

**UNICEF Innocenti - Global Office of Research and Foresight**  
**Education Research Consultant – Systems Strengthening**

**Written Assessment**

UNICEF Innocenti would like to thank you for your interest in the **Education Research Consultant - Systems Strengthening** opportunity.

We have reviewed your application and congratulate you for being shortlisted for the consultancy. This written assessment will evaluate your analytical competencies as outlined in the Terms of Reference for the position and will provide an opportunity for the hiring panel to further evaluate your candidacy for the position.

Candidates who are shortlisted based on this test will be invited to an interview, during which they will be expected to present and answer questions regarding the test, among other aspects to be evaluated.

Please review and follow these instructions carefully for the assessment:

**1. Time allocation:** You have exactly 48 hours from receipt of this test to submit your response. In fairness to all applicants, any submission received after this deadline will not be considered.

**2. Specialized software:** You will need access to Microsoft Office (Word and Excel/CSV) as well as R or Python

**3. Language:** Please provide your responses in **English only**.

**4. Confidentiality and blind marking:** Do not include any personally identifying information (e.g., your name, position, or office location) in your submission as all assessments will be blindly reviewed. Submissions will be assessed anonymously by subject matter experts, based on the requirements listed in the vacancy announcement.

**5. Assumptions:** No additional information will be provided. If necessary, please state any assumptions you make to answer the questions.

**6. Submission:** Send your completed work to [ity-read-recruitments@unicef.org](mailto:ity-read-recruitments@unicef.org) within the 48-hour timeframe. Responses received after this period cannot be accepted.

**7. AI tools:** All documents will be reviewed for the use of artificial intelligence tools. Should you utilize any AI application in completing the test, you are required to provide a detailed account of how it was employed.

**8. Confidentiality:** This test is confidential; circulating or sharing it in any manner may disqualify you from this recruitment process.

## Background

Nyanda is a country in Sub-Saharan Africa entering a period of education reform. The government currently lacks robust evidence on the state of education, and equity remains a major concern. Leveraging existing data to better inform policy and programmatic decisions is therefore crucial. UNICEF Innocenti has been called to collaborate on this endeavor.

As a consultant with the Education team, you are requested to conduct a quantitative analysis using the attached datasets, with the objective of describing the state of primary education in Nyanda and documenting most pressing inequity issues. Your analysis should incorporate econometric regression techniques as a key part of the analytical approach. Perform the analysis in any of the following open-source statistical software: R or python.

The exercise consists of four parts:

### **1. Descriptive analysis (2 pages maximum ≈ 900 words)**

Prepare a short note addressed to a senior official of the Ministry of Education, summarizing the main findings of your analysis. The document should:

- Provide a clear diagnostic of the education system in the country, highlighting the main inequity issues identified
- Include one illustrative chart accompanying your analysis

### **2. Technical note (2 pages maximum ≈ 900 words)**

Draft a note intended for a technical team of the Ministry of Education, presenting the analytical approach applied to produce the diagnostic. The purpose is to ensure that the analysis can be implemented by Ministry teams and replicated with data from subsequent years.

The note must include:

- A description of the model(s), and specification(s) used
- A description of any data transformation process implemented
- A complete table of the regression results
- A presentation of the theoretical foundations of the analysis
- Explanation of the assumptions and limitations

You are also requested to attach as an annex the complete package of tools/ codes used in the analysis. Please note that the Ministry only has access to these open-source statistical software: R and Python.

### **3. Policy recommendation (1.5 pages maximum ≈ 700 words)**

Prepare a short policy note addressed to the UNICEF country office presenting one concrete recommendation to be incorporation into education reform programs aimed at addressing one or more identified inequity challenges identified.

The proposal should include:

- A clear description of the recommendation and its theory of change
- The main assumptions underpinning the proposal
- A concise overview of documented evidence demonstrating that this type of reform has been effective in developing countries (drawing on a rapid literature review)
- Results of a predictive analysis of expected outcomes, based on a simulation exercise using the datasets shared
- A short section describing the analytical approach used to conduct the simulation
- The codes used to produce the predictive analysis as an annex

### **4. Research plan (1.5 pages maximum ≈ 700 words)**

Develop a note outlining further research on the proposed recommendation, with the aim of demonstrating its potential and mobilizing resources to execute it. The plan should:

- Outline the research approach, describing the intervention model, identifying the beneficiaries, outlining the expected changes, and explaining how these changes will occur (mechanisms)
- Document realistic three potential funding sources/ partnership opportunities
- Include a table, specifying the key milestones, activities, timelines, and budget to ensure successful implementation
- Include a brief discussion of potential risks and mitigation strategies