



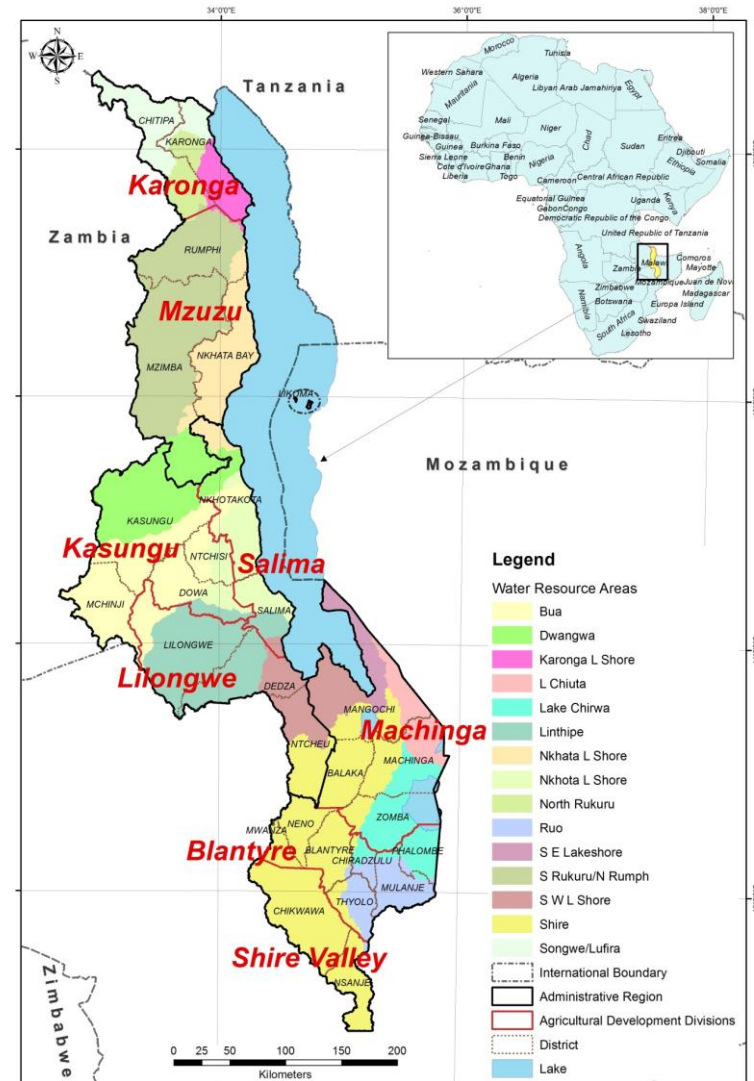
RICE FARMING IRRIGATION AND MOSQUITO BREEDING

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Background

Irrigation in Malawi

- Irrigation is a key solution to food insecurity in the face of rapid population growth and recurring droughts and floods.
- Irrigation potential - 408,000 ha (7 % percent of agricultural land).
- Currently, only 108,000 hectares (a quarter of the potential irrigable area) have been developed for irrigation.
- Targets set at reaching a total irrigated area of 220,000 hectares by 2035

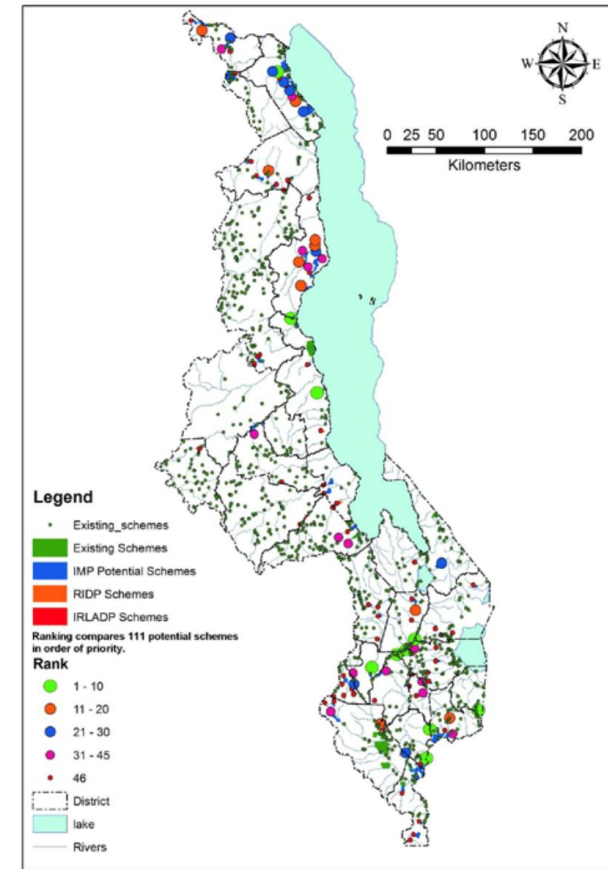


Irrigation in Karonga ISD

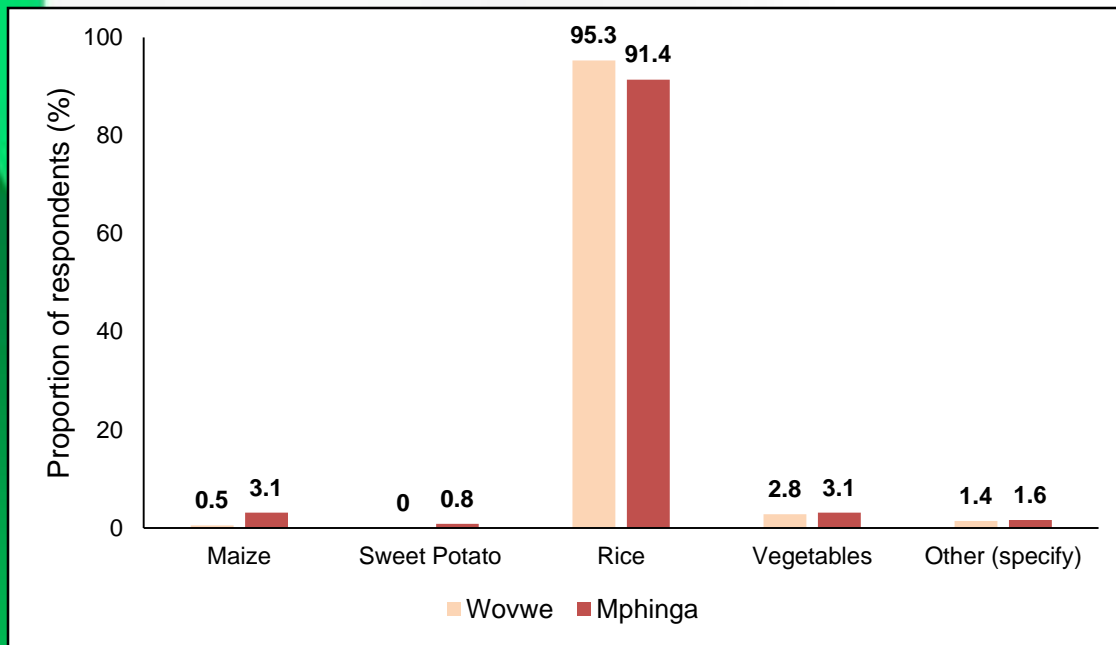
- Total developed area of 2,803 ha representing 12.9 % of the potential irrigation area of 21,641 ha.
- Current utilization rate is at 82%.
- Beneficiary farmers estimated at 16,120 farmers (10,340 m and 5,780 f).

Summary of cumulative area developed by district

District	Developed Area (Ha)		Cumulative Area (Ha)	Utilized Area (Ha)
	Previous	2022/23		
Karonga	1,903.0	0	1,903.0	1,703.0
Chitipa	660.6	239.5	900.1	584.5
ISD Total	2,563.6	239.5	2,803.1	2,287.5



Irrigated Crops in Karonga



- In the 2021/22 dry season, 95% and 91% of the irrigation farmers at Wovwe and Mphinga irrigation schemes cultivate rice in the irrigation schemes respectively



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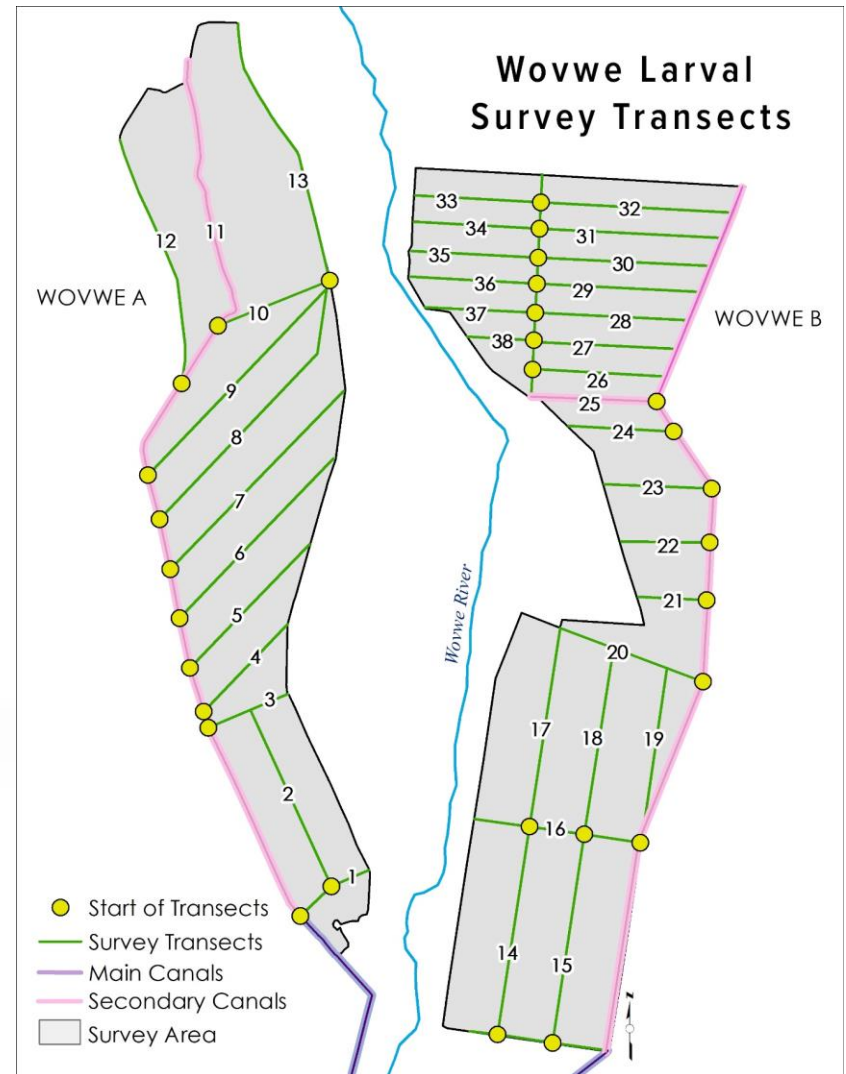
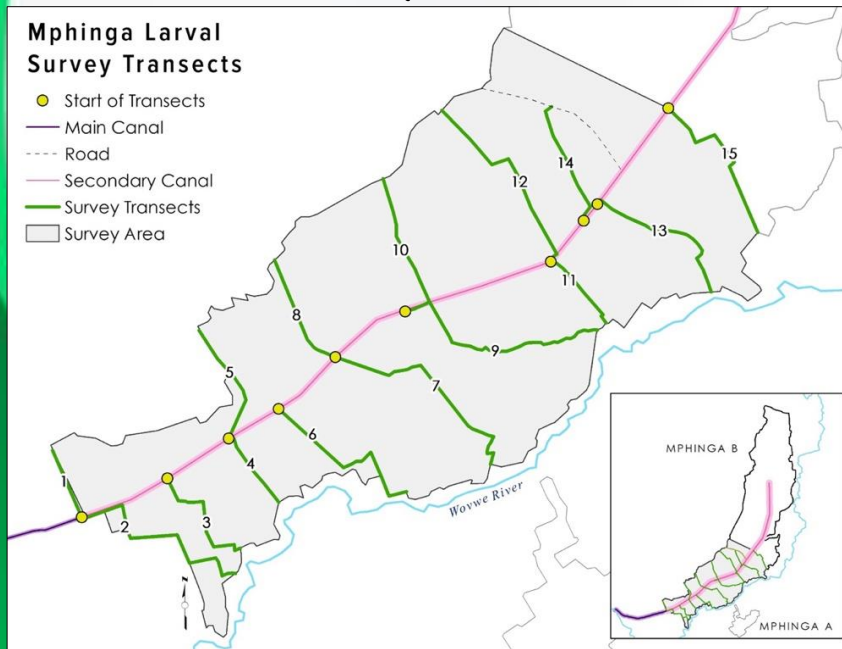
[More malaria infections now found in African communities with irrigated rice fields](#)

More malaria infections now found in African communities with irrigated rice fields

10 March 2022

- Irrigated rice cultivation leads to an increase in the population of malaria vectors – i.e. more mosquitoes

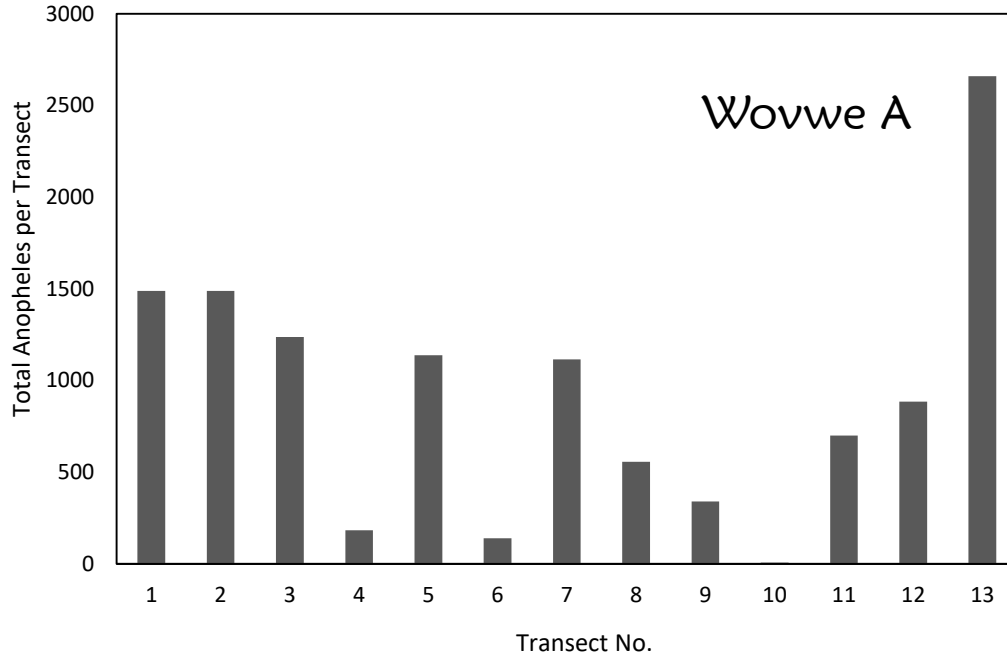
Larval Survey at Wovwe and Mphinga Irrigation Schemes



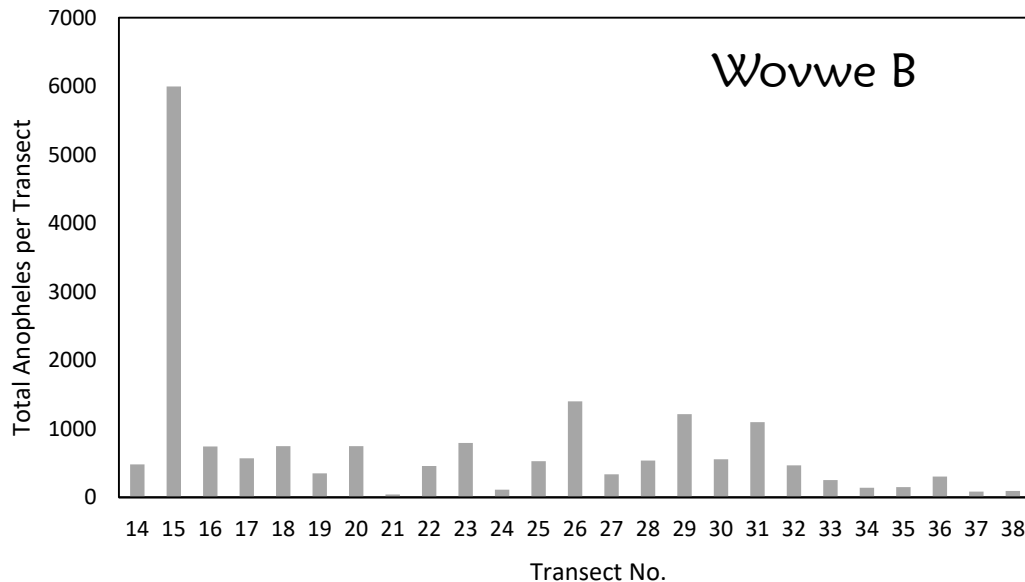
- Schemes were divided into transects following access roads, secondary, and tertiary canals to maximize sampling area.
- Water samples were collected in each plot along transect near the center of plots.
- Anopheles larvae counted from sample plot water & water status noted
- 350ml scoops, 10 scoops per plot



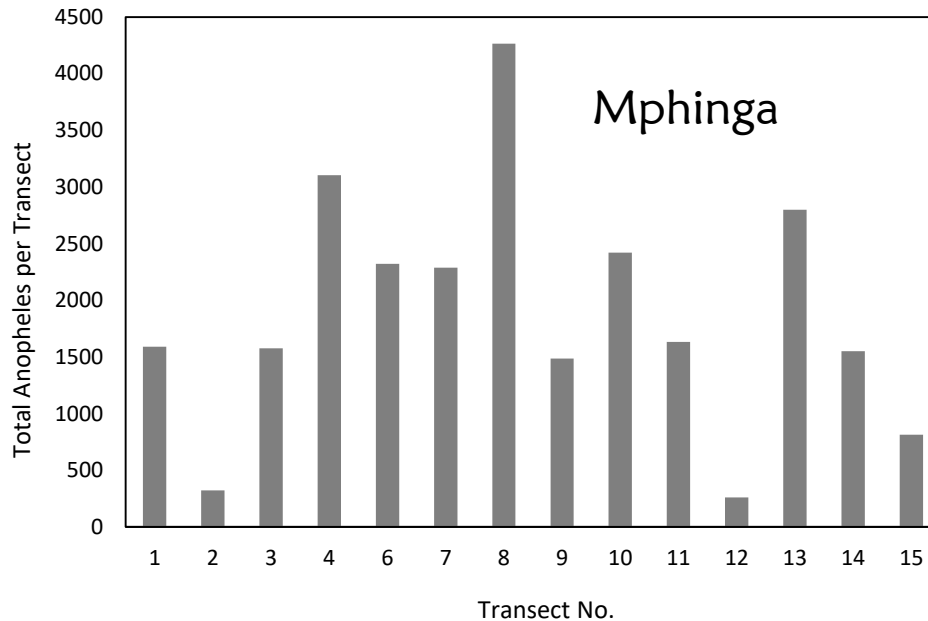
Findings



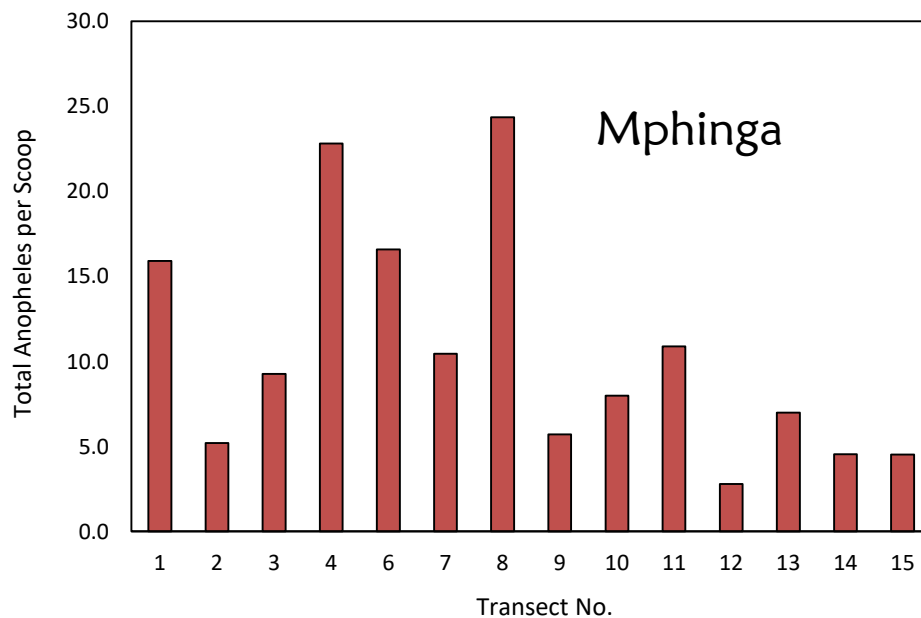
- 827 anopheles larvae counted per plot.
- Transect number 13 recorded the highest number of anopheles larvae counted (2660) with the lowest on transect number 10 (0).



- Sampled 217 plots sampled, only 20 plots did not have Anopheles larvae.
- An indicator that most anopheles mosquito transmitting malaria around the scheme largely originated from Wovwe B



- 288 plots sampled, 89% of the plots registered Anopheles larvae compared to 11% of the plots that did not register Anopheles larvae
- Transect no. 8 recorded the highest number of anopheles larvae of 4265 while transect no. 12 recorded the lowest number of 260 anopheles' larvae



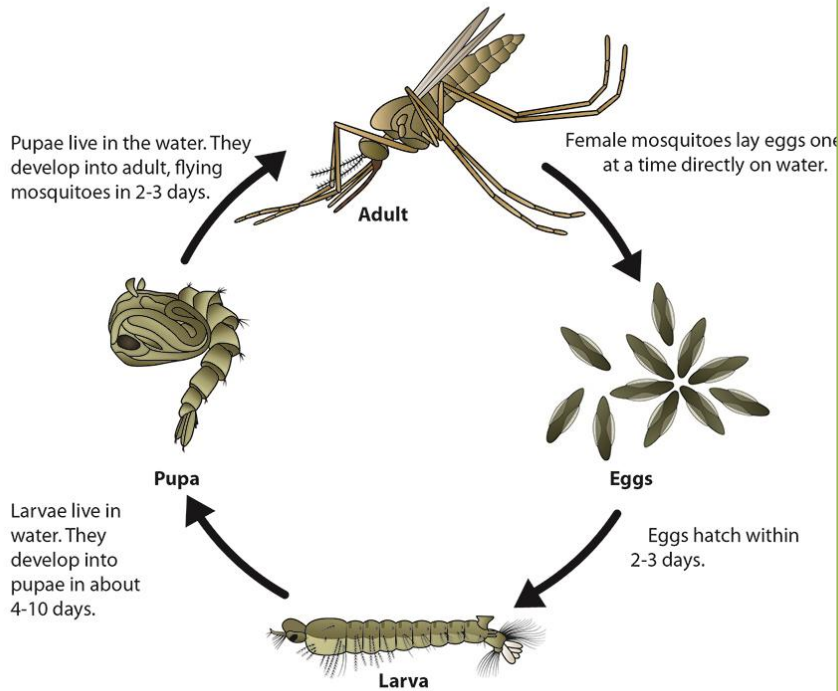
- Transect no. 8 had the highest larvae density of 24 anopheles' larvae per scoop followed by transect no 4 (23).

- Larvae density for Wovwe A & B was determined 6.9 & 7.3 larvae per scoop respectively.

Should We Worry



Life Cycle of Anopheles



- The difference in time between deposition of mosquito eggs and the emergence of the flying adult is about one week at temperatures between 30°C and 32°C
- For temperatures between 20°C and 25°C, two weeks at temperatures between.
- Max temp ~32.5C° (Oct – Nov) & Min of ~21 °C (Dec – Mar).
- Irrigation frequency around 7 days
- Do drains dispose drainage water in less than 7 days?



Thank You

