

WPI

Mangifera Indica Plantations: Mangos for Dental Use in India

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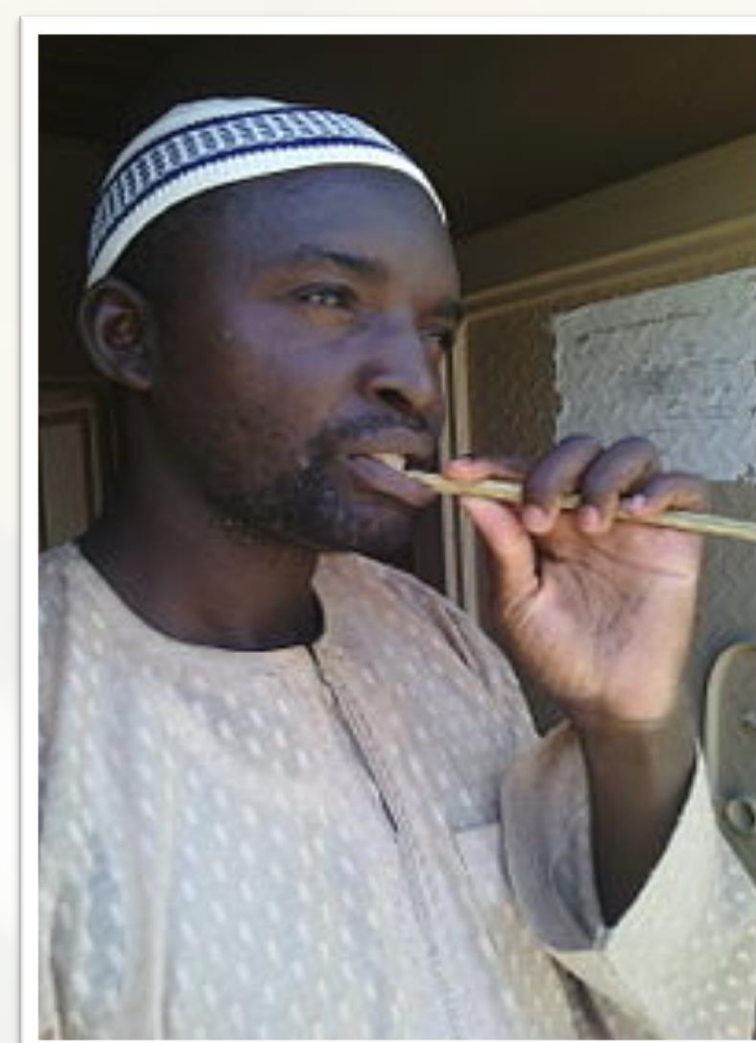
Abstract

Poor oral hygiene is a prevalent problem in India. Mango branches can act as a toothbrush and contain a chemical called mangiferin, which can act as a natural toothbrush. Information on proper dental hygiene was provided and a plan for providing and distributing mango tree branches was developed. The rate of tooth caries dropped significantly.

Background

- Poor oral hygiene affects 60-90% of school children, and nearly 100% of adults worldwide⁷
- As economic status declines, access to dental care becomes scarce⁸
- India is highly affected by Edentulous⁸

- The mango tree branch can be used as an alternative to a synthetic toothbrush⁹



Project Goals and Objectives

- Educate the people of India on the risks of poor dental hygiene
- Utilize mango branches as an alternative method to teeth brushing
- Build plantations specifically for mango branch extraction
- Distribute mango branches effectively

Methods/Process



Create educational program on oral health¹⁰

- Importance & basic methods
- Benefits of mangiferin
- Proper use of chewing sticks



Create plantation of mango trees⁶

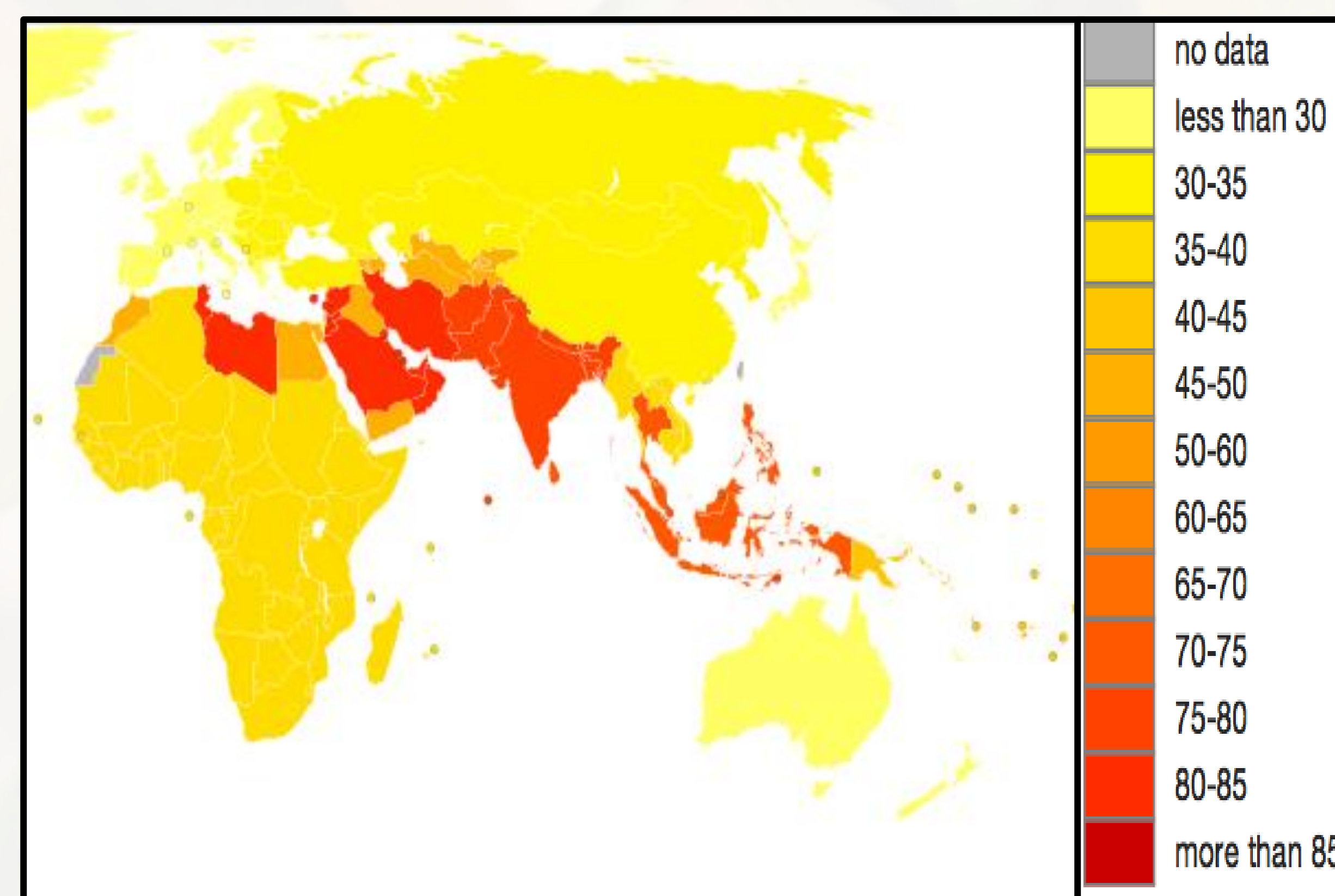
- Find available land
- Plant mango tree saplings
- Red Cross donation of money



Distribute mango branches⁴

- Schools, health centers, markets
- First come first serve

Rate of Edentulous in the Eastern Hemisphere



Age-standardized disability-adjusted life year (DALY) rates from Edentulism by country (per 100,000 inhabitants)²

Results and Outcomes

- Brochure helpful and persuasive
- Idea culturally accepted
- Farmers and landlords agree to set aside land
- Rate of Edentulous drops significantly within the next five years

Conclusions and Recommendations

- Another test of edentulous rate five years later
 - Simple random sample of people using chewing sticks
 - Rate of tooth caries decreases
- Improvement in oral health
 - Increase number of plantations
 - Produce more chewing sticks
 - Greater range of people aided

Acknowledgments

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