**Report on ECDE Enrollment Trends in Makueni Sub-County (2018-2022)**

**Introduction**

This report presents an analysis of Early Childhood Development Education (ECDE) enrollment trends in Makueni Sub-County, focusing on seven wards: Wote/Nziu, Muvau/Kikumini, Kathonzweni, Kitise/Kithuki, Mbitini, Nzaui/Kilili/Kalamba, and Mavindini. The data spans five years, from 2018 to 2022, and includes both public and private enrollments. The goal is to identify trends, examine overall enrollments, and analyze the relationship between public and private enrollments within these wards.

Data Summary

The enrollment data comprises public and private ECDE centers, broken down into the following categories for each year:

Public enrollments (2018–2022)

Private enrollments (2018–2022)

Total enrollments, which is the sum of public and private enrollments.

The data for each ward was examined for trends in total enrollments, as well as the relative proportions of public and private enrollments.

Total Enrollment Trends (2018–2022)

The data reveals the following overall enrollments for each ward:

| **Ward** | **Public Enrollment (2018-2022)** | **Private Enrollment (2018-2022)** | **Total Enrollment (2018-2022)** |
| --- | --- | --- | --- |
| Wote/Nziu | 3,541 | 5,217 | 8,758 |
| Muvau/Kikumini | 5,456 | 1,294 | 6,750 |
| Kathonzweni | 6,628 | 826 | 7,454 |
| Kitise/Kithuki | 5,683 | 8 | 5,691 |
| Mbitini | 6,377 | 632 | 7,009 |
| Nzaui/Kilili/Kalamba | 8,701 | 1,201 | 9,902 |
| Mavindini | 4,786 | 263 | 5,049 |

Nzaui/Kilili/Kalamba had the highest total enrollment with 9,902 students from 2018 to 2022, while Kitise/Kithuki recorded the lowest private enrollment, totaling only 8 students.

Wote/Nziu has the highest private enrollments across all the wards, with 5,217 enrollments over the five-year period.

Proportions of Public vs Private Enrollment (2018–2022)

Public enrollments consistently outnumber private enrollments across all wards. The proportions of public vs. private enrollment are as follows:

Public Enrollment: 79.74%

Private Enrollment: 20.26%

These figures emphasize the dominance of public ECDE centers, with private enrollments making up a smaller fraction of the total enrollments.

Visual Representation

**Bar Plot: Public vs Private Enrollment by Ward (2018–2022)**

The following plot represents the distribution of public and private enrollments across the seven wards, highlighting the difference in public and private enrollments.

Public enrollments far surpass private enrollments in all wards.

Wote/Nziu and Nzaui/Kilili/Kalamba show higher private enrollment levels compared to other wards, but public enrollments still dominate.



Pie Charts: Public vs Private Enrollment by Ward

















These pie charts highlight the significant disparity between public and private enrollments, particularly in wards like Kitise/Kithuki, where private enrollment is almost negligible.

Correlation Analysis

**Correlation between Public and Private Enrollment (2018–2022)**

The correlation coefficient between public and private enrollments across all seven wards is -0.5001, indicating a weak positive correlation. This suggests that there is little relationship between the rise or fall of public enrollments and private enrollments, meaning that variations in public enrollments do not strongly predict changes in private enrollments.

Scatter Plots

**Public vs Private Enrollment**

The scatter plot of public versus private enrollment for the seven wards shows a slight upward trend, indicating that in some cases, an increase in public enrollment correlates with a slight increase in private enrollment, though this is not strongly evident in the data.



**Public vs Total Enrollment**

The scatter plot shows a stronger upward trend, indicating that public enrollment contributes heavily to the overall enrollment numbers. This further highlights the importance of public ECDE centers in Makueni Sub-County.



**Private vs Total Enrollment**

The scatter plot shows a weaker correlation between private and total enrollments. While private enrollment contributes to total enrollment, its impact is considerably smaller than that of public enrollment.



Conclusion

The analysis of ECDE enrollments in Makueni Sub-County reveals that public enrollments dominate across all wards, with private enrollments playing a smaller, yet notable, role. Nzaui/Kilili/Kalamba had the highest total enrollments, while Kitise/Kithuki had the lowest private enrollments.

The weak correlation between public and private enrollments suggests that public enrollments are not a strong indicator of private enrollments. Overall, the data reflects the reliance on public ECDE centers in Makueni Sub-County, with private enrollments contributing less to the total.