



USING THE NEEM TREE (*AZADIRACHTA INDICA*) AND MASS MEDIA TO IMPROVE AGRICULTURAL LIVELIHOODS IN MALI

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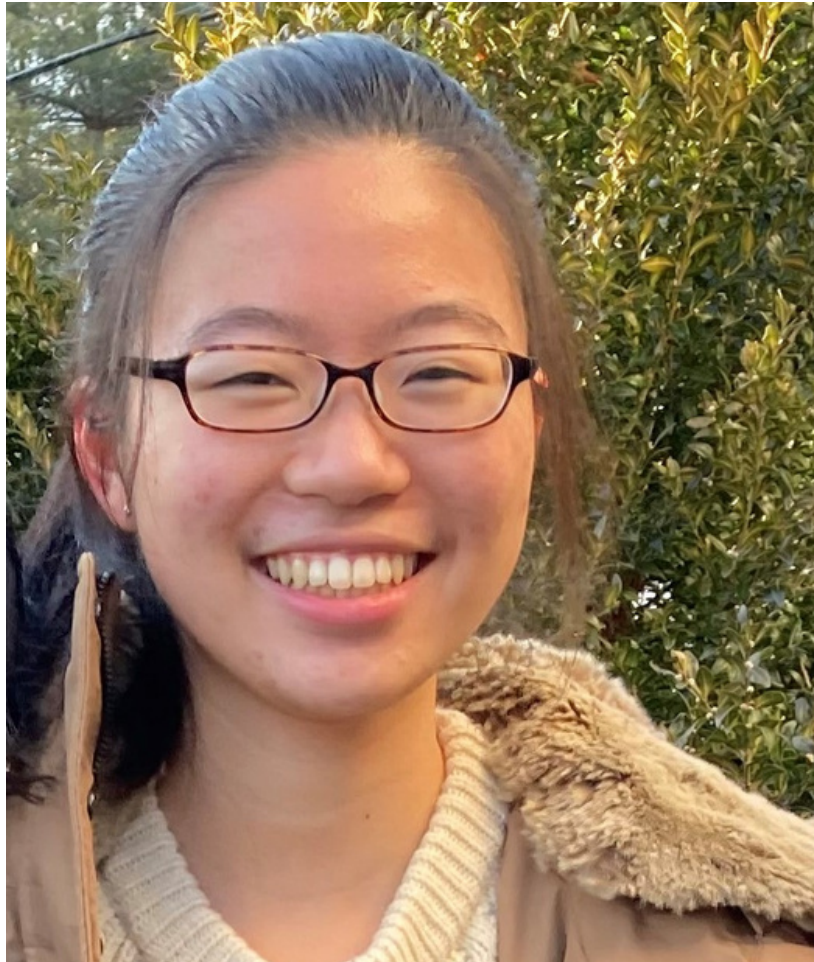
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ABOUT THE AUTHOR

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ABOUT THE NEW YORK YOUTH INSTITUTE (NYYI)

THE NEW YORK YOUTH INSTITUTE (NYYI) IS AN OPPORTUNITY FOR HIGH SCHOOL STUDENTS TO LEARN MORE ABOUT GLOBAL ISSUES RELATED TO FOOD AND AGRICULTURE. PARTICIPANTS RESEARCH A TOPIC AND COUNTRY OF THEIR CHOOSING AND SYNTHESIZE THEIR RESEARCH IN A PAPER, WHICH QUALIFIES THEM FOR THE DAY-LONG EVENT HOSTED AT CORNELL UNIVERSITY.

COUNTRY OF FOCUS:
MALI

KEY CHALLENGE:
LOW AGRICULTURAL PRODUCTIVITY
AND UNSUSTAINABLE FARMING
PRACTICES

PROPOSED SOLUTION:
MULTI-FACETED APPROACH USING
NEEM OIL AND MASS MEDIA

SUMMARY:

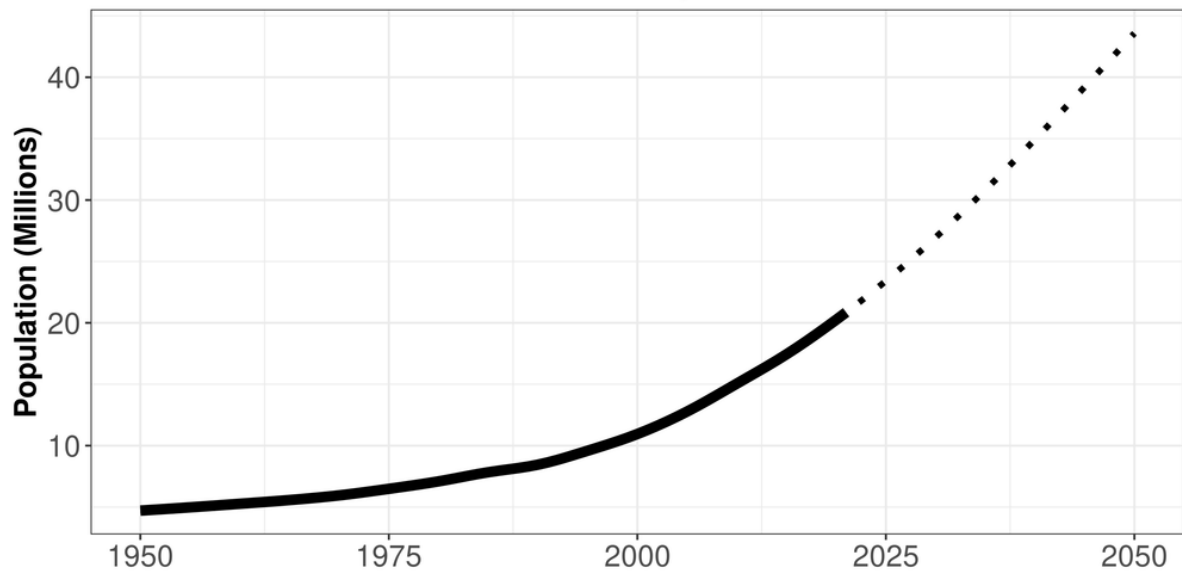
MALI IS A COUNTRY IN WESTERN AFRICA THAT SUFFERS FROM LOW AGRICULTURAL PRODUCTIVITY AND UNSUSTAINABLE FARMING PRACTICES. THE COTTON BOLLWORM, FALL ARMYWORM, AND DESERT LOCUST HAVE CAUSED SIGNIFICANT DAMAGE TO MALI'S MAIN EXPORT CROPS: MAIZE AND COTTON. NEEM OIL, A PRODUCT DERIVED FROM THE NEEM TREE (*AZADIRACHTA INDICA*), COULD BE A VIABLE AND SUSTAINABLE SOLUTION THAT COULD BE PROMOTED BY CREATING A PROGRAM ON THE GOVERNMENT RADIO STATION AND UTILIZING COMICS IN NEWSPAPERS.

MALI



Population of Mali

Forecast done by the FAO



43.14% URBAN

56.86% RURAL

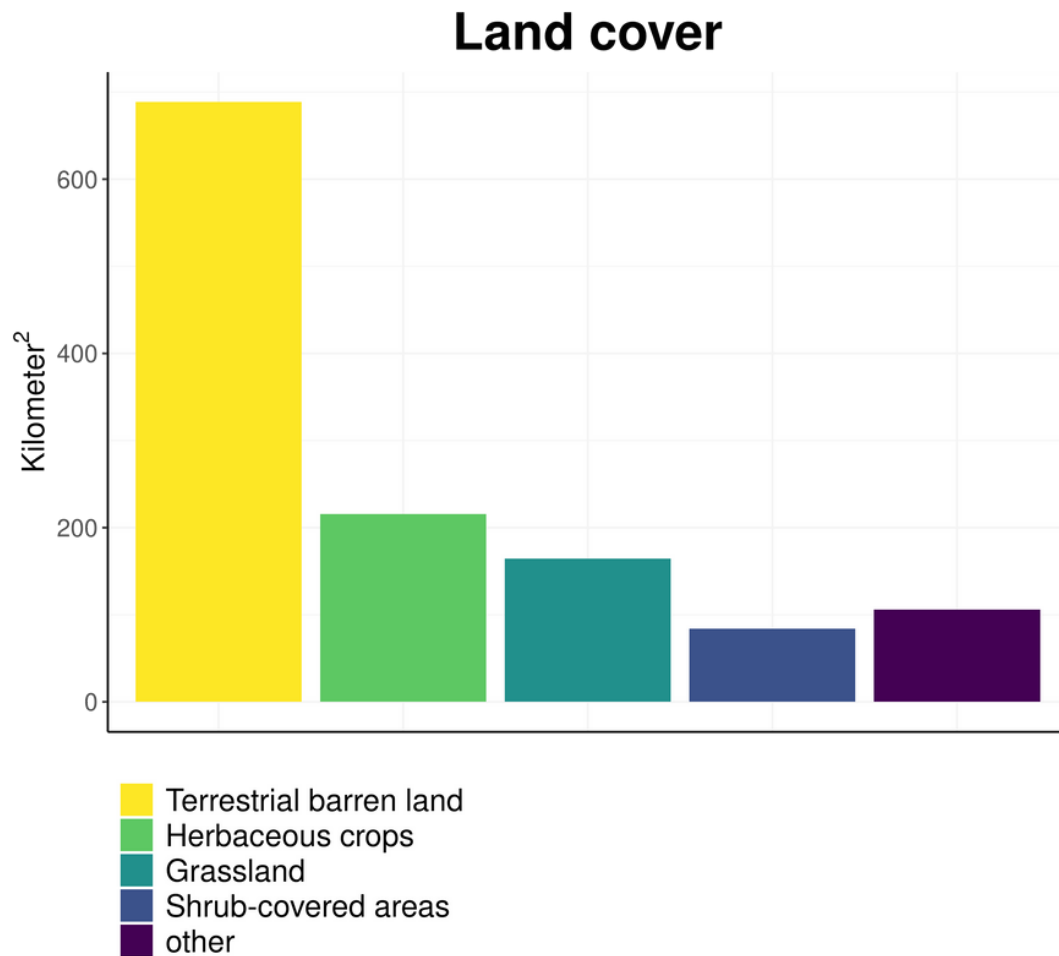
TYPICAL HOUSEHOLD

**MALIAN FAMILIES ARE LARGE,
WITH AN AVERAGE OF 5.8 PEOPLE**

**SHARED HOUSEHOLD AMONG
UNCLES, AUNTS, AND
GRANDPARENTS**



AGRICULTURE, LAND, AND FOOD IN MALI



TOP 5 CROPS BY AREA

1. MILLET (19,899 KM²)
2. SORGHUM (15,007 KM²)
3. MAIZE (14,321 KM²)
4. RICE, PADDY (9,246 KM²)
5. SEED COTTON (7,381 KM²)

KEY CHALLENGE: LOW PRODUCTIVITY AND UNSUSTAINABLE FARMING PRACTICES

"About 4 million tons of pesticides are sprayed every year in Mali, including obsolete pesticides, with around 50,000 obsolete pesticides across the country... Oftentimes, areas affected by locusts don't have sufficient resources to battle them, leading to crop loss and food insecurity. By reducing the effects of locust swarms, agricultural livelihoods in not just Mali, but around the East African and Indian region can be benefited. Currently, chemical pesticides are utilized, but this measure is insufficient to prevent desert locusts from severely damaging crops. "

- VIVIEN WONG'S RESEARCH PAPER FOR NYEI 2022



PROPOSED SOLUTION: MULTI-FACETED APPROACH USING NEEM OIL AND MASS MEDIA

"A possible solution to the issues Mali is currently facing with poverty, the continued use of obsolete pesticides, damaging locust swarms, and unsustainable agricultural practices is the neem tree. Neem oil derives from the neem tree (*Azadirachta indica*), native to Burma, Sri Lanka, and India (University of New Hampshire). The main compound Azadirachtin disintegrates very quickly by microbes in the environment, with a half-life of 1-2.5 days on the plant (The National Academies Press), making it more sustainable than current pesticides used, which have lasting impacts on soil health. With a cheaper price and greater efficacy than conventional pesticides, neem oil is a viable option for use in Malian farms, especially as farmer profits will increase due to lower pesticide costs."

- VIVIEN WONG'S RESEARCH PAPER FOR NYI 2022



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NYYI PROGRAM DIRECTOR

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