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**1 : 1 million scale
mapping of India and the
International Map of the World
in the early 20th Century**

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Outline

- Progress with topographic mapping of India
- India and Adjacent Countries Series
- International Map of the World
- Indian mapping and the IMW
- Conclusions

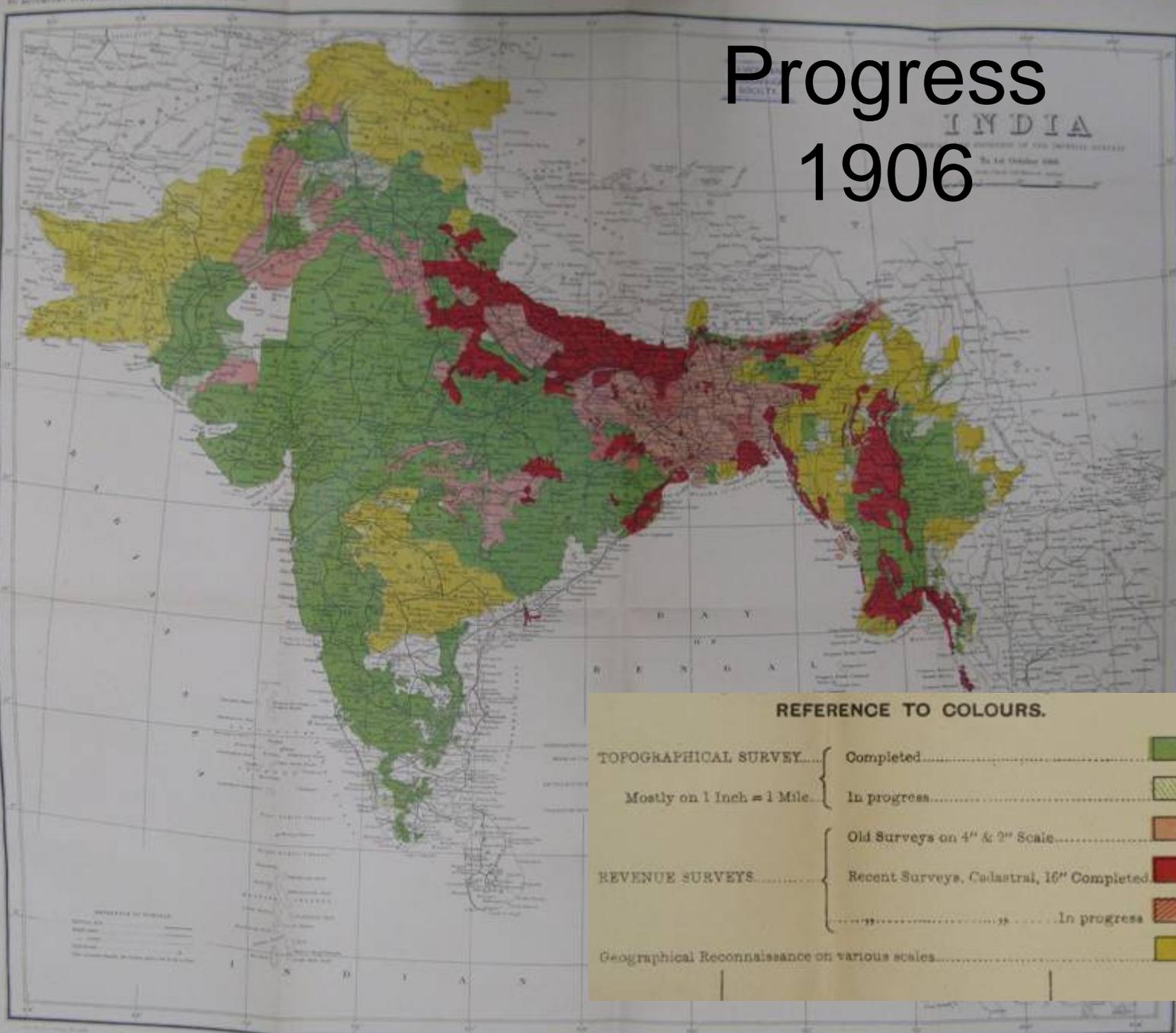
Introduction

- The International Map of the World (IMW)
 - Proposed late 19th Century at IGC Congresses
 - Special meeting on IMW London 1909
 - Basic specifications agreed
 - Produced by many countries until late twentieth century
- Part of an ongoing study into the history, development & use of the IMW

Surveying & Mapping of India

- Famous for measurement of the Great Arc
 - Triangulation 1800-1880 (Lambton & Everest)
 - ‘Discovery’ of Mt Everest 1856
- At the beginning of the C20th
 - Making good progress towards detailed survey of India for topographic mapping at various scales
 - Major focus was ‘Indian Atlas’ at 4 miles to 1”
 - Many larger scale maps

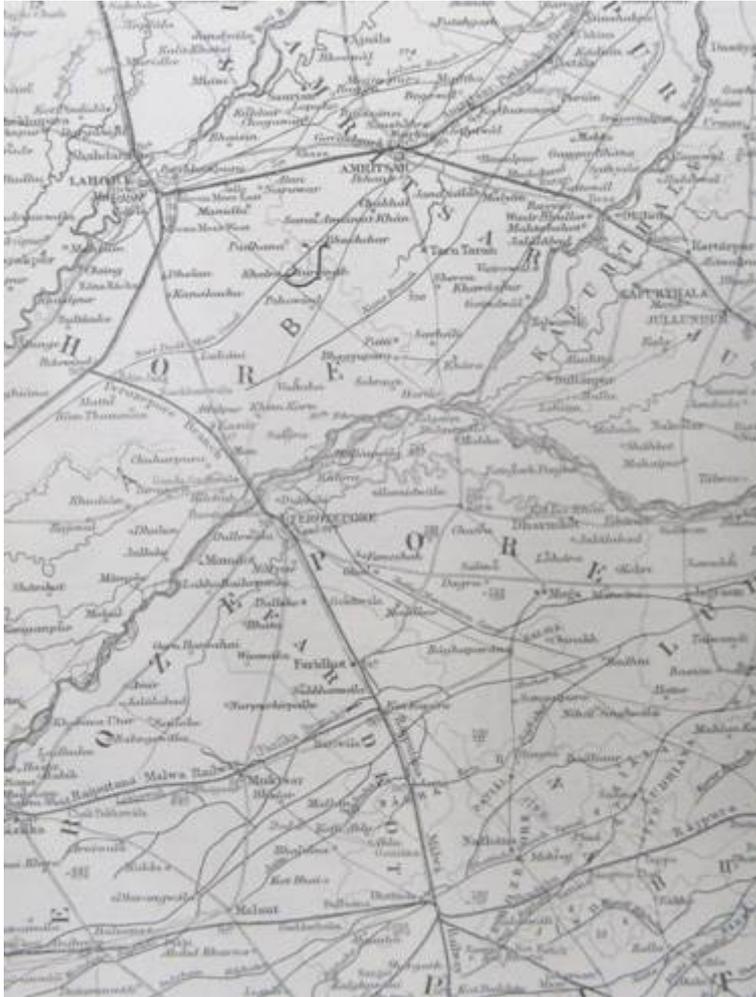
Progress 1906



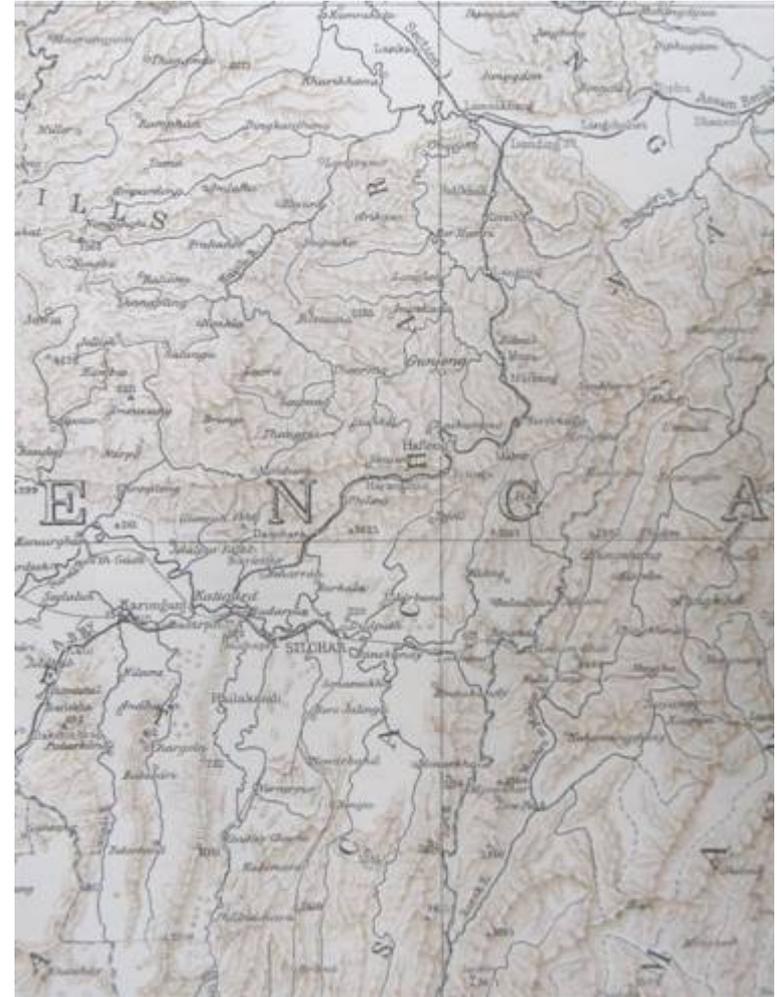
REFERENCE TO COLOURS.

TOPOGRAPHICAL SURVEY.....	}	Completed.....	
Mostly on 1 Inch = 1 Mile.....		In progress.....	
REVENUE SURVEYS.....	}	Old Surveys on 4" & 2" Scale.....	
		Recent Surveys, Cadastral, 15" Completed.....	
	 In progress.....	
Geographical Reconnaissance on various scales.....			

Early mapping



16mile map of Punjab, 1890



1:1M 1903 – including hachures

Review of Sol

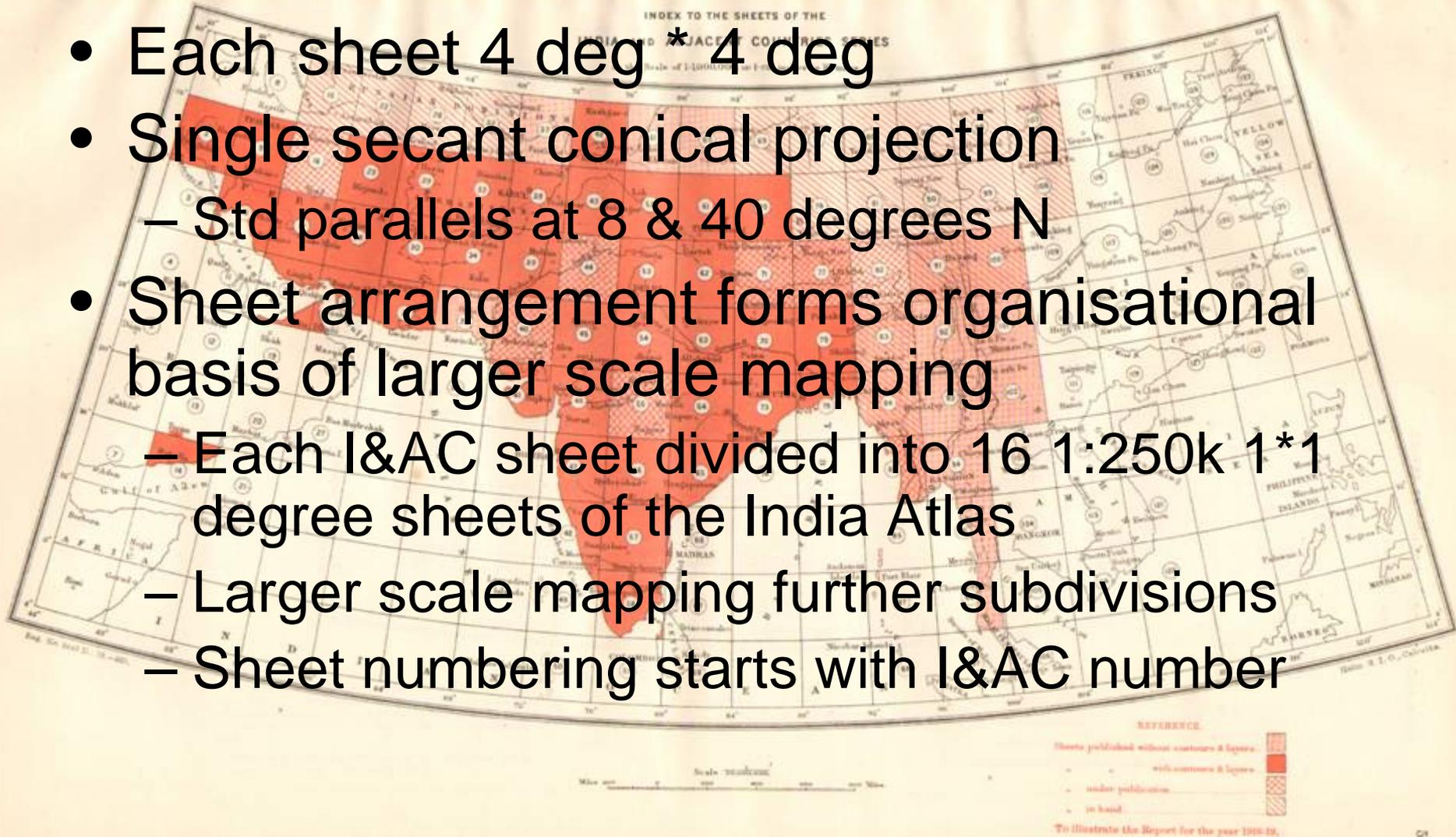
- Major government review of Sol
- Indian Survey Committee appointed 1904 by Governor-General of India
- Reported 1905
- Report had major influence on activities and publishing for many years

India And Adjacent Countries Series

- A long held desire was a uniform map at 16 miles to the inch
- India Survey Committee recommended new series at 1:1M scale (15.78" to the Mile)
- To cover not just India, but adjacent countries largely under British control, influence, or interest

I&AC index & progress, 1919

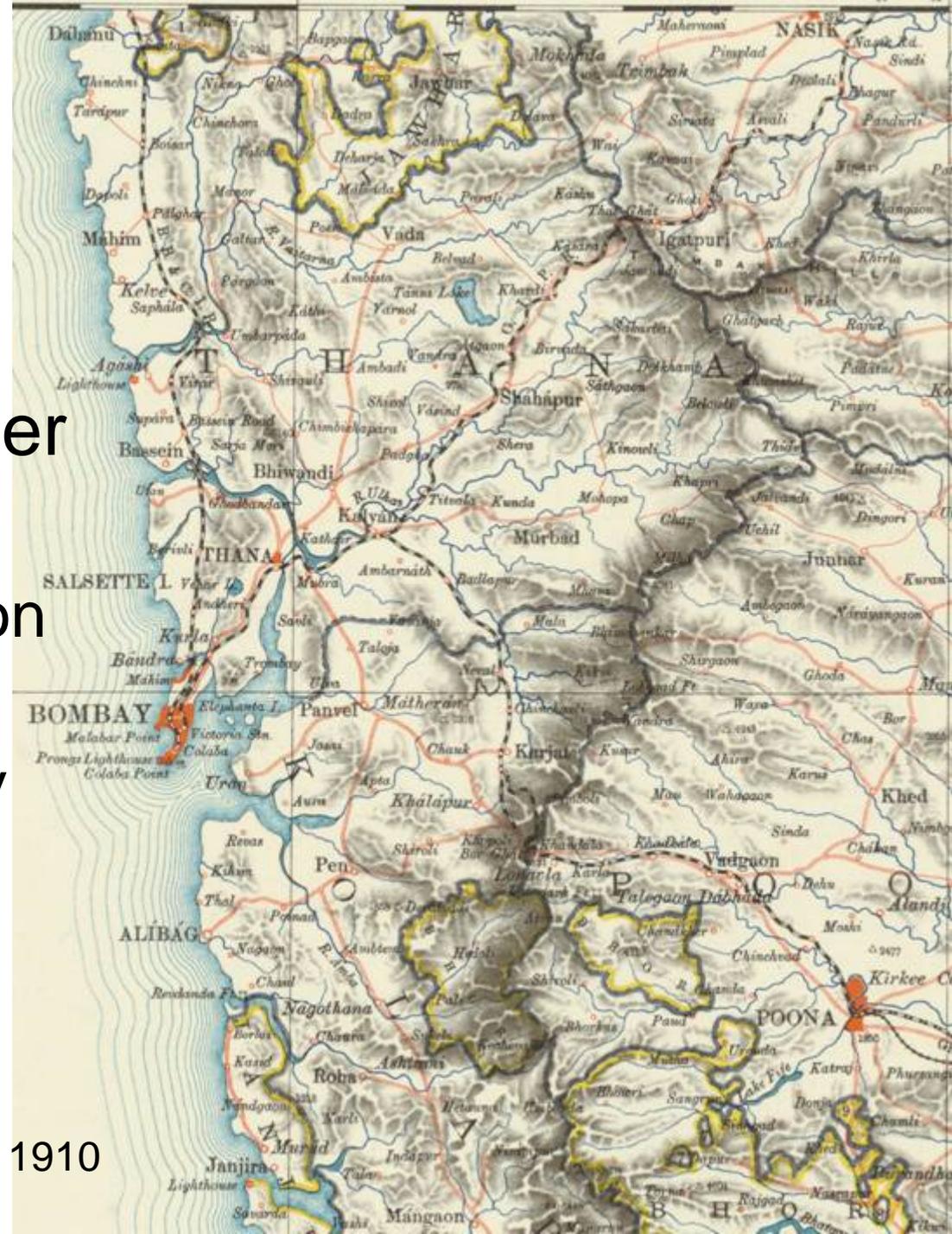
- Each sheet 4 deg * 4 deg
- Single secant conical projection
 - Std parallels at 8 & 40 degrees N
- Sheet arrangement forms organisational basis of larger scale mapping
 - Each I&AC sheet divided into 16 1:250k 1*1 degree sheets of the India Atlas
 - Larger scale mapping further subdivisions
 - Sheet numbering starts with I&AC number



I&AC

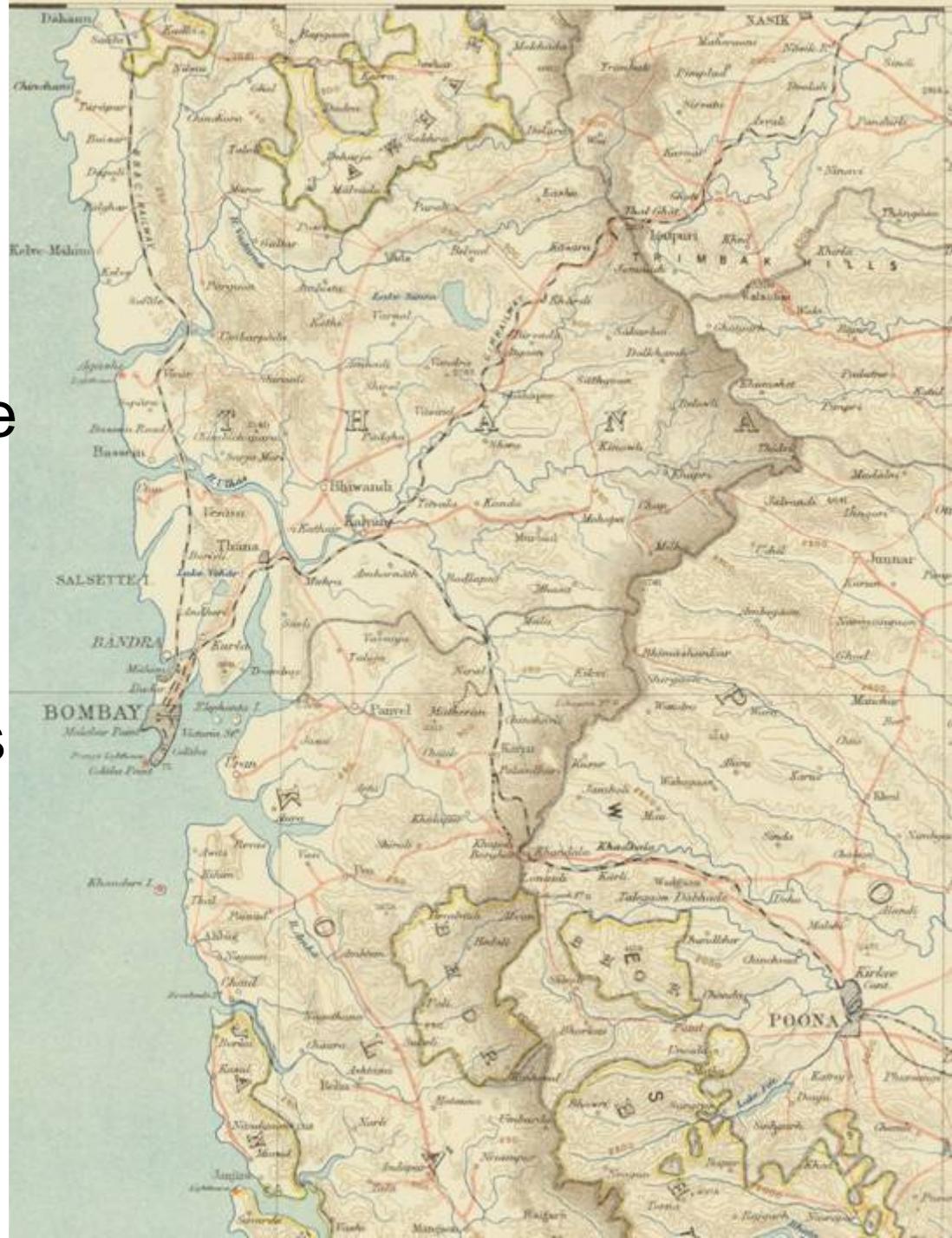
- Early maps redrawn from older material
 - Provisional edition
 - Produced by heliozincography from drawn originals
 - No contouring

Sheet 47, 1910

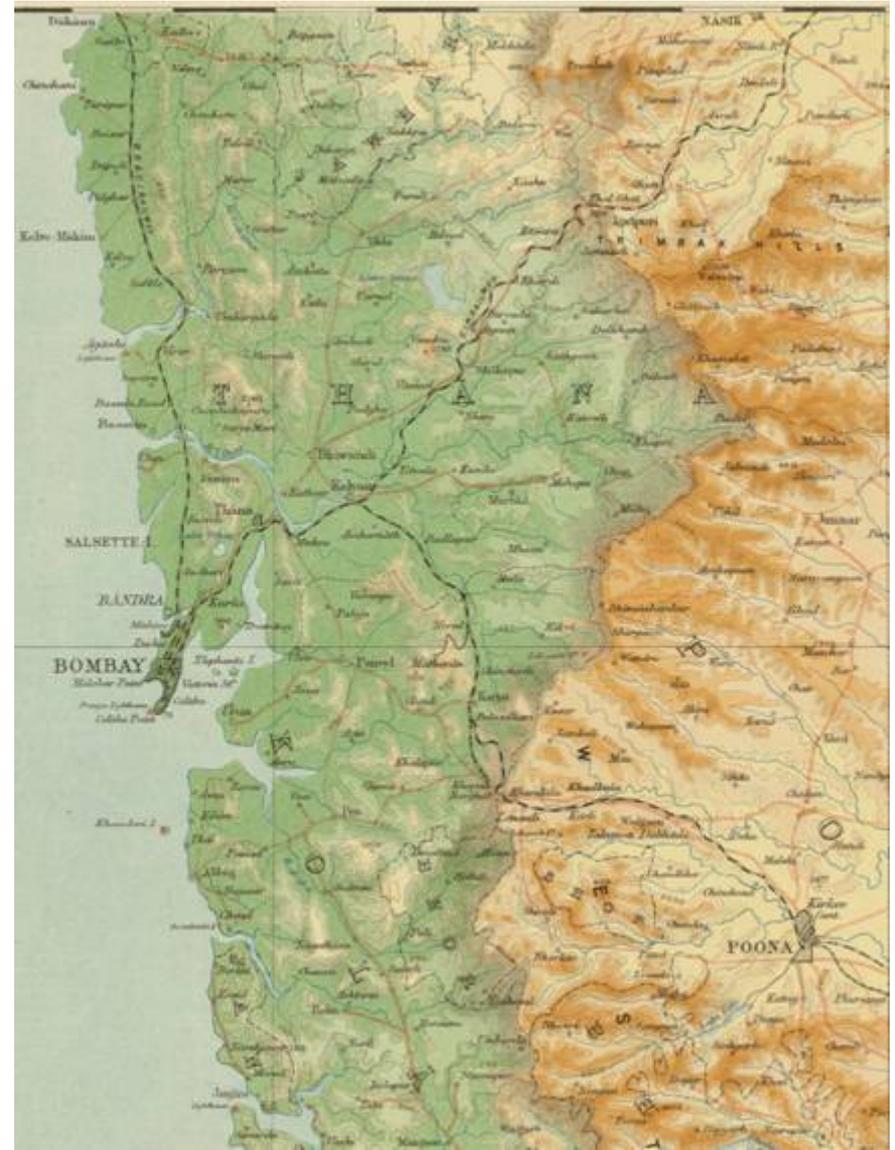


I&AC development

- Maps redrawn as modern larger scale mapping prepared
- Full contouring included based on 1" to 1 mile surveys
- Regular edition produced by engraving



I&AC relief versions



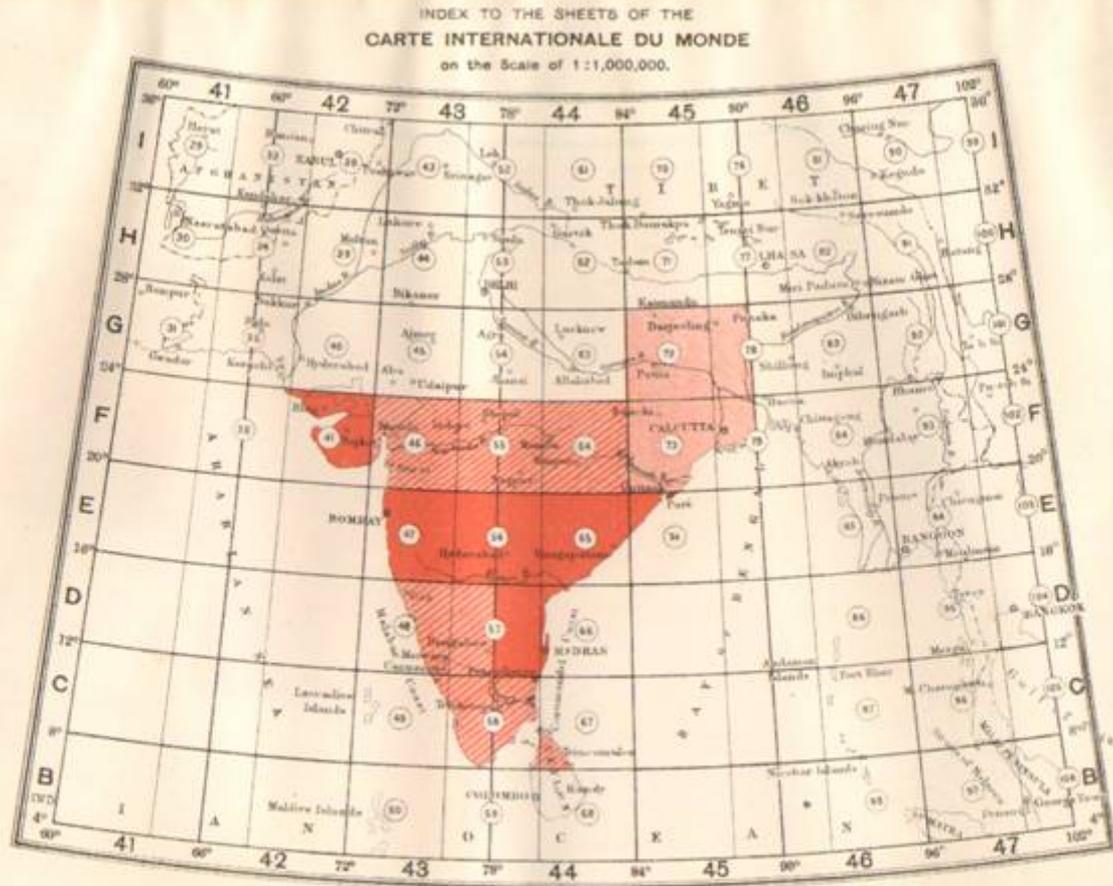
International Map of the World

- India not directly involved in discussions about creating IMW
 - Not invited to 1909 meeting
 - Indirectly represented by War Office, London
- Sol were aware of IMW proposals
 - 1903 paper on selection of projection considers IMW development, but make own decision as can't wait
- 1911: Directive from War Office that Sol mapping should comply with IMW specifications
 - Major inconvenience as 29 sheets of I&AC already published

I&AC & IMW

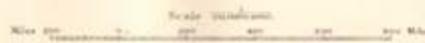
- Although same scale, not a simple task to move to IMW
- Different projections
- Different sheetlines
 - I&AC – 4*4 deg
 - IMW 4*6 deg
- Units
 - Imperial units
 - metric units
- Content & symbolisation
 - Eg contour lines – brown vs black
- Relief representation

IMW sheetlines



The thick lines show the margins of the sheets of the International Map of the World, Scale 1:1,000,000. Each sheet is designated by the letter N (Northern hemisphere), followed by the vertical letter and number corresponding to its position, e.g., the sheet which includes Bombay is N.E-43.

The figures in circles are the numbers of the sheets of the India and Adjacent Countries Series on the Scale of 1:1,000,000.



REFERENCE

Sheets published

under publication

in hand



To illustrate the Report for the year 1916-18.

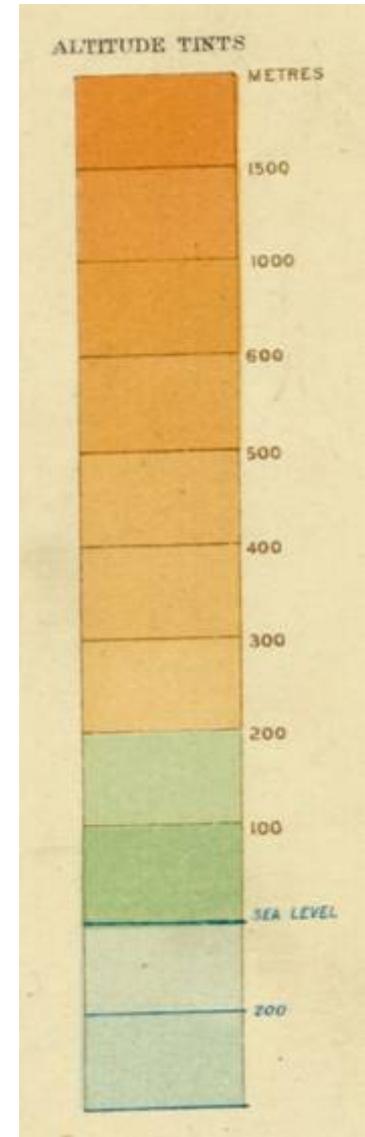
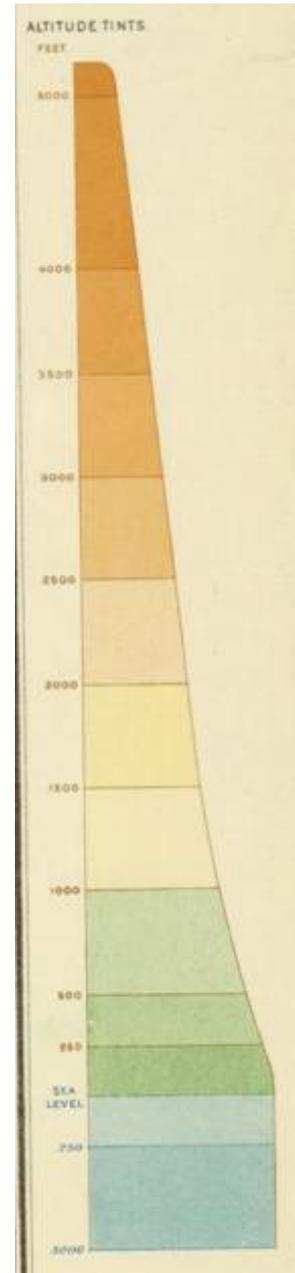
1919

IMW Conference of 1913

- Government of India invited to send representation to 1913 conference
 - Deputy Superintendent Major Tandy attended
- Sheet 53 of I&AC exhibited
 - Only map not based on 1909 IMW specs
 - The design attracted significant attention
 - Claimed that relief representation influenced revised IMW specification

Relief representation

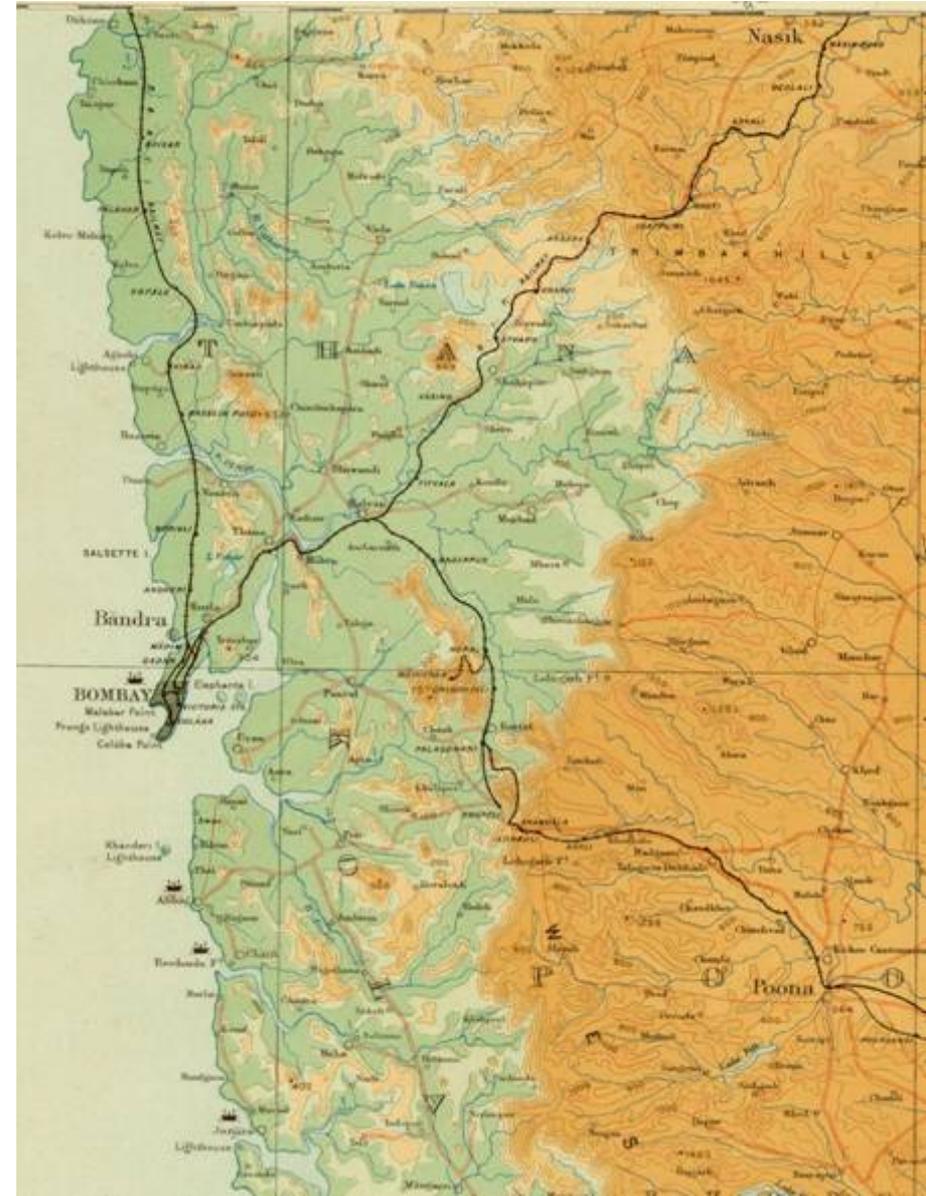
- Different scales of heights
 - I&AC in feet
 - IMW in metres
- Different colour sets
- India had done much experimentation on production of hypsometric layers



I&AC vs IMW

1915

1914



Conclusions

- Survey of India independently developed a ‘modern’ style of 1:1M map
 - Designed to fit needs of India, not global map
 - Had some influence on IMW design
- When directed, responded positively to challenge of producing IMW
 - This lead to maintaining and publishing two parallel series at 1:1M until mid C20