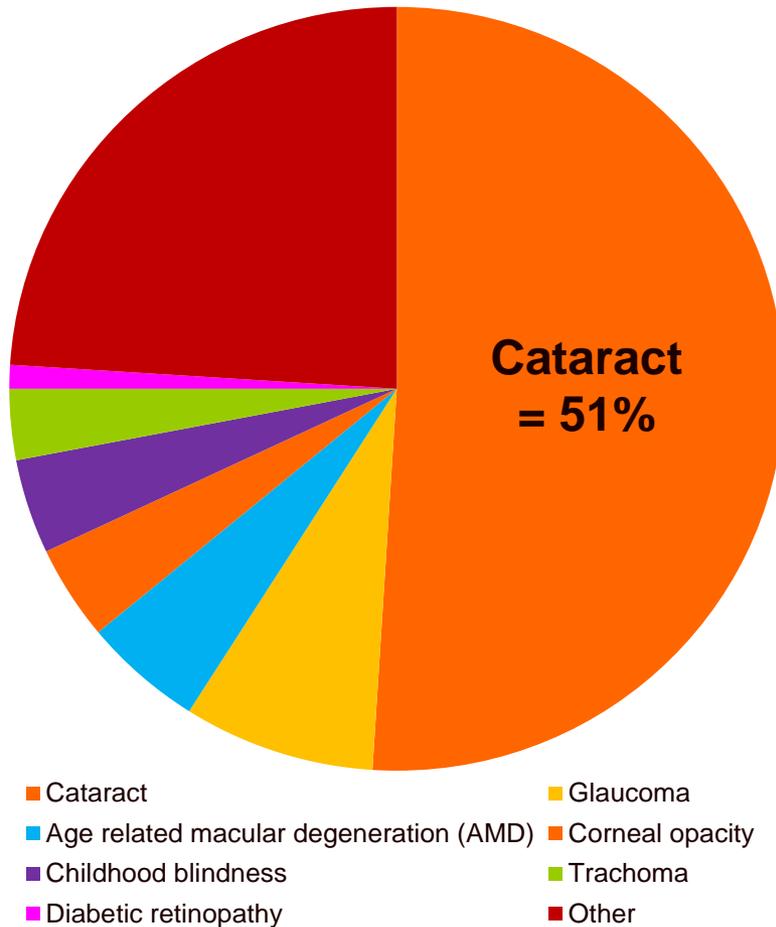




**A review of blindness and eye health service performance in the Indian Sunderbans**

***Andy Tate, Programme Systems Manager, Sightsavers***

Causes of blindness as percentage of total blindness, 2010 (WHO)

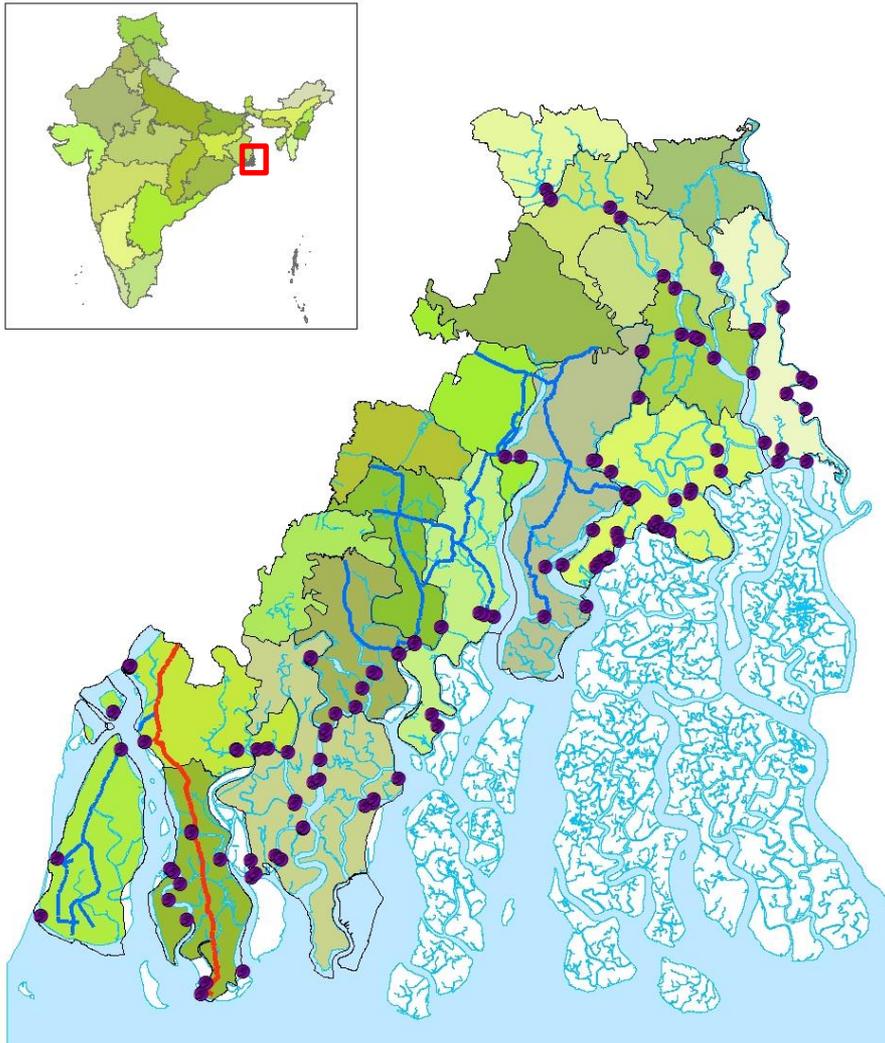


- **285 million people** are visually impaired worldwide, 90% of whom live in low-income settings.
- **39 million people** are blind.
- The leading cause of blindness globally is cataract.
- **80% of all visual impairment is avoidable.**

- Founded in 1950, Sightsavers works in over 30 countries.
- Vision: A world where no one is blind from avoidable causes and where visually impaired people participate equally in society.
- In 2015, Sightsavers...
  - Examined **12.7 million** people
  - Performed **334,000** eye operations
  - Provided **142 million** treatments for neglected tropical diseases
  - Supported **3,250** blind, visually impaired or disabled children to access schooling



# The Indian Sunderbans



- Home to 4 million people, the Sunderbans is a geographically unique - but inhospitable - mangrove environment.
- 54 of the Sunderbans islands are inhabited. These are organised into 19 administrative 'blocks'.
- An area of extreme poverty and deprivation, with limited health care coverage.
- Infrastructure is generally poor and often inaccessible during monsoon season.

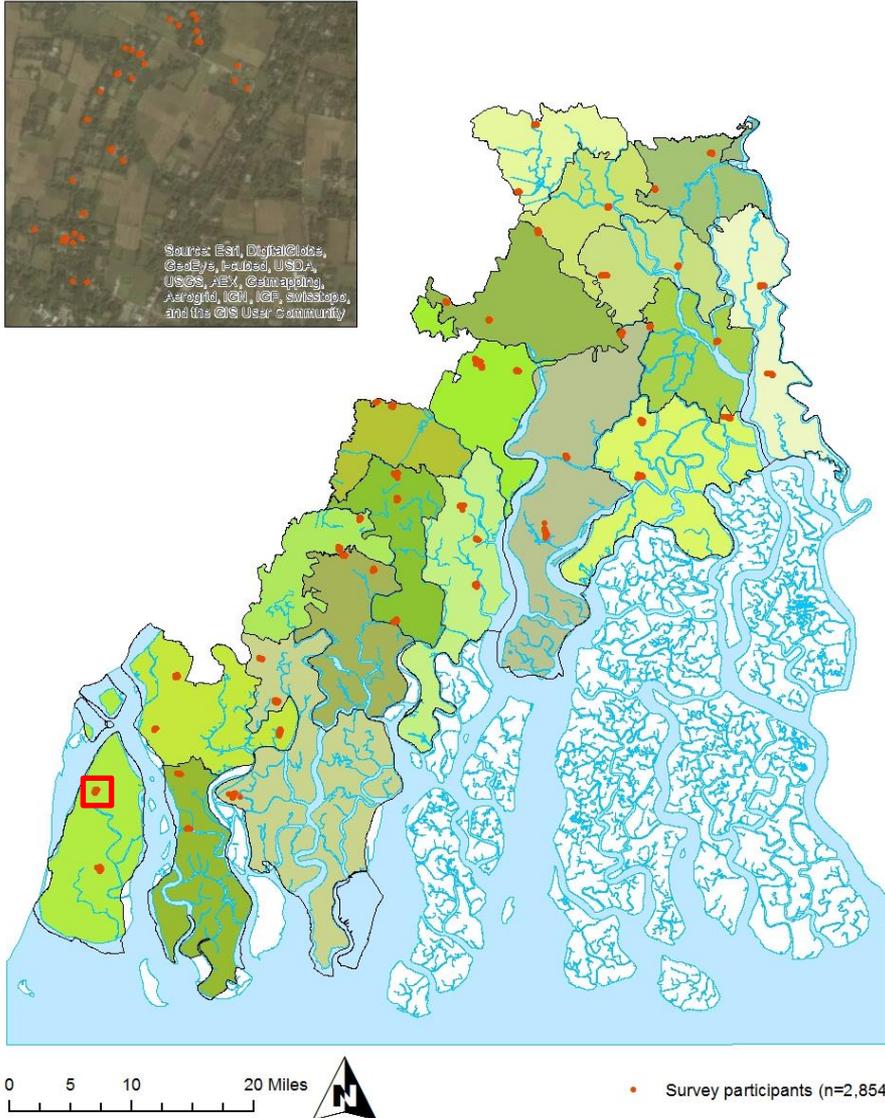


# Objectives of the project

- 5 year initiative funded by Standard Chartered Bank.
  - To improve coverage and access to affordable, quality eye health services.
  - To increase awareness and improve attitudes towards eye health in target communities.
  - To increase the capacity of governmental and non-governmental institutions to deliver eye health services.
- Use of GIS to...
  - Understand the eye-healthcare context.
  - Map service centres and where people access these from.
  - Identify service gaps and challenges.



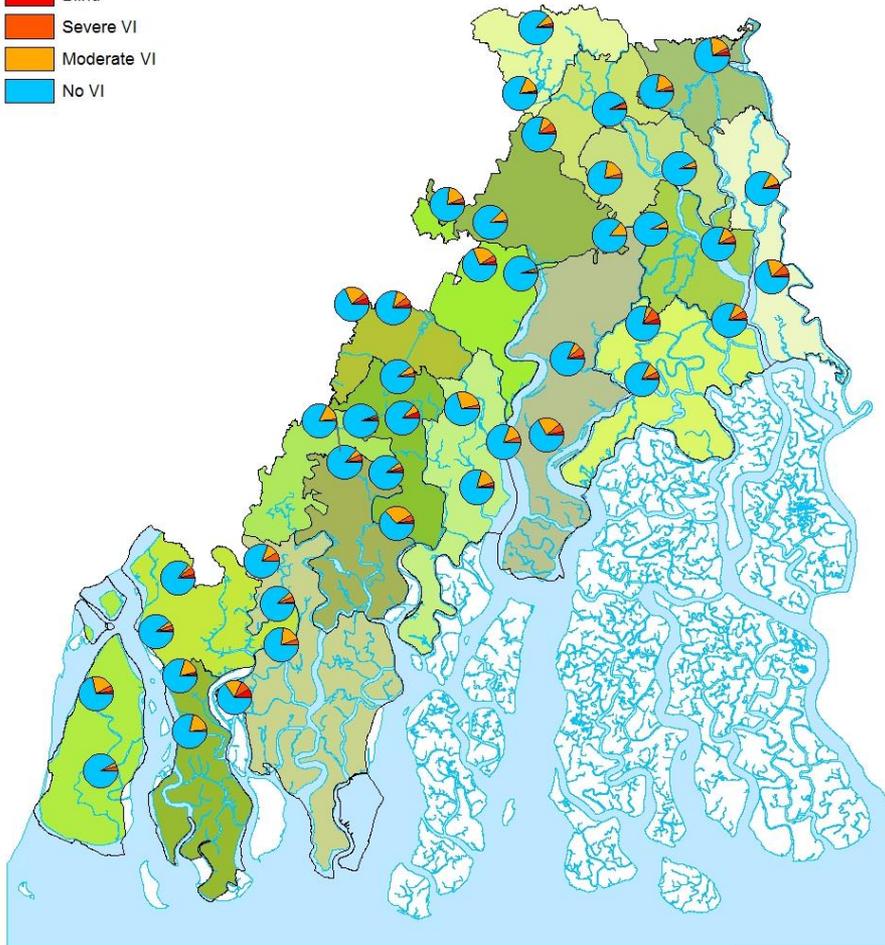
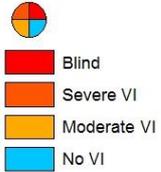
# Baseline survey - overview



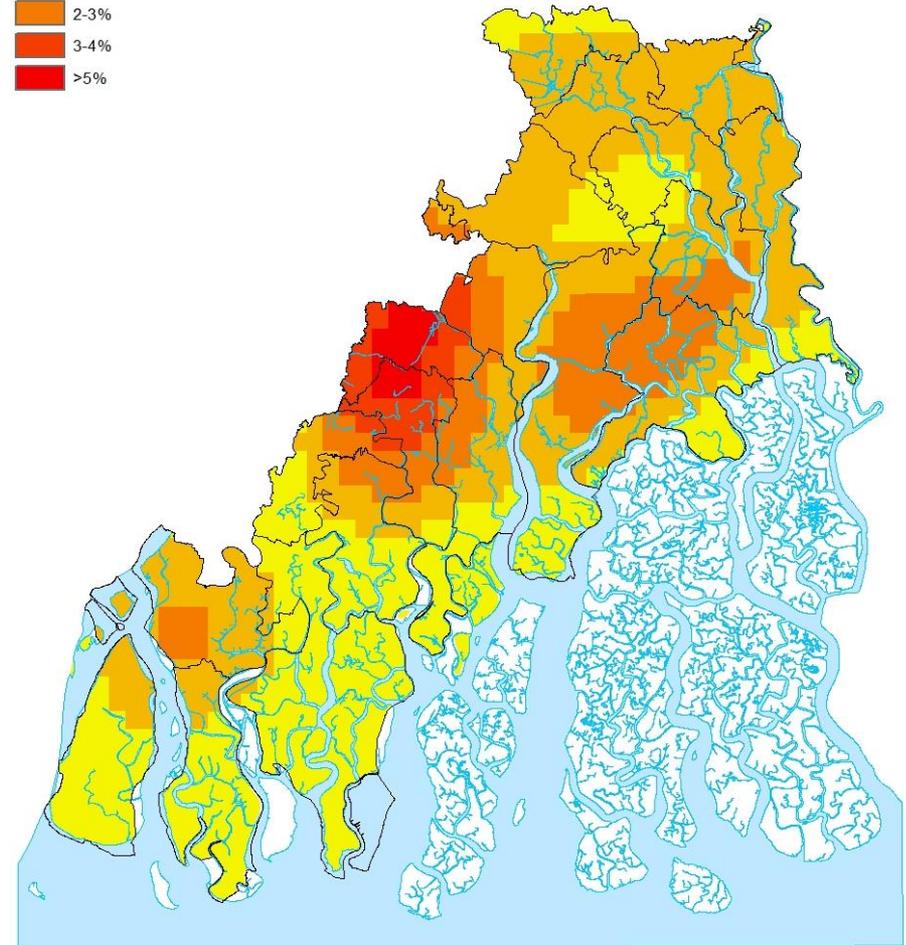
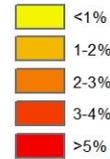
- Initial geo-referenced population based survey, including eye examination, and questions to understand health seeking behaviour and socio economic conditions.
- 46 village clusters were visited - approximately 65 people were surveyed in each cluster.
- Results were analysed in STATA and ArcGIS.

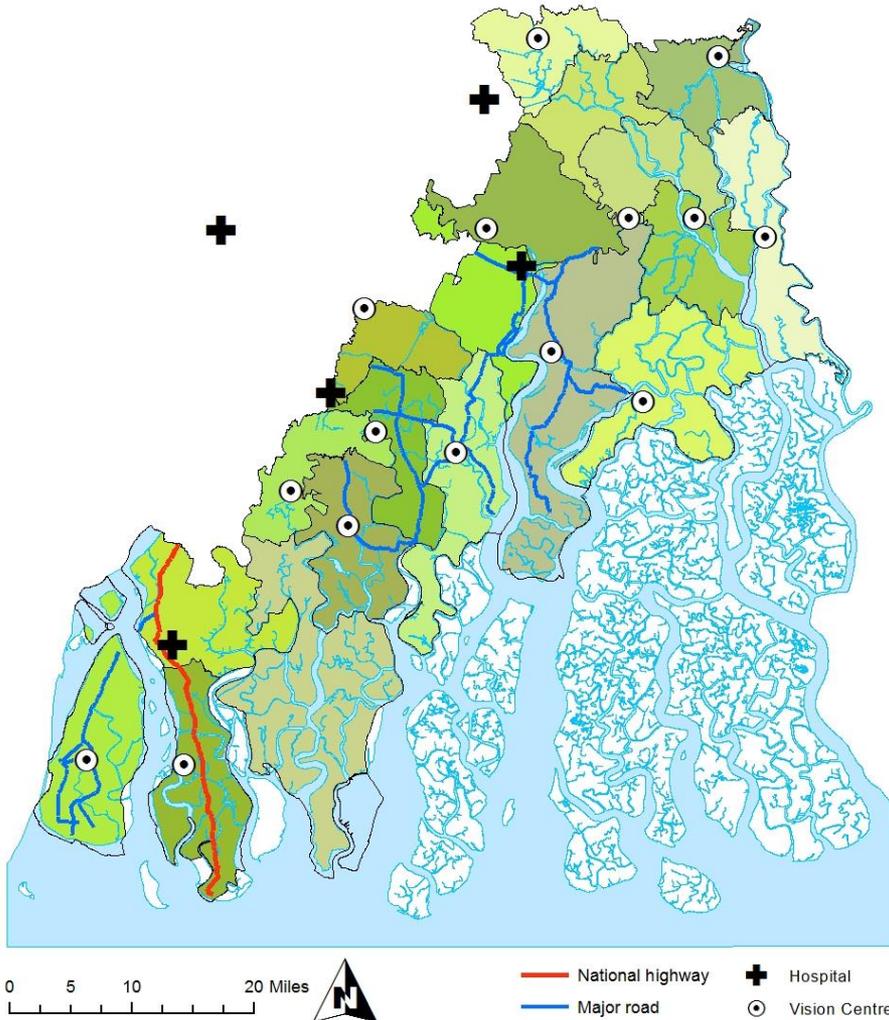
# Prevalence of blindness

## Blindness and visual impairment



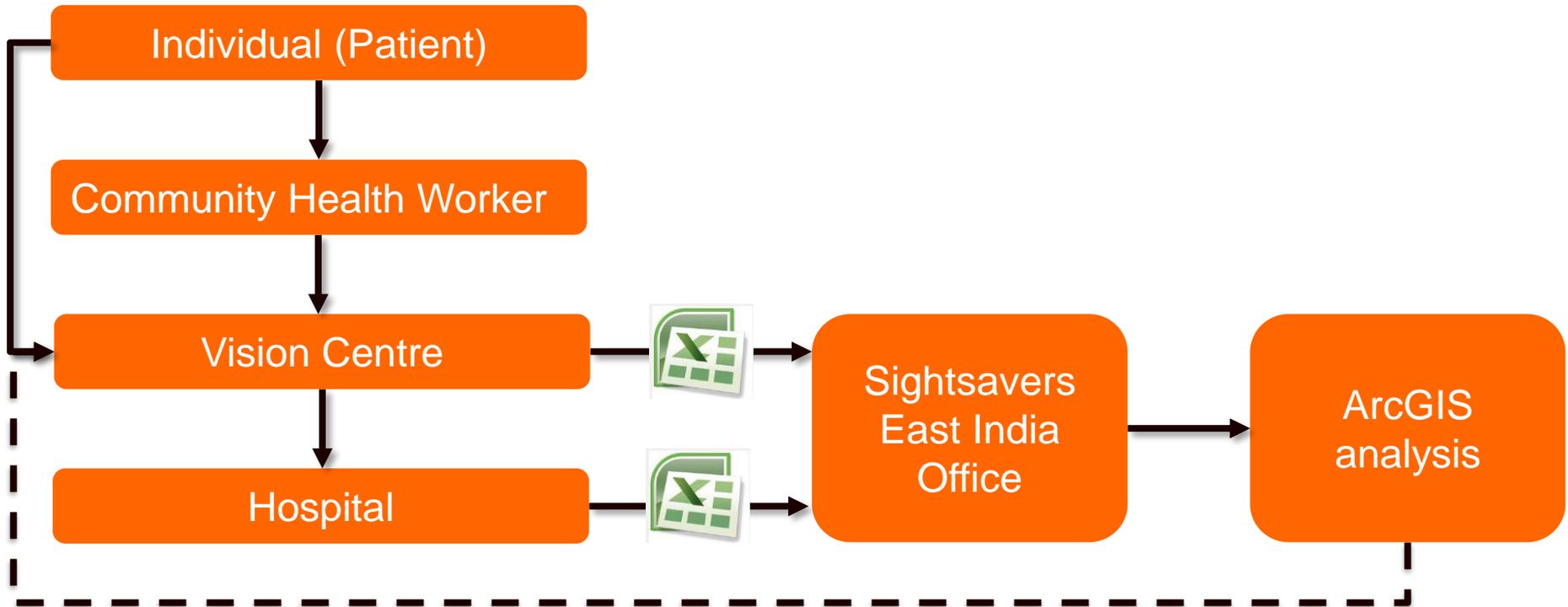
## Prevalence of blindness





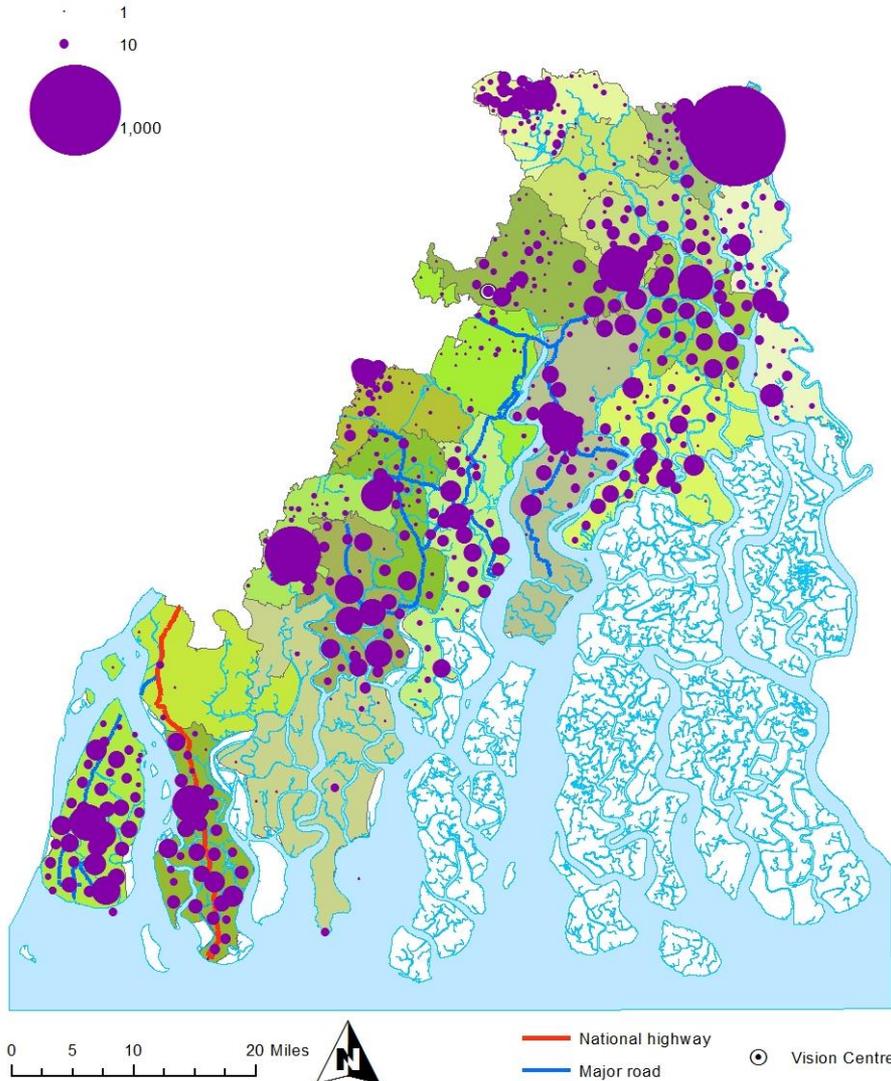
- 15 vision centres opened across the Sunderbans.
- Locations identified by partners to best meet population accessibility needs.
- Either stand-alone or integrated into existing health facilities.
- Vision centre services include:
  - Screening and refraction
  - Spectacle dispensary
  - Treatment of minor eye conditions and traumas
  - Referrals for surgery to hospital

# Sunderbans model of monitoring



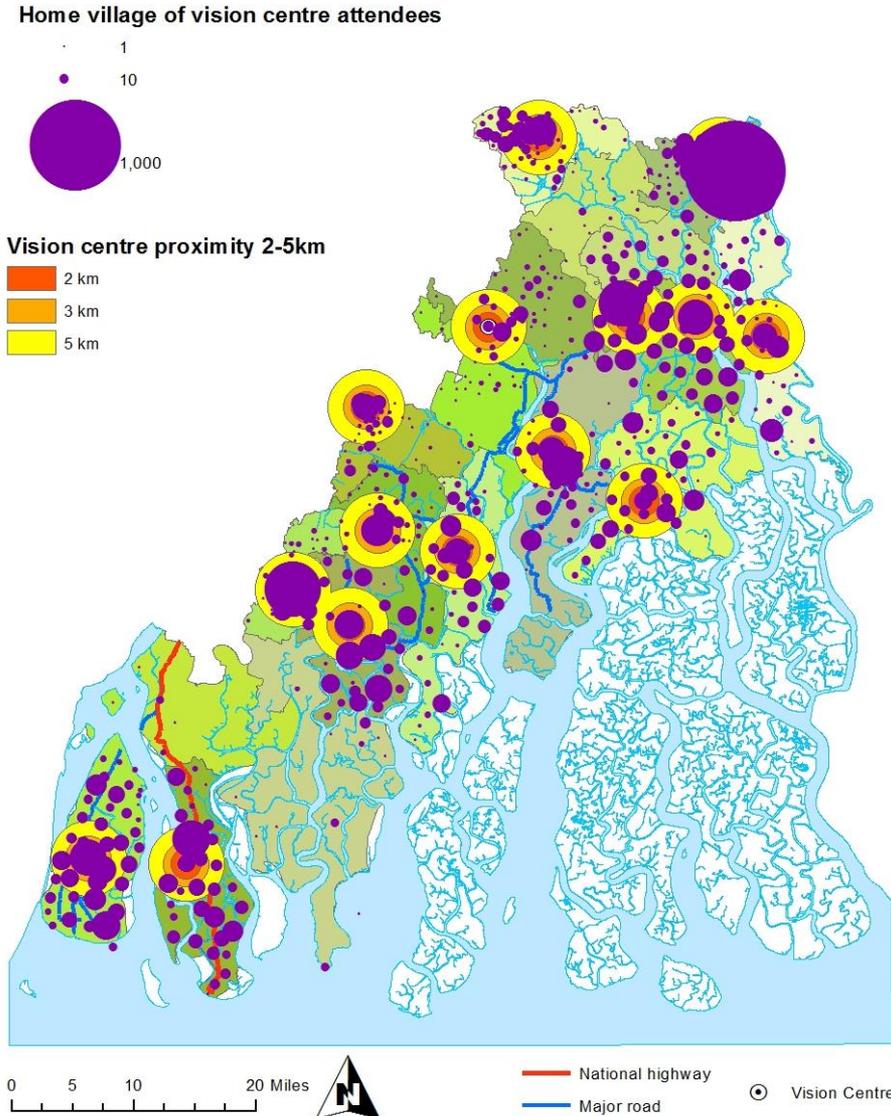
# Patient data 2014 - March 2016

Home village of vision centre attendees



- 11,350 unique patients mapped to the GIS.
- Reach of the vision centres is relatively localised - 63% of service uptake is from villages within 5km of a vision centre.
- Need for increased outreach and awareness raising activities to ensure full service coverage, particularly in areas of greater population and prevalence.

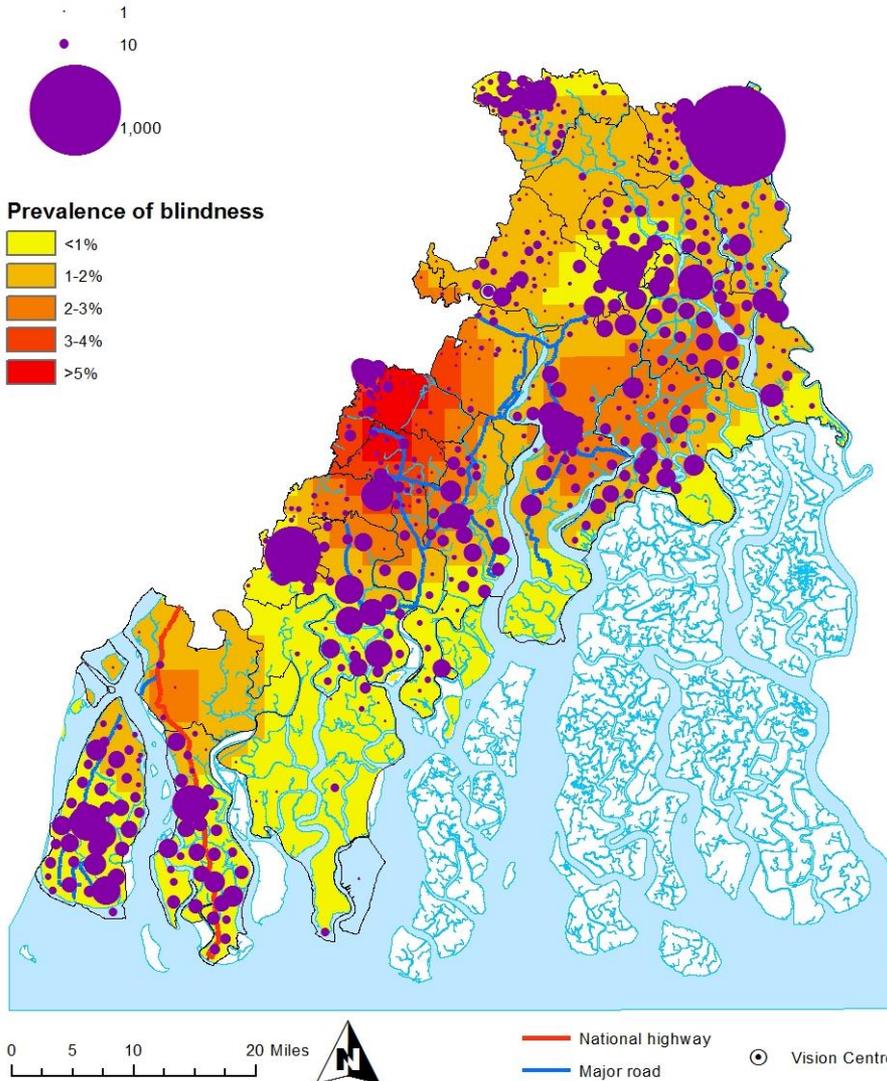
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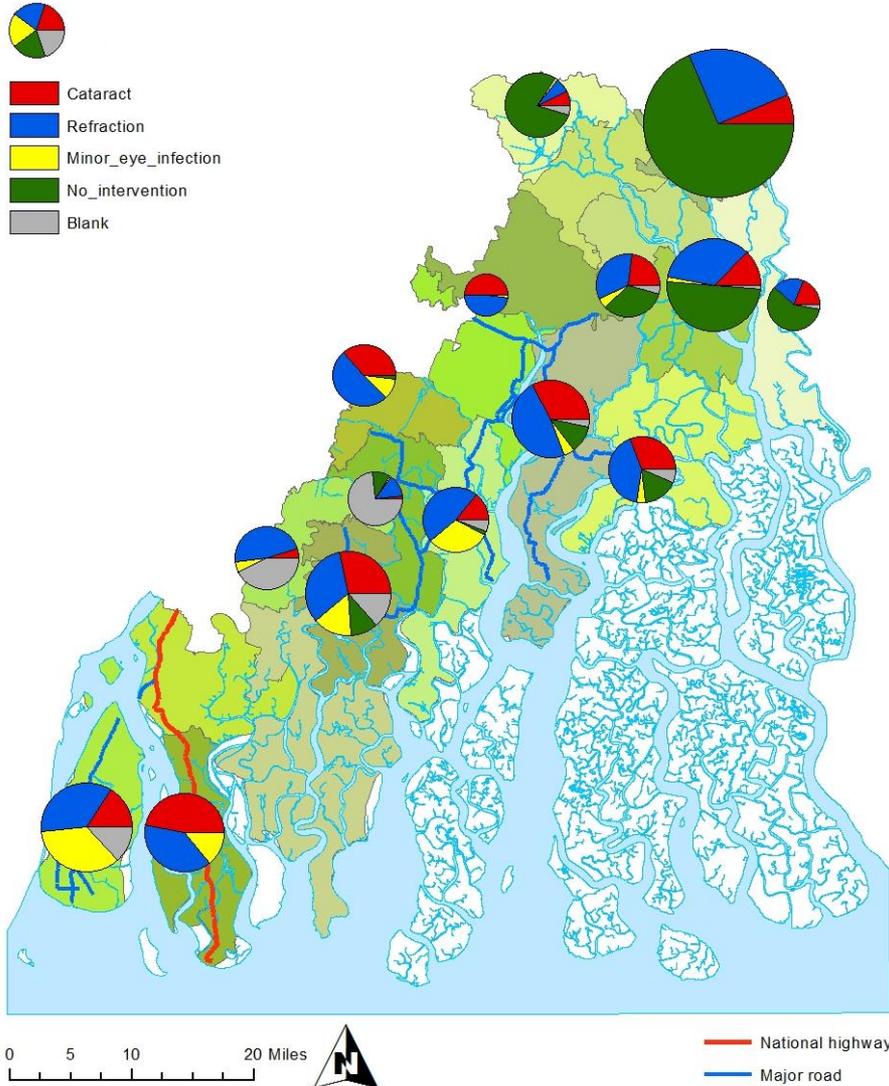
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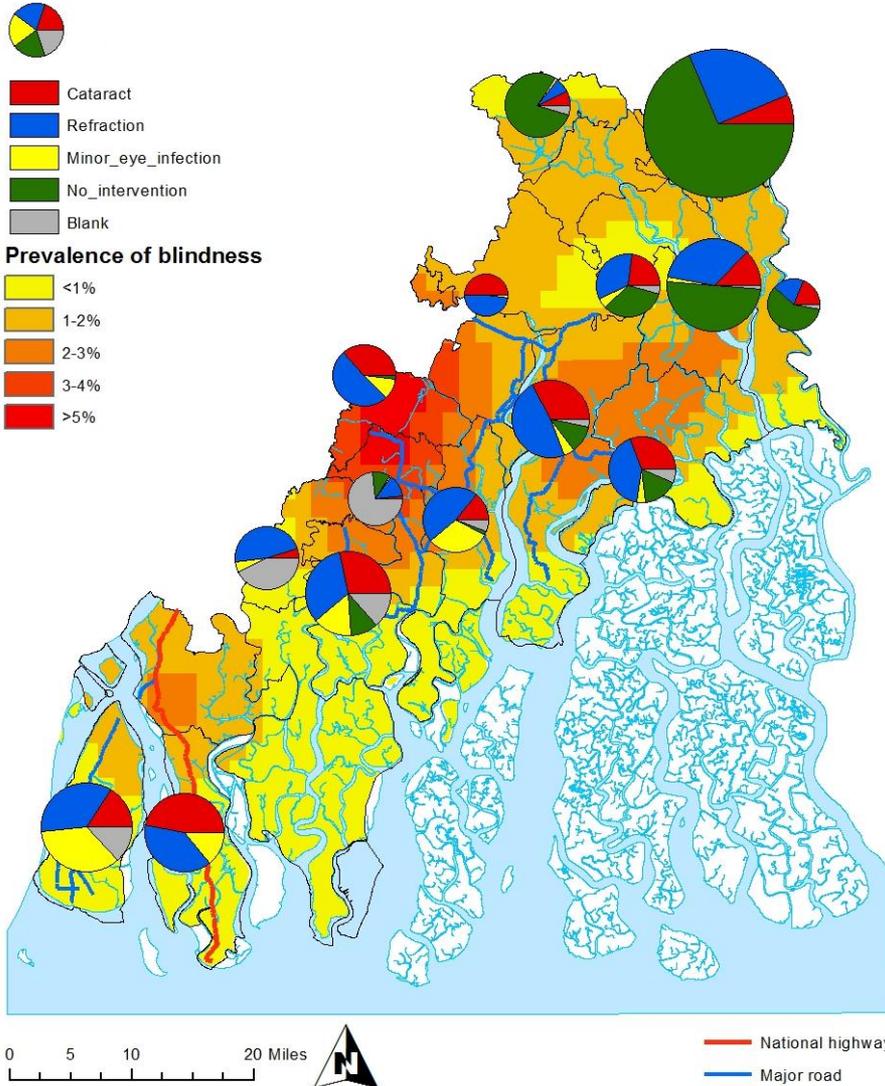
## Vision centre attendees - diagnosis



- Variability between centres due to...
  - Location of centre
  - Capacity of centre
  - External conditions
- 33% of attendees diagnosed with refractive error.
- 19% of all patients diagnosed and referred for cataract surgery.

# Patient data 2014 - March 2016

## Vision centre attendees - diagnosis



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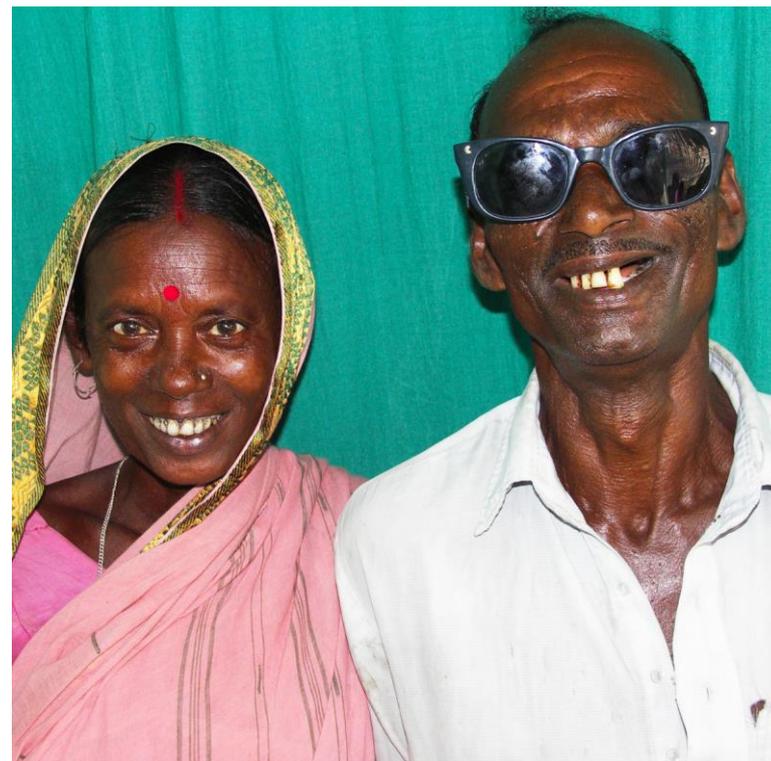
- In the Sunderbans:
  - Use of Excel tool until database system ready for release.
  - Creation of map-books for each vision centre.
  - Project story map.
- In Sightsavers:
  - Establish use of mobile devices for data collection.
  - Increase staff capacity to use and work with GIS data.
  - Push for use of GIS in more projects.

## With thanks to...

- Standard Chartered Bank (Seeing is Believing)
- The partners and staff of the Sunderbans Eye Health Service Strengthening Project

### From Sightsavers...

- Dr. Sandeep Buttan (Global technical lead: eye health & health systems strengthening)
- Emma Jolley (Technical advisor for health and disability)
- Sudipta Mohanty (Country director East India)
- Sameera Ahmed (Programme officer East India)
- Abraham George (Director MERL, India)
- Pankaj Kohli (M&E officer India)



[www.sightsaversusa.org](http://www.sightsaversusa.org)