REPUBLIC OF KENYA
COUNTY GOVERNMENT OF NYANDARUA
THE COUNTY TREASURY

PROPOSED OBJECTIVE CRITERIA

FOR FUNDING MUNICIPALITIES IN NYANDARUA COUNTY

Prepared by: The County Treasury

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FOREWORD

The County Government of Nyandarua is committed to strengthening fiscal transparency, equity, and efficiency in the allocation of public resources. This document presents the Proposed Objective Criteria for Funding Municipalities in Nyandarua County, developed to ensure that municipal financing is fair, predictable, and evidence-based.

The framework introduces a formula-based allocation system that reflects service demand, development needs, revenue performance, historical funding patterns, and spatial coverage. It eliminates discretion-based allocations and promotes equitable development.

The municipalities covered under this framework are Ol Kalou, Engineer, and Mairo-Inya. The model recognizes structural differences while safeguarding minimum financing through an equitable baseline allocation.

County Executive Committee Member
Finance and Economic Planning and ICT

ACKNOWLEDGEMENT

I acknowledge the dedication and hard work of the Nyandarua County Members of staff who directly or indirectly participated in the formulation of this funding criteria. The preparation of the framework was led by the County Treasury with technical input from multiple departments including;

- Directorate of Budget and Economic Planning
- Directorate of Revenue Administration
- Department of Lands, Physical Planning and Urban Development
- Municipal Boards of Ol Kalou, Engineer, and Mairo-Inya
- GIS and Planning Units
- The County legal department

I wish to sincerely thank all of them.

Chief Officer
Finance and Economic Planning

EXECUTIVE SUMMARY

This document presents a transparent and formula-based framework for allocating resources to municipalities within Nyandarua County.

The funding model consists of an Equitable Baseline Allocation (EQ_i), a Formula-Based Allocation (TB * WF_i), and Conditional Grants (G_i).

The process involves step-by-step computation of the weighted scores, normalized indicator values and demonstration of application of the formula.

Based on computed weighted scores, the formula shares are as follows for the base year 2024/2025.

Municipality	Total Allocation (Ksh)
Ol Kalou	147,415,779
Engineer	122,013,671
Mairo-Inya	73,782,690

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1. INTRODUCTION

The County Government of Nyandarua has adopted an objective, transparent and formula-based approach to allocating resources to municipalities. The framework ensures allocations reflect service demand, historical funding patterns, development priorities and municipal revenue performance.

The municipalities covered are Ol Kalou, Engineer and Mairo-Inya.

Expected Structural Outcome

Based on economic structure:

🟢 Ol Kalou

- Higher population
- Higher administrative functions (county HQ)
- Likely higher development needs
  → Expected to receive highest share

🟡 Engineer

- Industrial and transport node
- Moderate density
  → Medium share

🔵 Mairo-Inya

- Smaller population
- Lower revenue base
  → Protected by baseline + poverty + regional balance index

2. FUNDING PRINCIPLES AND FORMULA

The allocation formula is guided by principles of equity, efficiency, service demand alignment and development needs.

General Formula:

$FA_i = EQ_i + (TB * WF_i) + G_i$

Where; $WFi = (\alpha PIFi + \beta OREi + \gamma PCRi + \delta RBIi + \varepsilon POVi + \zeta DNIi + \eta FLIi + \theta DNNi + \kappa SCDi + \lambda EQPi + \mu COVi) + SIi + Gi$

Where;

FAi means the annual allocation to city or urban area *i*;

EQ means the equitable baseline allocation per city or urban area, being a fixed shilling amount set in the annual County Fiscal Strategy Paper, to guarantee minimum financing;

TB means the total budget envelope set aside for financing cities and urban areas in the financial year;

PIFi (Population Impact Factor) means the normalized population share of *i*, blending day and night population, with weights wdwdwd and wnwnwn respectively (default 0.4 and 0.6);

OREi (Own-Resource Effort) means the normalized per capita own-source revenue effort of *i*, measured against the county average;

PCRi (Proportional Contribution Ratio) means the share of total county own-source revenue contributed by *i*;

RBIi (Regional Balance Index) means the normalized inverse of historical per capita allocations over the preceding three years, to favour underserved areas;

POVi (Poverty/Need Index) means the normalized share based on headcount poverty or multi-dimensional poverty index;

DNi (Density & Demand Index) means the normalized factor reflecting service demand intensity, including built-up density, traffic or informal settlement coverage;

FLIi (Functions Load Index) means the normalized share of the costed functions actually delegated to *i* under its charter and Executive Order;

DNNi (Development Needs Index) means the normalized share of priority backlogs and projects for *i* derived from approved spatial and integrated development plans;

SCDi (Service Cost Differential) means the normalized index of unit input costs for *i* (e.g. waste collection, road maintenance, energy costs);

EQPi (Equipment and Capital Requirement Index) means the normalized index of confirmed equipment and capital replacement needs for *i*;

COVi (Coverage/Area Factor) means the normalized built-up or service coverage area
of *i*;

SIi (Special Initiatives) means a ring-fenced amount for time-bound projects for *i*, approved by the County Assembly;

Gi means earmarked conditional grants or donor transfers directly attributed to *i*;

α…μ are weights set by the County Treasury such that their sum equals one, and no weight is negative.

Rules of application

(a) The County Treasury shall publish the data series and normalized indices used in computing allocations, together with the annual budget estimates.

(b) Default starting weights are— o Population Impact Factor (α) …… 0.25 o Own-Resource Effort (β) …… 0.10 o Proportional Contribution (γ) …… 0.10 o Regional Balance Index (δ) …… 0.10 o Poverty/Need (ε) …… 0.10 o Density & Demand (ζ) …… 0.05 o Functions Load (η) …… 0.10 o Development Needs (θ) …… 0.10 o Service Cost Differential (κ) …… 0.04 o Equipment & Capital (λ) …… 0.04 o Coverage/Area (μ) …… 0.02

(Sum = 1.00)

(c) No city or urban area shall receive less than the equitable baseline (EQ).

(d) The combined contribution of OREi and PCRi shall not exceed 0.30 of the weighted bracket.

(e) The combined contribution of POVi and RBIi shall not be less than 0.20 of the weighted bracket.

(f) Year-on-year allocations shall not decrease by more than 10% nor increase by more than 30%, excluding special initiatives and grants.

County variation

(a) A county may, by regulation and with County Assembly approval, vary the weights in subparagraph 3(2), provided that—

(i) no single weight exceeds 0.35; and

(ii) not more than two weights exceed 0.20 in the same year.

(b) Reasons for variation shall be set out in the County Fiscal Strategy Paper.

3. FUNDING CRITERIA DEVELOPMENT

EQ – Baseline allocation for each municipality. We take 2024/25 FY as our baseline year then;

EQ for Ol Klou = Ksh 69,684,200

EQ for Engineer =Ksh 57,972,867

EQ for Mairoinya =Ksh 27,535,350

TB – Total allocation for all municipalities

TB = Ksh 155,192,417

SI – Flagship projects

No Flagship project has been identified for the municipalities

Gi – Conditional grant

Gi for Ol kalou = Ksh 20M

Gi for Engineer = Ksh 15 M

Gi for Mairoinya =0

SCD- No data is available to compute the service cost differential ie Total maintenance cost for the municipalities.

EQP- No data is available to compute the equipment and asset needs ie equipment replacement needs or new capital asset needs.

Therefore the formula is reduced to; **WFi=** $(\alpha PIFi + \beta OREi + \gamma PCRi + \delta RBIi + \varepsilon POVi + \zeta DNIi + \eta FLIi + \theta DNNi + \mu COVi) + Gi$

4. COMPUTATION OF THE WEIGHTED SCORES

FINAL WEIGHTS (Adjusted After Removing SCD and EQP)

Where certain indicators lacked reliable data, their weights are proportionally redistributed to maintain the structural integrity of the model."

When SCD (4%) and EQP (4%) lacked data, their combined 8% had to be redistributed proportionally across the remaining indicators.

Mathematically; Remaining active share is (100%-8%=96%)=0.96

Each active weight is divided by 0.92 (the remaining active share).

Example:

New Population Weight = 0.25 ÷ 0.92 = 0.272

Indicator	Original weights	New weights
PIF	0.25	0.272

Indicator	Original weights	New weights
ORE	0.10	0.109
PCR	0.10	0.109
RBI	0.10	0.109
POV	0.10	0.109
DNI	0.05	0.055
FLI	0.10	0.109
DNN	0.10	0.109
COV	0.02	0.018

Total = 1.000

5. COMPUTATION OF NORMALIZED INDICATOR VALUES

1. **PIF_i – Population Impact Factor (25%)**

What it means:
Bigger population = more services needed = more money

Data Needed:

- Night population (residents)
- Day population (commuters, traders, students)

Source of Data:

- Kenya National Bureau of Statistics (2019 Census)
- County Planning Department
- Municipal Integrated Development Plans (MIDPs)

Since day and night population data is not available, we use total population only.

Calculation using total population only;

Municipality Population

Ol Kalou 78,502

Engineer 93,870

Mairo-Inya 66,261

Total = 238,633

Normalized PIF:

- Ol Kalou = 78,502 / 238,633 = **0.329**
- Engineer = 93,870 / 238,633 = **0.393**
- Mairo-Inya = 66,261 / 238,633 = **0.278**

2. **ORE_i – Own Revenue Effort (10%)**

What it means:
Municipalities that try harder to collect revenue are rewarded.

Data Needed:

- Revenue collected within municipality
- Population

Formula:
Revenue per capita ÷ County average revenue per capita

Source:

- County Revenue Department
- IFMIS reports
- Municipal revenue registers

  County average revenue per capita = 653,240,000/638239=1,023.5

  Revenue per capita for Ol kalou =78,234,541/78,502 =996.6

  Revenue per capita for Engineer = 38,386,806/93,870 =408.9

  Revenue per capita for Mairoinya = 44,430,719/66,261 = 670.5

ORE for Ol kalou =996.6/1,023.5 =0.97

ORE for Engineer =408.9/1,023.5 =0.40

ORE for Mairoinya = 670.5/1,023.5=0.66

Normalize:

Total = 2.03

- Ol Kalou **= 0.478**
- Engineer = **0.197**
- Mairo-Inya = **0.325**

3. **PCR_i – Proportional Contribution Ratio (10%)**

What it means:
If a municipality generates bigger percentage of total municipal revenue, it gets recognition.

Source:

- Revenue breakdown by revenue source and location

PCR for Ol kalou =78,234,541/653,240,000 =0.12

PCR for Engineer =38,386,806/653,240,000 =0.06

PCR for Mairoinya =44,430,719/653,240,000=0.07

Normalized:

Total = 0.12

- Ol Kalou = **0.48**
- Engineer **= 0.24**
- Mairo-Inya **= 0.28**

4. **RBI_i – Regional Balance Index (10%)**

What it means:
Municipalities that received less funding in the past get compensated. “Which municipality has historically been underfunded per person?

Data Needed:

- Last 3 years’ municipal allocations

- Divide by population to get per capita allocation

Source:

- County Treasury budget books
- Approved Program-Based Budgets (PBB)

Note: we use the **inverse (1 ÷ value) because the less funded municipality receives more.**

Defined precisely: RBIi=∑(1/HistoricalPerCapita)1/HistoricalPerCapitai

Municipality	**Average Annual Allocation (KshM)(2023/24,2024/25,2025/26)**	**Population**
Ol Kalou	(32.89+69.68+40.2)=ksh 47.59	78,502
Engineer	(10.0+57.97+34.2)=ksh 34.06	93,870
Mairo-Inya	(11.5+27.54+36.4)=ksh 25.15	66,261

Per Capita for Ol kalou=Allocation/ Population=47,590,000/78,502= 606.23

Per Capita for Engineer = Allocation/ Population=34,060,000/93,870= 362.84

Per Capita for Mairoinya = Allocation/ Population=25,150,000/66,261= 379.56

Take the Inverse (1 ÷ Per Capita)

Ol kalou = 1/666.2 =0.00165

Engineer =1/362.84=0.00275

Mairoinya =1/379.56=0.00263

Normalize (Make Them Add Up to 1) ie Add them and divide each by the total

Total=0.00703

Normalized RBI OlKalou= **0.235**

Normalized RBI Engineer**= 0.391**

Normalized RBI Mairoinya**= 0.374**

What Does This Achieve?

- Engineer was historically underfunded considering its high population:
- It now gets 39.1% of the 10% RBI weight
- Ol Kalou gets only 23.5% of that portion
- Mairoinya gets 37.4% of that portion

This gently corrects imbalance without punishing anyone too harshly.

5. **POV_i – Poverty / Need Index (10%)**

What it means:
Poorer municipalities get slightly more funds.

Data Needed:

- Poverty headcount ratio
- Informal settlement population

Source:

- KNBS poverty reports
- County CIDP
- Ward-level poverty statistics

Since poverty data for the municipalities is not available, we temporarily assign equal shares:(1/3=0.33), This must be replaced with KNBS data when available.

6. **DNI_i – Density & Demand (5%)**

What it means:
More crowded towns need more waste collection, roads, lighting.

Data Needed:

- Municipalities land areas
- Population density
- Informal settlements coverage

Source:

- Physical Planning Department
- GIS Unit
- Urban mapping data

This answers “Which municipality experiences the highest service pressure per square kilometre?”

Density=Population/Land area

Density for Ol kalou= 78,502/364.66= 215.3

Density for Engineer= 93,870/531= 176.8

Density for Mairoiya= 66,261/260= 254.85

Normalize:

Total =646.95

DNI for Ol kalou= 0.33

DNI for Engineer=0.27

DNI for Mairoinya=0.39

7. **FLI_i – Functions Load Index (10%)**

What it means:
More delegated functions = more money.

Data Needed:

- List of functions delegated to municipality
- Cost estimate of each function

Source:

- Municipal Charter
- Executive Order on function delegation
- Departmental budgets

The Functions Load Index SHOULD be computed based on the costed value of functions formally delegated to each municipality under its Charter and Executive Order but since the functions have not been costed, we use the number of fully delegated functions in this case 5 functions for each municipality ie

1. urban roads
2. waste management
3. street lighting
4. markets
5. storm drainage

Normalize:

Total = 15

FLI for each = 5/15= 0.33

8. **DNN_i – Development Needs Index (10%)**

What it means:
Infrastructure backlog = higher funding priority**.**

Data Needed:

- Unpaved roads
- Drainage backlog
- Markets needed
- Public lighting gaps

Source:

- Municipal Infrastructure Audit
- CIDP
- Annual Development Plan

Since backlog data is not available, we use total value of priority projects in ADP per municipality in financial year 2024/25

Municipality	**ADP Priority Value**
Ol Kalou	10.8M
Engineer	6.0M
Mairo-Inya	4.4M

Normalize:

Total = 21.2

Normalized DNN for Ol kalou= **0.51**

Normalized DNN for Engineer**= 0.28**

Normalized DNN for Mairoinya= **0.21**

9. COV_i – Coverage / Area Factor (2%)

What it means:
Larger service area = higher service cost.

Data Needed:

- Official municipal boundary size (sq. km)

Source:

- Survey Department
- Approved municipal charters

It answers: How large is the physical area the municipality must serve?"

Even if population is small, a municipality that covers a large geographic area will incur higher costs COVi=Areai/TotalArea

- COV for Ol kalou= 364.66/1155.66=0.316
- COV for Engineer =531/1155.66=0.460
- COV for Mairoinya =260/1155.66=0.225

NB: This method automatically produces normalized shares because:

$$\sum COVi=1$$

6. COMPUTATION OF THE TOTAL WEIGHTED SCORES FOR EACH MUNICIPALITY

The weighted score for each municipality **(WF_i)**is calculated using the formula;

$$\mathbf{WFi=0.272PIFi+0.109OREi+0.109PCRi+0.109RBIi+0.109POVi+0.055DNIi+0.109FLIi+0.109DNNi+0.018COVi}$$

Each step involves:

1. Taking the normalized indicator value
2. Multiplying it by its assigned weight
3. Summing all weighted components

Step-by-Step Computation of weighted scores for Ol Kalou municipality

Normalized Values (Ol Kalou):

PIF = 0.329 * 0.272=0.0895
ORE = 0.478 * 0.109=0.0521
PCR = 0.480 * 0.109=0.0523
RBI = 0.235 * 0.109=0.0256
POV = 0.333 * 0.109=0.0363
DNI = 0.330 * 0.055=0.0182
FLI = 0.333 * 0.109=0.0363
DNN = 0.510 * 0.109=0.0556
COV = 0.316 * 0.018=0.0057
Total = 0.3716=37.16%

Step-by-Step Computation of weighted scores for Engineer municipality

Normalized Values (Engineer):

PIF = 0.393 * 0. 272=0.1069
ORE = 0.197 * 0. 109=0.0215
PCR = 0.240 * 0. 109=0.0262
RBI = 0.391 * 0. 109=0.0426
POV = 0.333 * 0. 109=0.0363
DNI = 0.270 * 0. 055=0.0149
FLI = 0.333 * 0. 109=0.0363
DNN = 0.280 * 0. 109=0.0305
COV = 0.460 * 0. 018=0.0083
Total=0.3160=31.6%

Step-by-Step Computation of weighted scores for Mairoinya municipality

Normalized Values (Mairoinya):

PIF = 0.278 * 0. 272=0.0756
ORE = 0.325 * 0. 109=0.0354
PCR = 0.280 * 0. 109=0.0305
RBI = 0.374 * 0. 109=0.0408
POV = 0.333 * 0. 109=0.0363
DNI = 0.390 * O. 055=0.0215
FLI = 0.333 * 0. 109=0.0363
DNN = 0.210 * 0. 109=0.0229
COV = 0.225 * 0. 018=0.0041
Total=0.2977=29.8%

7. APPLICATION OF THE FORMULA(For the base year 2024/25)

Total Formula Pool (TB) = Ksh 155,192,417

Municipality	Share	Formula Allocation (Ksh)
Ol Kalou	37.2%	57,731,579
Engineer	31.6%	49,040,804
Mairo-Inya	29.8%	46,247,340

Final Municipal Funding

Including Baseline (EQ_i) and Conditional Grants (G_i):

Municipality	Baseline (Ksh)	Formula (Ksh)	Grants (Ksh)	Total (Ksh)
Ol Kalou	69,684,200	57,731,579	20,000,000	147,415,779
Engineer	57,972,867	49,040,804	15,000,000	122,013,671
Mairo-Inya	27,535,350	46,247,340	0	73,782,690

THE FORMULA

$$FA_i = EQ_i + (TB)(0.272PIFi + 0.109OREi + 0.109PCRi + 0.109RBIi + 0.109POVi + 0.055DNIi + 0.109FLIi + 0.109DNNi + 0.018COVi) + G_i$$

CONCLUSION

The Proposed Objective Criteria for Funding Municipalities establishes a transparent, rational, and data-driven framework for municipal financing in Nyandarua County.

The model balances equity, efficiency, service demand, and development needs while reducing subjectivity in municipal funding decisions.

RECOMMENDATIONS

- Adopt the formula formally through County Treasury regulations.
- Improve municipal data systems for accurate indicator computation.
- Undertake formal costing of delegated municipal functions.
- Establish an annual review mechanism for indicator validation.
- Enhance transparency by publishing computation sheets annually.