

Loop Categorisation SSP 1-2.6

Loop Label	Categorisation	Loop Details
R1 1 stock 2 variables	Demographics (births)	Demographics.births→Demographics.Population in Tarawa
B1 1 stock 2 variables	Demographics (movement)	Demographics.outer islands to S Tarawa flow→Demographics.Population in Outer Islands
B2 1 stock 4 variables	Water (consumption)	Water Resources.tank withdrawal→Water Resources.Water in Storage Tanks→Water Resources.effect of rainwater scarcity on consumption→Water Resources.rainwater usage
R2 1 stock 2 variables	Demographics (births)	Demographics.outer islands births→Demographics.Population in Outer Islands
B3 1 stock 2 variables	Demographics (movement)	Demographics.out-migration from the outer islands→Demographics.Population in Outer Islands
B4 1 stock 2 variables	Demographics (deaths)	Demographics.deaths→Demographics.Population in Tarawa
B5 1 stock 2 variables	Demographics (deaths)	Demographics.outer islands deaths→Demographics.Population in Outer Islands
B6 1 stock 3 variables	Land (loss)	Tarawa.residential land loss→Tarawa.Residential Land Area→Tarawa.percent of residential land area
B7 1 stock 3 variables	Settlements/ Infrastructure (tanks)	Water Resources.Water Tanks in Tarawa→__internal__→Water Resources.discontinued tank use
B8 1 stock 7 variables	Demographics (movement), Water (consumption)	Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Water Resources.total water demand yearly→Water Resources.water demand deficit→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands
B9 1 stock 3 variables	Water (tanks)	Water Resources.water collection→Water Resources.Water in Storage Tanks→Water Resources.volume that can be collected
R3 1 stock 6 variables	Demographics (movement), Water (consumption)	Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Water Resources.total water demand yearly→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands
B10 1 stock 3 variables	Land (loss)	Tarawa.loss of open land→Tarawa.Undeveloped Land Area→Tarawa.percent of land area undeveloped
B11 1 stock 6 variables	Land (development), Settlements/Infrastructure (housing)	Tarawa.developing open land→Tarawa.Undeveloped Land Area→Tarawa.function of effect of land availability on moving in with family→Tarawa.percent of new people moving in with family→Tarawa.housing units needed for new people→Tarawa.housing development
B12 1 stock 5 variables	Demographics (movement), Economic	Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Finances.income in S Tarawa per capita→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands
R4 1 stock 6 variables	Demographics (movement), Economic	Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Finances."total income in S. Tarawa"→Finances.income in S Tarawa per capita→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands
R5 3 stocks 16 variables	Settlements/Infrastructure (houses), Demographics (movement, births), Water (tanks, consumption)	Water Resources.water collection→Water Resources.Water in Storage Tanks→Water Resources.effect of rainwater scarcity on consumption→Water Resources.rainwater usage→Water Resources.water demand deficit→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands→Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Demographics.births→Tarawa.new people to Tarawa→Tarawa.housing units needed for new people→Tarawa.housing development→Tarawa.Housing Units→Water Resources.supply from house catchment
R6 2 stocks 14 variables	Settlements/Infrastructure (houses), Demographics (movement), Water (tanks, consumption)	Water Resources.water collection→Water Resources.Water in Storage Tanks→Water Resources.effect of rainwater scarcity on consumption→Water Resources.rainwater usage→Water Resources.water demand deficit→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands→Demographics.outer islands to S Tarawa flow→Tarawa.new people to Tarawa→Tarawa.housing units needed for new people→Tarawa.housing development→Tarawa.Housing Units→Water Resources.supply from house catchment
B13 1 stock 4 variables	Demographics (births)	Demographics.births→Demographics.Population in Tarawa→Tarawa."population density in S. Tarawa"→Tarawa.birthrate in Tarawa
B14 3 stocks 18 variables	Settlements/Infrastructure (houses), Demographics (movement, births), Water (tanks, consumption)	Water Resources.water collection→Water Resources.Water in Storage Tanks→Water Resources.effect of rainwater scarcity on consumption→Water Resources.rainwater usage→Water Resources.water demand deficit→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands→Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Tarawa."population density in S. Tarawa"→Tarawa.birthrate in Tarawa→Demographics.births→Tarawa.new people to Tarawa→Tarawa.housing units needed for new people→Tarawa.housing development→Tarawa.Housing Units→Water Resources.supply from house catchment

Loop Categorisation SSP 5-8.5

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R1 1 stock 2 variables	Demographics (births)	Demographics.births→Demographics.Population in Tarawa
B1 1 stock 4 variables	Water (consumption)	Water Resources.tank withdrawal→Water Resources.Water in Storage Tanks→Water Resources.effect of rainwater scarcity on consumption→Water Resources.rainwater usage
B2 1 stock 2 variables	Demographics (movement)	Demographics.outer islands to S Tarawa flow→Demographics.Population in Outer Islands
R2 1 stock 2 variables	Demographics (births)	Demographics.outer islands births→Demographics.Population in Outer Islands
B3 1 stock 3 variables	Water (tanks)	Water Resources.water collection→Water Resources.Water in Storage Tanks→Water Resources.volume that can be collected
B4 1 stock 2 variables	Demographics (movement)	Demographics.out-migration from the outer islands→Demographics.Population in Outer Islands
B5 1 stock 2 variables	Demographics (deaths)	Demographics.deaths→Demographics.Population in Tarawa
B6 1 stock 2 variables	Demographics (deaths)	Demographics.outer islands deaths→Demographics.Population in Outer Islands
B7 1 stock 3 variables	Land (loss)	Tarawa.residential land loss→Tarawa.Residential Land Area→Tarawa.percent of residential land area
B8 1 stock 3 variables	Settlements/Infrastructure (tanks)	Water Resources.Water Tanks in Tarawa→__internal__→Water Resources.discontinued tank use
R3 3 stocks 19 variables	Settlements/Infrastructure (tanks, houses), Demographics (movement, births), Water (tanks)	Water Resources.new tank installations→Water Resources.Water Tanks in Tarawa→Water Resources.total capacity of tanks→Water Resources.volume that can be collected→Water Resources.water collection→Water Resources.Water in Storage Tanks→Water Resources.effect of rainwater scarcity on consumption→Water Resources.rainwater usage→Water Resources.water demand deficit→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands→Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Demographics.births→Tarawa.new people to Tarawa→Tarawa.housing units needed for new people→Tarawa.housing development→Water Resources.tank installation from new housing
B9 1 stock 7 variables	Demographics (movement), Water (consumption)	Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Water Resources.total water demand yearly→Water Resources.water demand deficit→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands
B10 1 stock 3 variables	Land (loss)	Tarawa.loss of open land→Tarawa.Undeveloped Land Area→Tarawa.percent of land area undeveloped
R4 1 stock 6 variables	Demographics (movement), Water (consumption)	Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Water Resources.total water demand yearly→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands
B11 1 stock 6 variables	Land (development), Settlements/Infrastructure (housing)	Tarawa.developing open land→Tarawa.Undeveloped Land Area→Tarawa.function of effect of land availability on moving in with family→Tarawa.percent of new people moving in with family→Tarawa.housing units needed for new people→Tarawa.housing development
B12 1 stock 5 variables	Demographics (movement), Economic	Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Finances.income in S Tarawa per capita→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands
R5 3 stocks 16 variables	Settlements/Infrastructure (houses), Demographics (movement, births), Water (tanks, consumption)	Water Resources.water collection→Water Resources.Water in Storage Tanks→Water Resources.effect of rainwater scarcity on consumption→Water Resources.rainwater usage→Water Resources.water demand deficit→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands→Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Demographics.births→Tarawa.new people to Tarawa→Tarawa.housing units needed for new people→Tarawa.housing development→Tarawa.Housing Units→Water Resources.supply from house catchment
R6 2 stocks 14 variables	Settlements/Infrastructure (houses), Demographics (movement), Water (tanks, consumption)	Water Resources.water collection→Water Resources.Water in Storage Tanks→Water Resources.effect of rainwater scarcity on consumption→Water Resources.rainwater usage→Water Resources.water demand deficit→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands→Demographics.outer islands to S Tarawa flow→Tarawa.new people to Tarawa→Tarawa.housing units needed for new people→Tarawa.housing development→Tarawa.Housing Units→Water Resources.supply from house catchment
B13 1 stock 4 variables	Demographics (births)	Demographics.births→Demographics.Population in Tarawa→Tarawa."population density in S. Tarawa"→Tarawa.birthrate in Tarawa
B14 3 stocks 18 variables	Settlements/Infrastructure (houses), Demographics (movement, births), Water (tanks, consumption)	Water Resources.water collection→Water Resources.Water in Storage Tanks→Water Resources.effect of rainwater scarcity on consumption→Water Resources.rainwater usage→Water Resources.water demand deficit→Water Resources.water adequacy ratio→Utility Functions.utility of moving to S Tarawa→Utility Functions.probability of moving to S Tarawa from outer islands→Demographics.outer islands to S Tarawa flow→Demographics.Population in Tarawa→Tarawa."population density in S. Tarawa"→Tarawa.birthrate in Tarawa→Demographics.births→Tarawa.new people to Tarawa→Tarawa.housing units needed for new people→Tarawa.housing development→Tarawa.Housing Units→Water Resources.supply from house catchment