## Additional Files

Supplementary Table A1**.** Geographic information of the villages where mosquitoes were collected for the study.

|  |  |  |
| --- | --- | --- |
| Health Centre | Village | Coordinates |
| Tiefora | Djomale | 10˚33’17.24’’N; 4˚22’41.14’’W |
| Pont Maurice | 10˚38’26.71’’N; 4˚29’41.62’’W |
| Sikane | 10˚34’27.49’’N; 4˚22’38.16’’W |
|  |  |  |
| Kankounadeni | Naniagara II | 10˚32’9.15’’N; 4˚40’7.84’’W |
|  |  |  |
| Koflande | Bakaridjan II | 10˚24’26.34’’N; 4˚33’44.78’’W |

## Supplementary Table A2. Parity pre- and post-deployment. Physiological status of the female Anopheles. Total percentages of blood-fed, gravid and non-blood-fed mosquitoes collected before and after the distribution of Olyset Duo®. The ‘blood-fed’ entry includes the mosquitoes that had that status but died upon collection and the mosquitoes that were used in the oviposition assays (Figures 6, 7 and 8).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Village** | **Intervention** | **n** | **Blood-fed** | **Gravid\*** | **Non-blood-fed\*** |
| Naniagara | Before Duo | 92 | ND | ND | ND |
|  | After Duo | 291 | 83.2 % | 7.6 % | 9.3 % |
|  |  |  |  |  |  |
| Bakaridjan | Before Duo | 202 | ND | ND | ND |
|  | After Duo | 184 | 84.8 % | 11.4 % | 3.8 % |
|  |  |  |  |  |  |
| Pont Maurice | Before Duo | 213 | 99.1 % | 0 | 0.9 % |
|  | After Duo | 220 | 74.5 % | 5.9 % | 19.5 % |
|  |  |  |  |  |  |
| Djomale | Before Duo | 361 | 94.5 % | 0 | 5.5 % |
|  | After Duo | 117 | 80.3 % | 5.1 % | 14.5 % |
|  |  |  |  |  |  |
| Sikane | Before Duo | 239 | 98.7 % | 0 | 1.3 % |
|  | After Duo | 195 | 94.4 % | 1.5 % | 4.1 % |

\*Dead on the day of collection

Supplementary Figure 1: **Susceptibility of field mosquitoes to ITNs and PPF-ITNs.** F0 progeny from larvae collected from Tiefora, Naniagara and Bakaridjan were exposed to and ITN (Olyset Net) and Olyset Duo in a WHO cone test and scored for mortality 24 hours post exposure. Error bars represent 95% confidence intervals. Z-tests significant differences: \*\*\* = p<0.001. The red line represents the minimum effectiveness of ITNs recommended by WHO (WHO, 2013). Numbers over each bar represent the number of mosquitoes tested per net.

Supplementary Figure 2: **Hatch rate of eggs laid by Anopheles collected before and after the distribution of PPF-ITNs replaced pyrethroid only ITNs.** The hatch rate was measured as the percentage of eggs that reached second instar larvae over the total number of eggs laid. Error bars: 95% CI. The P value for difference of proportion of oviposited eggs that hatched, before and after net distribution. Significant differences between collections within each village are shown over each bar.