> </ul> |
| <b>How many additional water points are needed to maintain 500m safe water coverage?</b>                    | Functional water points by sub-district Population per water point Projected population growth per sub-district Water point functionality rate (%)   | Required water points = projected population ÷ 25 (households per borehole standard). Gap = required – functional water points. Adjust for functionality: divide gap by functionality rate (~65-70%) to get gross construction needed.                            | Water point gaps above ~50 functional points per district indicate large coverage deficits. At a functionality rate of ~65-70%, gross construction need is higher than the calculated gap — divide by functionality rate to estimate actual boreholes required. Districts growing at >2.5%/year must add water points at the same rate just to maintain current coverage ratios. | <ul style="list-style-type: none"> <li>National Water Policy 2021</li> <li>DHIS2 WASH</li> <li>NLGFCD LDF data NSO projections</li> </ul>    | <ul style="list-style-type: none"> <li>DemProj GIS water point mapping</li> </ul>   |
| <b>How many additional devolved workers (teachers, HSAs, AEDOs, water technicians) are needed?</b>          | Current deployed workforce by cadre per district Population-to-worker ratio by cadre (current) National staffing norm per cadre Gap: norm × projected population – deployed workers          | Workforce gap = (projected population ÷ national norm) – currently deployed workers. By sector: PTR 45:1; HSA 1 per 1,000; AEDO 1 per 800-1,000 farming households. Model recruitment lag: workers trained today will be deployed in 2-4 years.                   | Workforce gaps above ~20% below norm by cadre indicate understaffing requiring immediate recruitment advocacy, given 2-4 year training-to-deployment lag times. Gaps identified today must be in training pipelines now to close by 2030.  | <ul style="list-style-type: none"> <li>MoH HRH data TSC teacher records</li> <li>MoAIWD DADO data HSSP-III MIP-1</li> </ul>                  | <ul style="list-style-type: none"> <li>WISN DemProj Rapid SDG Model</li> </ul>      |

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| <p>What do I need to know?</p>  | <p>What to measure?</p>   | <p>How to analyse it?</p>   | <p>What does it mean?</p>   | <p>Where to get data</p>  | <p>What to use</p>  |
| <p><b>How much additional infrastructure is needed to accommodate intra-district urban growth?</b></p>            | <p>Urban population projection by boma/trading centre 2025-2030. Existing urban infrastructure stock (roads, markets, drains, waste) Urban growth increment requiring new infrastructure Urban Structure Plan coverage (% of councils with approved plan)</p> | <p>Urban infrastructure gap = projected urban population increment × per-capita infrastructure standard. Prioritise urban sub-districts by growth rate and current infrastructure deficit. Cross-reference with National Urban Policy (2018) Urban Structure Plan requirements.</p>               | <p>Urban sub-districts growing above ~4-5%/year without Urban Structure Plans indicate a legal compliance gap under the National Urban Policy (2018). Informal settlement share above ~20-30% of urban population signals inadequate planning.</p>  | <ul style="list-style-type: none"> <li>National Urban Policy 2018</li> <li>NSO sub-district projections</li> <li>MoLGRD spatial plans MW2063</li> </ul>   | <ul style="list-style-type: none"> <li>GIS tools (QGIS)</li> <li>DemProj (urban/rural)</li> </ul> |
| <p><b>How much solid waste and sanitation infrastructure is needed to serve the growing urban population?</b></p> | <p>Tones of solid waste generated per capita per day, Number of functional waste collection points/transfer stations, % urban households with access to improved sanitation Open defecation rate (%) by urban vs. rural sub-district</p>                      | <p>Solid waste generation = urban population × per-capita waste generation rate (~0.3-0.5 kg/day for Malawi urban areas). Sanitation gap = (urban population × target coverage) – households with improved sanitation. Track open defecation elimination progress against MIP-1 WASH targets.</p> | <p>Open defecation rates above ~10% in urban areas indicate critical sanitation failure. Waste collection coverage below ~40-50% of urban households in growing towns signals rapidly accumulating public health risk. Solid waste volumes scale directly with urban population — waste infrastructure must be planned ahead of growth, not reactively after visible failure.</p> | <ul style="list-style-type: none"> <li>DHIS2 WASH module</li> <li>NSO district projections</li> <li>MoLGRD urban sanitation data,</li> <li>National Water Policy 2021 MIP-1 WASH targets</li> </ul> | <ul style="list-style-type: none"> <li>DemProj GIS sanitation mapping Rapid SDG Model</li> </ul>  |
| <p><b>LOCAL GOVERNMENT — Budget Allocation, DDP/PSIP, and the Demographic Dividend</b></p>                        |   |   |   |   |   |
| <p><b>Is the district's NLGFC grant allocation proportionate to its population size and growth rate?</b></p>      | <p>District's NLGFC recurrent and development grant (MWK) Grant per capita (current year) Population growth rate vs. grant growth rate LAPAS performance score</p>  | <p>Grant per capita = total NLGFC grant ÷ district population (NSO projection). Compare grant per capita across districts: is allocation equitable relative to population? LAPAS score check: is the district's performance score above the development grant threshold?</p>                      | <p>Grant per capita below the national average indicates potential under-allocation relative to need under the NLGFC RAF. LAPAS scores below the development grant threshold restrict access to capital funding. Districts with faster-than-average population growth and static grant allocations signal a divergence between need and funding to raise with NLGFC.</p>          | <ul style="list-style-type: none"> <li>NLGFC grant data,</li> <li>LAPAS scores,</li> <li>NSO district projections, and RAF documentation</li> </ul>   | <ul style="list-style-type: none"> <li>NLGFC budget tools Rapid SDG Model</li> </ul>              |

| PLANNING QUESTION  | DEMOGRAPHIC INDICATOR  | REQUIRED ANALYSIS  | INTERPRETATION  | DATA   | ANALYSIS TOOLS  |
|--|--|--|---|--|---|
| What do I need to know?  | What to measure?    | How to analyse it?    | What does it mean?   | Where to get data   | What to use    |
| <b>What capital investments should be prioritised in the next DDP and PSIP submissions?</b>                  | Infrastructure gap by sector (classrooms, health centres, water points, roads) Population growth hotspot sub-districts Cost per unit by sector DDP and PSIP submission timelines   | Rank sectors by gap size × population served × cost-effectiveness. Map investment priorities against population growth hotspots using GIS. Align with DDP planning cycle (typically 5 years) and PSIP submission windows.  | Sector gaps ranked by population served and cost-effectiveness indicate the highest-return PSIP investments. Sub-districts with growth rates above ~3%/year and existing service deficits are the highest-priority investment locations. Projects should be sized for projected population at completion, given 12-24 month construction lag times.     | <ul style="list-style-type: none"> <li>• EP&amp;D PSIP guidelines</li> <li>• DDP framework</li> <li>• NSO projections</li> <li>• NLGFC LDF criteria MIP-1</li> </ul> | <ul style="list-style-type: none"> <li>• DemProj GIS</li> <li>• Rapid SDG Model</li> </ul>  |
| <b>What is the economic return of investing in family planning and girls' education at district level?</b>   | mCPR by district Adolescent birth rate (15-19) by district Girls' secondary school completion rate Female labour force participation rate  | Model fertility reduction scenario: what is the district's population in 2030 if mCPR increases from the current to FP2030 target? Calculate savings: fewer births × cost per service contact × number of service years avoided. Estimate OSR growth: higher female LFPR → larger local tax base.                            | Districts with mCPR below ~50% and ASFR 15-19 above ~120 per 1,000 indicate high unmet FP need and elevated per-capita service demand. Every percentage point increase in mCPR reduces the annual birth cohort and downstream classroom, facility, and water point demand.  | <ul style="list-style-type: none"> <li>• MDHS 2024 NPP 2023</li> <li>• NSO projections</li> <li>• MoE EMIS IHS 4/5</li> </ul>  | <ul style="list-style-type: none"> <li>• Demographic Dividend Model</li> <li>• FamPlan (Spectrum)</li> <li>• Rapid SDG Model</li> </ul> |
| <b>What is the fiscal cost of youth unemployment to district budgets and local economic growth?</b>          | Youth (15-24) unemployment rate by district Youth labour force as % of total labour force Number of youth not in employment, education, or training (NEET) OSR from the informal sector vs. formal employment                | Project annual youth labour force entrants using 15-24 cohort projections. NEET rate = (youth not in employment, education, or training) ÷ total youth population. Estimate OSR loss: NEET youth × average formal-sector taxable income × local tax rate.  | NEET rates above ~30-40% indicate large shares of youth outside productive economic activity, depressing the local tax base and increasing social protection pressure. Districts with fast-growing 15-24 cohorts and low formal job creation face compounding fiscal stress.  | <ul style="list-style-type: none"> <li>• IHS 4/5</li> <li>• NSO district projections</li> <li>• MoLGRD labour data</li> <li>• NLGFC OSR records</li> </ul>           | <ul style="list-style-type: none"> <li>• Demographic Dividend Model</li> <li>• Rapid SDG Model</li> </ul>                               |
| <b>What is the fiscal cost of not planning for population growth - reactive versus proactive investment?</b> | Cost per unit of planned vs. emergency/reactive construction, Service quality loss from overcrowding (PCR/PTR above norm), Informal settlement remediation costs, Health and education outcomes in under-resourced districts | Compare planned cost (new classroom per DDP) vs. reactive cost (emergency expansion after overcrowding). Calculate outcome cost: PTR >80:1 is associated with lower primary completion rates - translate into future labour force productivity loss. Model 10-year cost of reactive vs. proactive infrastructure investment. | Reactive infrastructure costs ~30-50% more than planned construction. Districts falling behind PTR, facility, or water point standards by more than ~20% above norm indicate accumulated reactive risk. LAPAS scoring rewards districts that demonstrate evidence-based DDP planning, directly linking population data use to development grant access. | <ul style="list-style-type: none"> <li>• EP&amp;D costing data,</li> <li>• NLGFC LAPAS NSO projections</li> <li>• MIP-1 NPP 2023</li> </ul>                          | <ul style="list-style-type: none"> <li>• OneHealth Tool</li> <li>• Rapid SDG Model</li> <li>• Demographic Dividend Model</li> </ul>     |

## Data sources directory

| Data Source  | What it provides  | How to Access   |
|--|---|---|
| NSO - 2018 Population and Housing Census                 | District-level population counts, age-sex pyramids, household size, urban/rural split. Authoritative baseline for all district projections. | <a href="http://www.nsomalawi.mw">www.nsomalawi.mw</a>   Census unit   PDU coordination |
| NSO District Population Projections (2018-2030)          | Official district and TA-level population projections by age and sex. Primary tool for DDP and PSIP population justification.               | NSO Zomba   <a href="mailto:info@nsomalawi.mw">info@nsomalawi.mw</a>   PDU              |
| Integrated Household Survey 4/5 (IHS 4/5)                | Household poverty, livelihoods, agricultural holdings, labour force, education, WASH access. Disaggregated by district.                     | NSO   <a href="http://microdata.worldbank.org">microdata.worldbank.org</a>   PDU        |
| MDHS 2024 (Malawi Demographic and Health Survey)         | Fertility rates, contraceptive prevalence, maternal/child health, education, WASH, gender — all with district-level disaggregation.         | <a href="http://www.dhsprogram.com">www.dhsprogram.com</a>   NSO   UNFPA Malawi         |
| DHIS2 — Health Management Information System             | Routine facility data: service utilisation, coverage, staffing, commodities. Primary source for health facility counts and coverage.        | MoH HMIS Unit   DHIS2 Malawi portal   |
| Ministry of Education EMIS                               | School-level data: enrolment, PTR, PCR, completion rates, teacher deployment. Primary education planning database.                          | MoE Statistics Unit   District Education Managers                                       |
| MoAIWD District Agricultural Data (DADO records)         | Agricultural population, AEDO deployment, extension contact rates, crop data, arable land use.  | MoAIWD DADO offices   District Agricultural Development Offices                         |
| DHIS2 WASH Module / MoLGRD Water Sector Data             | Water point counts, functionality rates, population coverage, WASH facility surveys.  | MoLGRD Water Directorate   District Water Offices   DHIS2                               |
| NLGFC — Budget & LAPAS Data                              | District grant allocations (recurrent + development), LAPAS performance scores, Resource Allocation Formula weights, LDF disbursements.     | <a href="http://www.nlgfc.gov.mw">www.nlgfc.gov.mw</a>   NLGFC Lilongwe                 |
| MIP-1 Indicator Handbook (NPC/UNDP/UNICEF, January 2026) | Standardised MIP-1 indicators, data sources, methodologies, and reporting responsibilities across all sectors and local authorities.        | <a href="http://www.npc.mw">www.npc.mw</a>   NPC Lilongwe   UNDP/UNICEF Malawi          |
| National Population Policy (NPP 2023)                    | Official national population targets: TFR, CPR, adolescent fertility, urbanisation. Benchmark for all district fertility and FP planning.   | National Planning Commission   2023   |
| EP&D PSIP Guidelines                                     | Capital investment appraisal criteria and population data requirements for Public Sector Investment Programme submissions.                  | EP&D — Ministry of Finance, Economic Planning & Development                             |
| NSO District Population Projections (2018-2030)          | Official district and TA-level population projections by age and sex. Primary tool for DDP and PSIP population justification.               | NSO Zomba   <a href="mailto:info@nsomalawi.mw">info@nsomalawi.mw</a>   PDU              |
| EP&D PSIP Guidelines                                     | Capital investment appraisal criteria and population data requirements for Public Sector Investment Programme submissions.                  | EP&D — Ministry of Finance, Economic Planning & Development                             |

## Demographic Models and Tools Reference

| Tool / Model                                | Purpose & Applications   | How to Access  |
|---|--|--|
| Spectrum / DEMPROJ                          | District and national population projections by age and sex; high/medium/low fertility scenarios; age-structure analysis. Core tool for all demographic projections underpinning DDP and PSIP submissions. | <a href="http://www.avenirhealth.org">www.avenirhealth.org</a>   PDU   NSO |
| FamPlan (Spectrum)                          | Family planning impact modelling; contraceptive commodity forecasting; FP2030 scenario testing; fertility reduction impact on service demand and OSR.  | UNFPA Malawi   PDU   |
| Demographic Dividend Model                  | Economic impact of demographic change at national and district level; dividend window timing; investment scenarios for FP, girls' education; OSR and GDP impact modelling.                                 | UNFPA Malawi   PDU   |
| Rapid SDG Model                             | Integrated population-development modelling; scenario testing across health, education, water, labour force, and fiscal outcomes; MW2063 alignment. Excel-based, accessible for district planners.         | Pre-configured with Malawi baseline   PDU                                  |
| GIS Tools (QGIS / ArcGIS)                   | Spatial analysis: map population distribution against infrastructure location; identify coverage gaps by sub-district; urban growth hotspot mapping; PSIP infrastructure prioritisation.                   | NSO   MoLGRD   Open-source (QGIS free)                                     |
| OneHealth Tool                              | Multi-sector costing and planning; links population projections to workforce, infrastructure, and financing needs across health, education, and WASH simultaneously.                                       | WHO / Health Finance team   PDU  |
| WISN — Workload Indicators of Staffing Need | Evidence-based health workforce planning; links projected patient volumes to staffing norms; district-level staffing gap analysis.   | WHO   MoH HRH Directorate  |

## For Technical Assistance and Support

| Organisation  | Contact & Role   |
|---|--|
| Population and Development Unit (PDU)                       | Ministry of Finance, Economic Planning and Development   [Contact: PDU email/phone]   Primary contact for demographic data integration, DemProj support, and Rapid SDG Model training  |
| National Planning Commission (NPC)                          | <a href="http://www.npc.mw">www.npc.mw</a>   MIP-1 implementation, MW2063 coordination, MIP-1 Indicator Handbook, long-term planning   [Contact: NPC focal point]                      |
| National Statistical Office (NSO)                           | <a href="http://www.nsomalawi.mw">www.nsomalawi.mw</a>   <a href="mailto:info@nsomalawi.mw">info@nsomalawi.mw</a>   Official district population projections, census data, IHS surveys |
| NLGFC — National Local Government Finance Committee         | <a href="http://www.nlgfc.gov.mw">www.nlgfc.gov.mw</a>   Resource Allocation Formula, LAPAS performance assessment, LDF grant management   Lilongwe office                             |
| MoLGRD — Ministry of Local Government and Rural Development | Ministry headquarters, Lilongwe   DDP guidelines, Urban Structure Plans, sector devolution plans, district council oversight   |
| WISH Dividend Policy & Systems Project                      | [Contact: WISH P&S team]   Demographic modelling training, capacity building, Spectrum/Rapid SDG support, technical assistance for demographic dividend integration                    |

## Glossary of Key Terms & Abbreviations

| Term / Abbreviation | Definition   |
|---------------------|--|
| AEDO                | Agricultural Extension Development Officer. A field officer deployed by the Ministry of Agriculture to provide technical advice and support to farming households. The national planning norm is 1 AEDO per 800–1,000 farming households.  |
| Abuja Target        | A commitment made by African Union member states in 2001 to allocate at least 15% of national government budgets to health. Used as a benchmark for assessing whether Malawi's health sector is adequately financed.   |
| ASFR                | Age-Specific Fertility Rate. The number of live births per 1,000 women in a specific age group in a given year. ASFR 15–19 measures adolescent fertility.  |
| CPR / mCPR          | Contraceptive Prevalence Rate / modern Contraceptive Prevalence Rate. The percentage of women of reproductive age (15–49) who are currently using any contraceptive method (CPR) or a modern method (mCPR).  |
| DADO                | District Agricultural Development Office. The district-level office responsible for coordinating agricultural extension, input distribution, and crop development under MoAIWD.  |
| DDP                 | District Development Plan. The primary planning instrument through which district councils articulate their development priorities, investment needs, and service delivery targets. Required under the Local Government Act and submitted to MoLGRD for harmonisation with national plans.   |
| DEMPROJ / DemProj   | A demographic projection module within the Spectrum software suite. Used to project population size, age structure, and growth rates under alternative fertility, mortality, and migration scenarios.  |
| DHIS2               | District Health Information System 2. The routine health management information system used by the Ministry of Health to collect, manage, and analyse health service data at facility and district level.  |
| DODMA               | Department of Disaster Management Affairs. The government agency responsible for disaster risk reduction, preparedness, and response in Malawi. Maintains national hazard maps and coordinates post-disaster assessments.  |
| EPI                 | Expanded Programme on Immunisation. The national programme responsible for delivering childhood vaccines including DPT3, measles/MCV2, and others.   |
| GIS                 | Geographic Information System. Software and methods for capturing, storing, analysing, and displaying spatial or geographic data. Used in this guide for mapping population distribution against infrastructure location and hazard zones.   |
| HSA                 | Health Surveillance Assistant. A community-level health worker deployed by the Ministry of Health. The national norm is 1 HSA per 1,000 population. HSAs are responsible for community health education, disease surveillance, and basic preventive care.  |
| HSSP-III            | Health Sector Strategic Plan III (2023–2030). Malawi's national health sector plan setting targets, investment priorities, and service delivery norms across all health programmes through 2030.   |
| IHS                 | Integrated Household Survey. A nationally representative household survey conducted by NSO measuring poverty, livelihoods, consumption, labour force participation, and agricultural holdings, disaggregated to district level.  |
| LAPAS               | Local Authority Performance Assessment System. An annual scoring system run by NLGFC that evaluates district, city, municipal, and town councils on financial management, revenue mobilisation, planning quality, and service delivery. Scores directly gate access to the development component of the Local Development Fund — councils below the threshold receive only recurrent grants. |

## Glossary of Key Terms & Abbreviations

| Term / Abbreviation | Definition  |
|---------------------|---|
| LDF                 | Local Development Fund. The primary capital grant mechanism through which NLGFC channels development resources to local authorities for infrastructure investment. Access to the development component is conditional on LAPAS performance.   |
| MDHS                | Malawi Demographic and Health Survey. A nationally representative survey providing detailed data on fertility, mortality, family planning, maternal and child health, nutrition, WASH, and gender, with district-level disaggregation. The most recent round is MDHS 2024.  |
| MIP-1               | First 10-Year Malawi Implementation Plan (2021–2030). The first decennial implementation plan for Malawi Vision 2063, defining priority programmes, targets, and responsibilities across all sectors and tiers of government.   |
| MoAIWD              | Ministry of Agriculture, Irrigation, and Water Development.   |
| MoFEPD              | Ministry of Finance, Economic Planning and Decentralization/Development. Houses the Population and Development Unit (PDU) and the EP&D directorate responsible for PSIP appraisal.  |
| MoLGRD              | Ministry of Local Government and Rural Development. The lead ministry responsible for local government governance, decentralisation, urban planning, and district council oversight.  |
| MoTPW               | Ministry of Transport and Public Works. Responsible for national and regional roads; district and community roads are a devolved function managed by district councils through District Road Committees.  |
| MTEF                | Medium-Term Expenditure Framework. A three-year rolling public expenditure planning framework linking sector strategies to budget allocations. MTEF proposals are a primary use case for this guide.  |
| MW2063              | Malawi Vision 2063. Malawi's long-term national development vision targeting upper middle-income status by 2063, built around three pillars — Agricultural Productivity and Commercialisation, Industrialisation, and Urbanisation — and seven enablers including Human Capital Development and Environmental Sustainability. |
| NAPCC               | National Adaptation Programme of Action for Climate Change. Malawi's framework for climate change adaptation priorities, referenced in DDP spatial planning for climate hazard integration.   |
| NEET                | Not in Employment, Education, or Training. A measure of youth (15–24) economic exclusion capturing those outside productive activity — a key indicator of youth unemployment risk and its fiscal consequences for district OSR.   |
| NESP                | National Education Sector Plan. Sets national standards and targets for primary and secondary education including Pupil-Teacher Ratio (PTR) and Pupil-Classroom Ratio (PCR) norms.  |
| NLGFC               | National Local Government Finance Committee. A constitutional body (Section 149, Constitution 1994) responsible for mobilising, distributing, and monitoring financial resources across Malawi's 35 local authorities. Administers the Resource Allocation Formula (RAF) and LAPAS.   |
| NPP                 | National Population Policy (2023). The official policy setting national targets for fertility, family planning, adolescent pregnancy, urbanisation, and the demographic dividend through 2030.  |

## Glossary of Key Terms & Abbreviations

| Term / Abbreviation | Definition   |
|---------------------|--|
| NSO                 | National Statistical Office. Malawi's official national statistics agency, responsible for the Census, population projections, IHS, and MDHS (jointly with MoH). The authoritative source for district-level demographic data.   |
| OSR                 | Own-Source Revenue. Revenue raised locally by district councils through taxes, fees, levies, and charges — including market fees, property rates, business licences, and user fees. In practice OSR covers less than 5% of most district council budgets; the system is predominantly grant-dependent. |
| PCR                 | Pupil-Classroom Ratio. The average number of pupils per classroom. The national standard is 60:1; above this indicates an infrastructure deficit.  |
| PDU                 | Population and Development Unit. A technical unit within MoFEPA responsible for demographic analysis, population policy, and the integration of population data into national development planning.  |
| PSIP                | Public Sector Investment Programme. The national framework through which capital investment projects are appraised, approved, and funded. District councils submit PSIP requests to EP&D/MoFEPA for inclusion in the national development budget.  |
| PTR                 | Pupil-Teacher Ratio. The average number of pupils per teacher. The MIP-1 target is 45:1 by 2030; current rural averages often exceed 80:1.   |
| RAF                 | Resource Allocation Formula. The formula used by NLGFC to distribute grants to local authorities. Revised in 2018 to explicitly incorporate population size, poverty index, and burden of disease as allocation weights — making accurate population data a direct financial claim.                    |
| Rapid SDG Model     | An Excel-based integrated population-development modelling tool that links demographic projections to sectoral outcomes across health, education, water, labour force, and fiscal indicators. Pre-configured with Malawi baseline data and supported by PDU.   |
| SEP                 | Socio-Economic Profile. A district-level analytical document required as the evidence base for DDPs. Must include population data under DDP guidelines.  |
| TFR                 | Total Fertility Rate. The average number of children a woman would have over her lifetime at current age-specific fertility rates. A key driver of population growth and service demand projections.   |
| TSC                 | Teaching Service Commission. The body responsible for the recruitment, deployment, and management of teachers in Malawi's public schools.  |
| WRA                 | Women of Reproductive Age. Women aged 15–49. WRA cohort size drives projections for maternal health service demand, family planning need, and annual birth cohorts.  |