



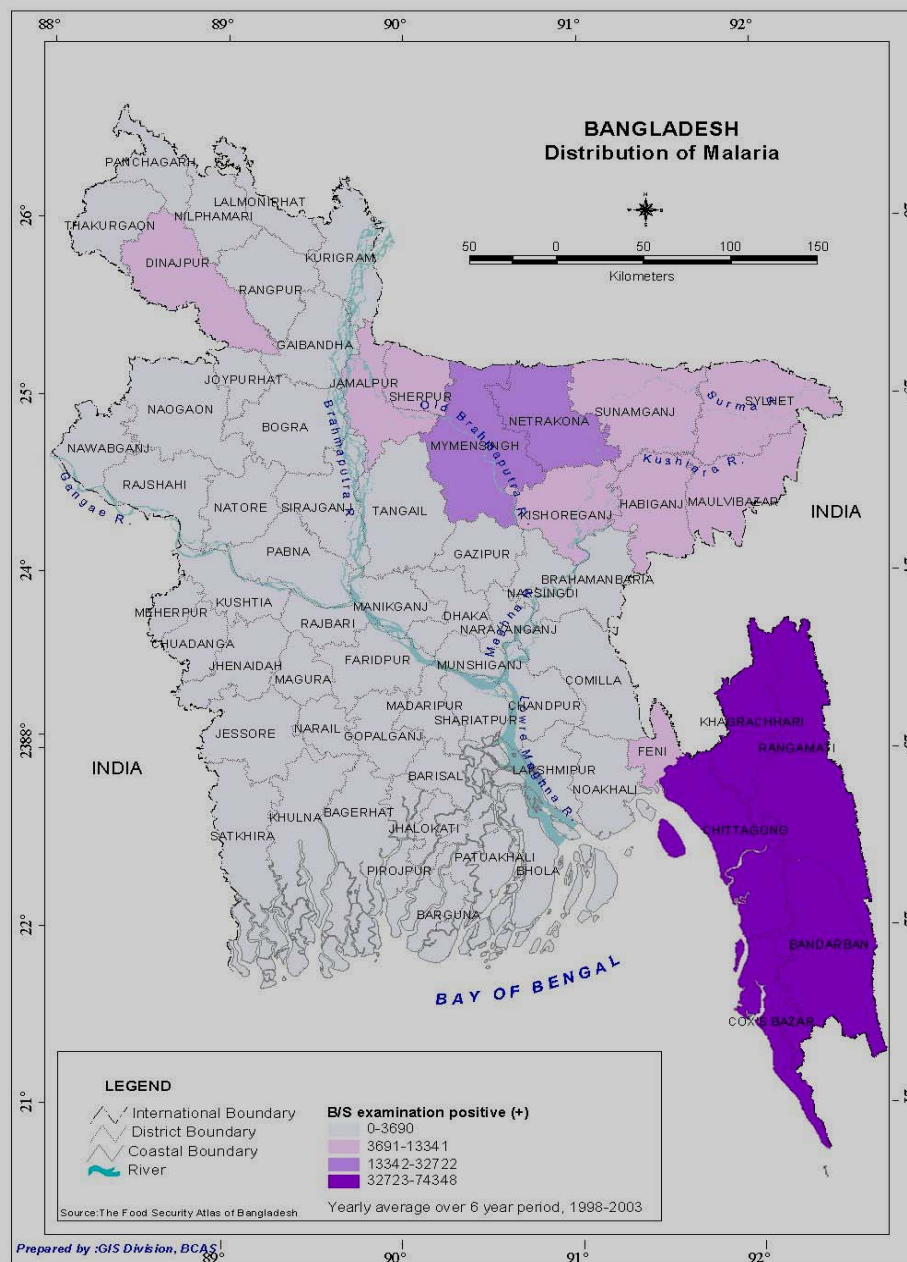
Relationship Between Climate Change and Incidence of Malaria in Chittagong Hill Tracts.

Dr. Shafiqur Rahman, Mr. Mozaharul Alam
DR. M Sabbir Haider, DR. Shajedul Hasan

Bangladesh Centre for Advanced Studies (BCAS),

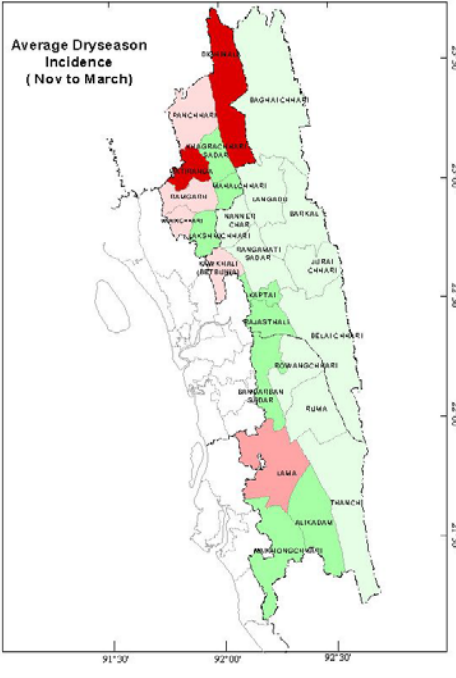
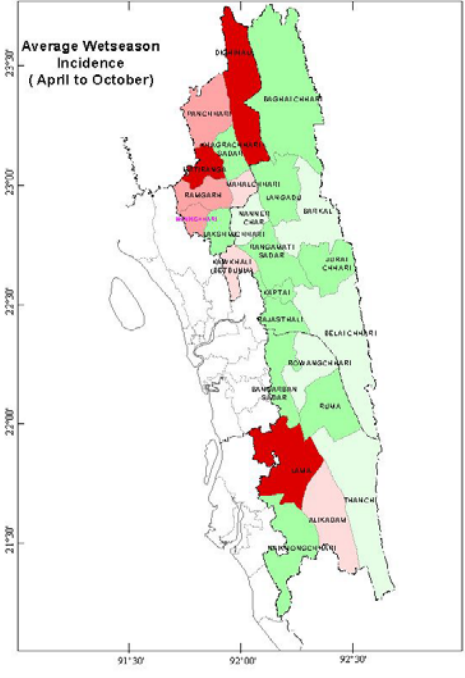
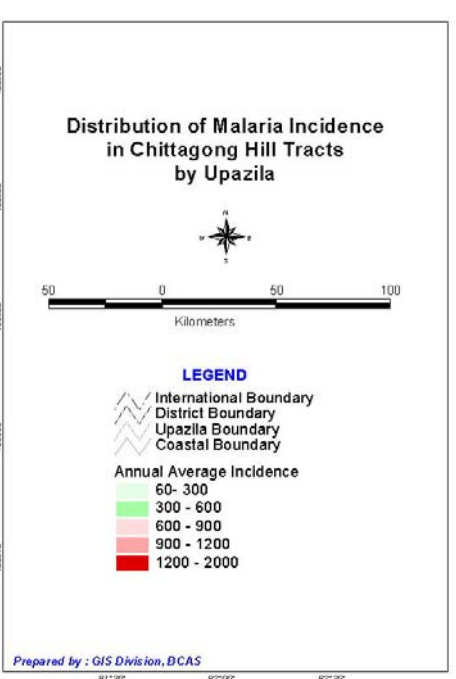
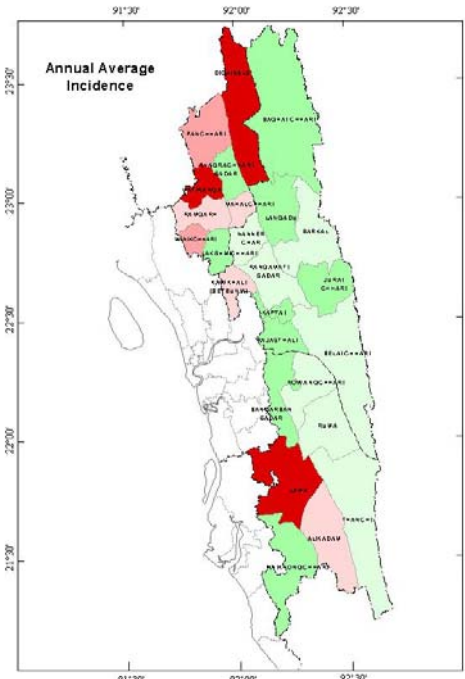
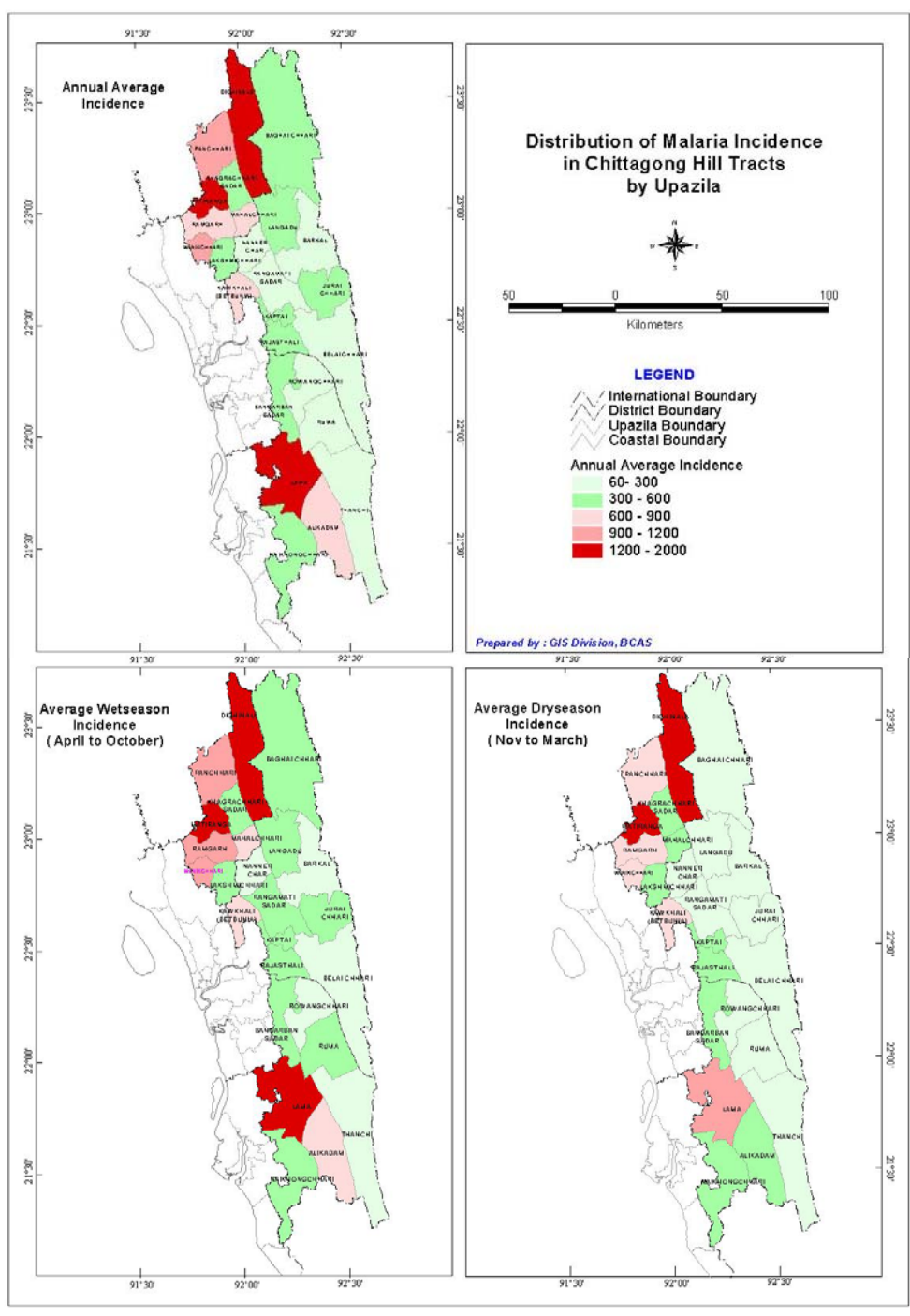
Bangladesh Situation

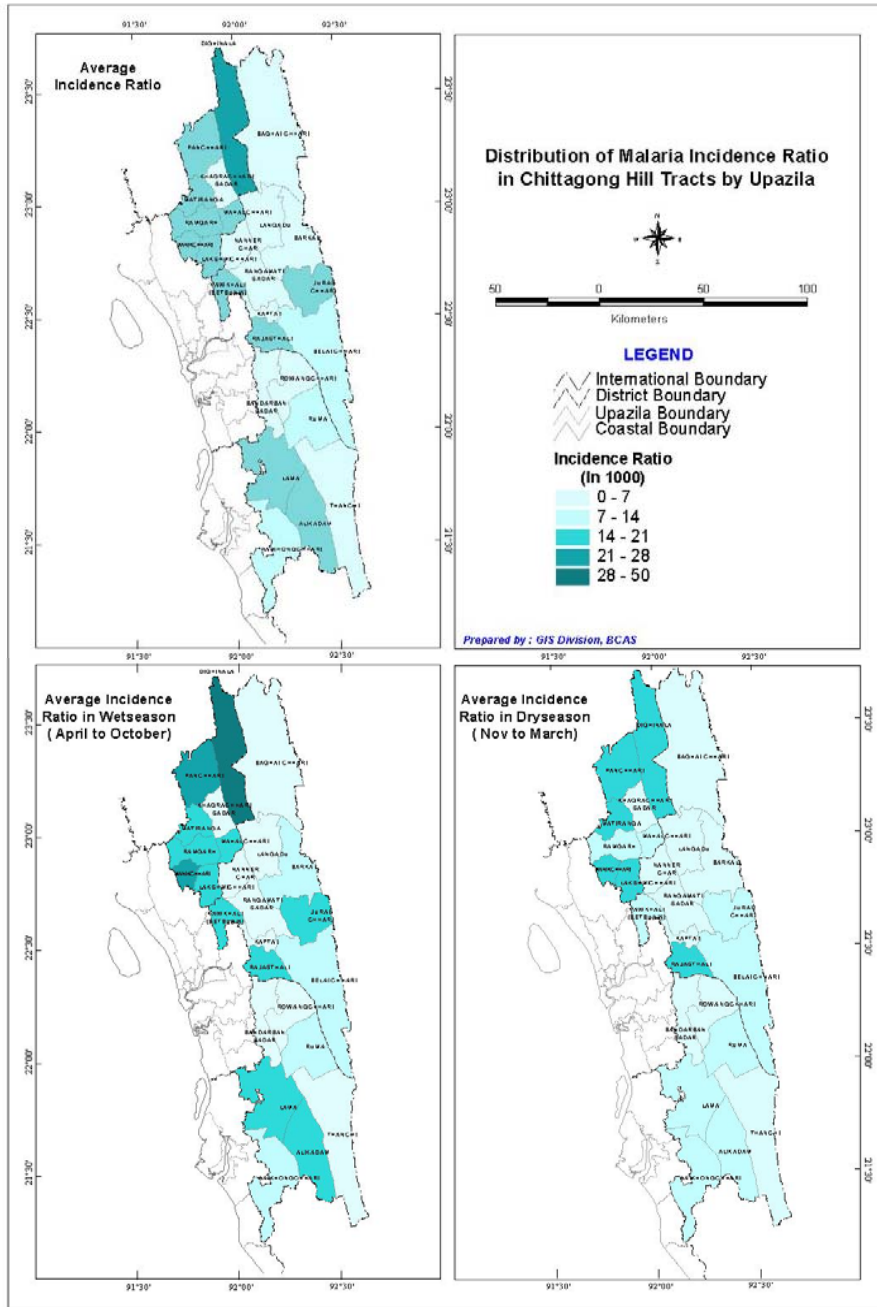
- Out of 64 districts, 13 bordering districts in the east and north-east region belongs to the high-risk malaria zone.
- *Plasmodium falciparum* is the predominant parasite (61%-71%).
- 14.7 million people are at high-risk of malaria in the country.
- 1.0 million clinical cases are treated every year.
- In 2002 - a total of 598 deaths were reported in Bangladesh.
- In 2005 – 213 deaths in CHT



Rainfall: Chittagong Hill Tracts

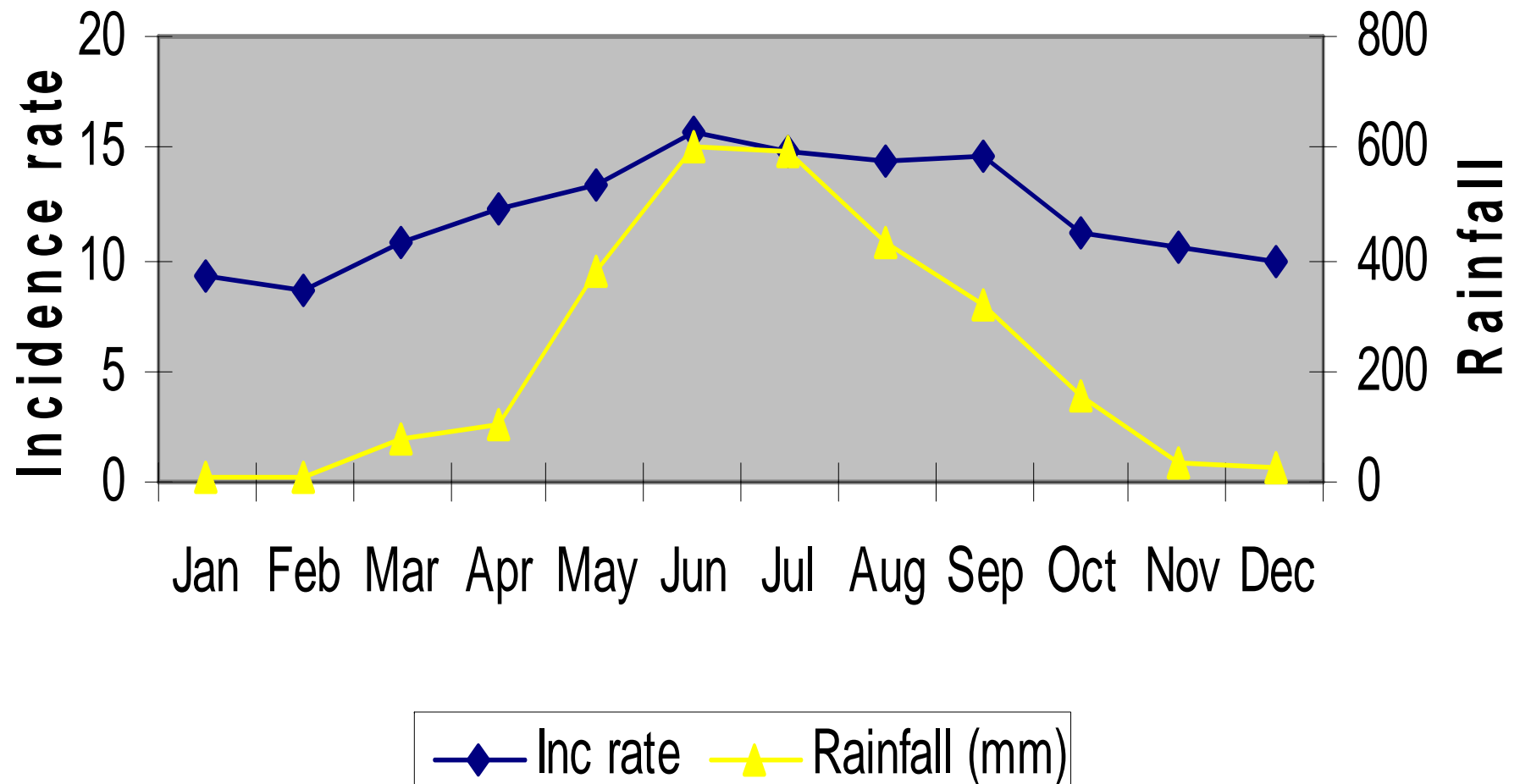
- In CHT, annual rainfall ranges between 2,000 to 3,000 mm.
- The avg. rainfall is 2734 mm
- Two seasons are defined in the annual cycle:
 - Warm, wet season from April to October, and
 - Cool, dry season from November to March.
- During the cool & dry season, mosquitoes are less active and the number of malaria cases declines.
- This number increases considerably during the warm & wet season.



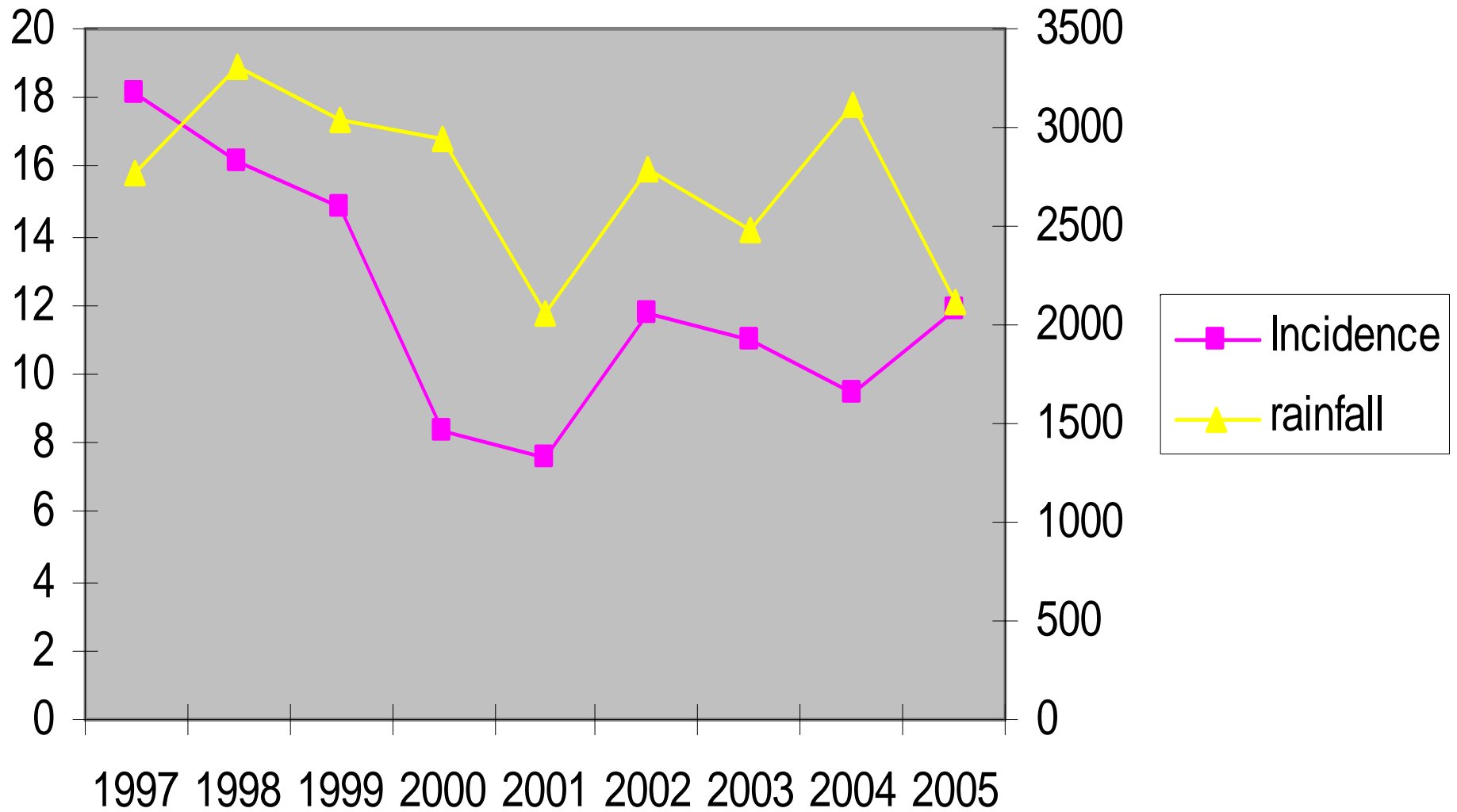


IR and Rainfall

$r = 0.93$



IR and Rainfall

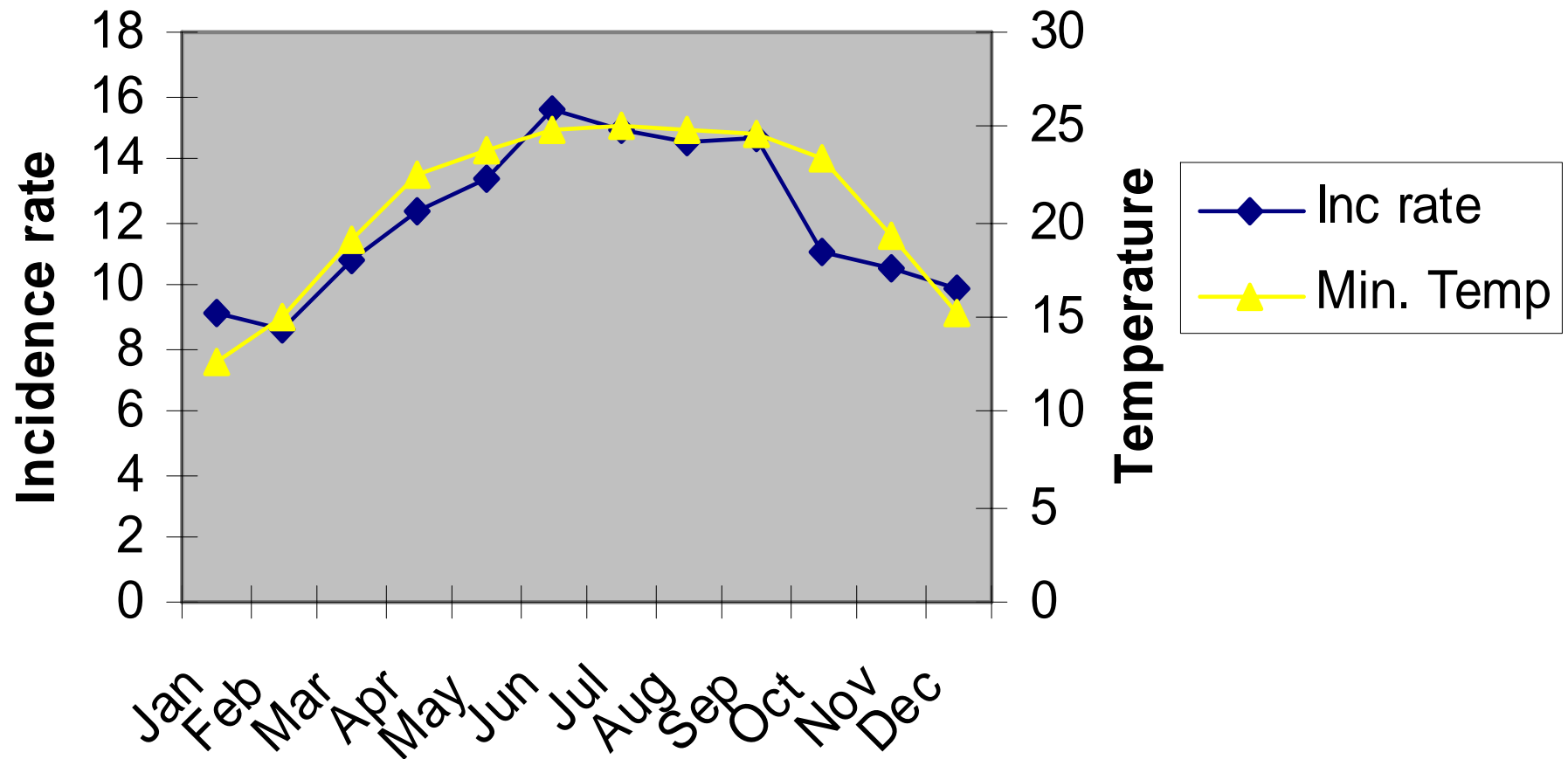


Temperature

- The average temperature In CHT
 - During Winter
 - Avg. Max. -29.1°C
 - Avg. Min. -16.22°C .
 - During Summer
 - Avg. Max. -32.33°C
 - Avg. Min. -24.35°C

IR & Min. Temp

$r = 0.90$

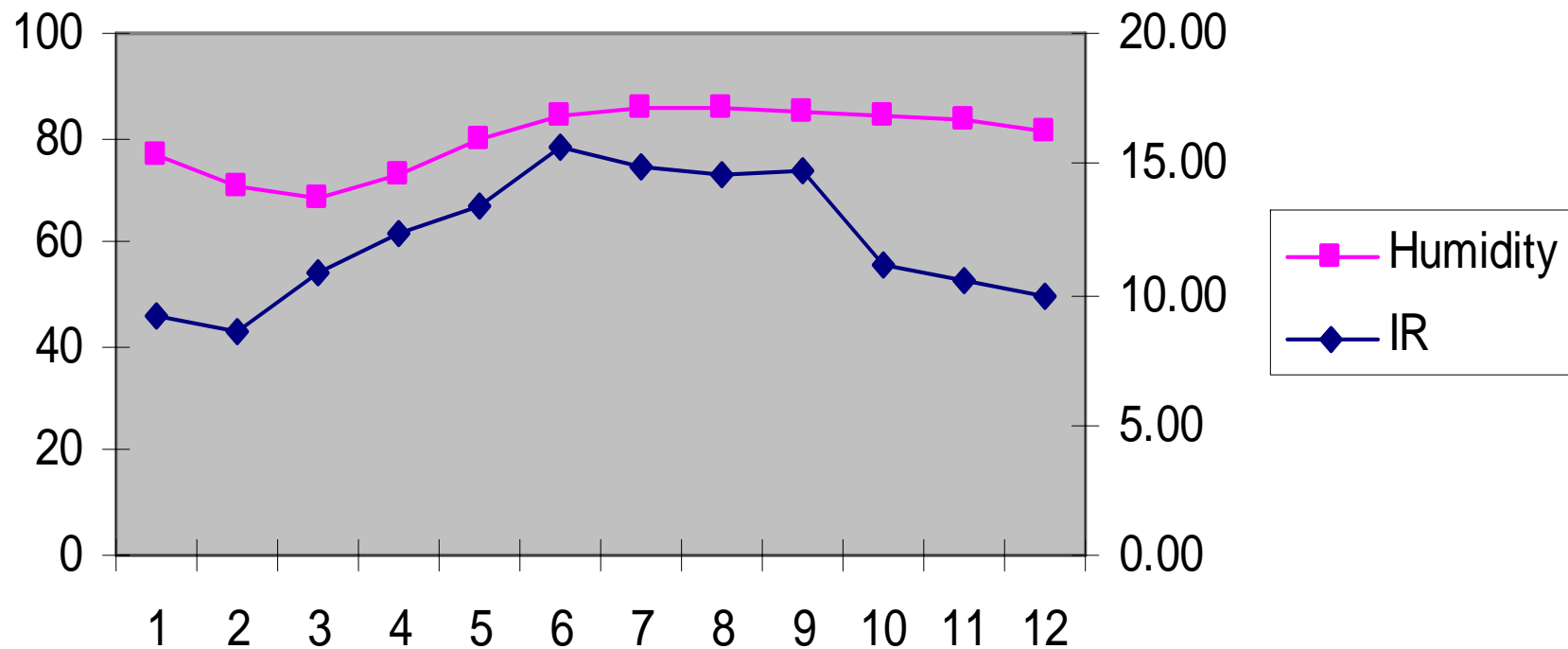


Incidence and Relative Humidity

- A high relative humidity lengthens the life of the mosquito.
- Humidity greater than 60% is optimal for *Anopheles* to survive.
- Humidity helps the parasite to complete the necessary life cycle so that it can transmit the infection.

IR and Relative humidity

$r = 0.6$



Conclusion

- The risk and rate of malaria are affected by many
- factors. But climatic factors show the most
- persuasive correlation
- climate change - specially increase in temperature and rainfall increases the risk of malaria
- Bangladesh need to plan and organize the malaria control strategy
- Need to extend research

**THANK
YOU**