1 : 1 million scale mapping of India and the International Map of the World in the early 20\textsuperscript{th} 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 19\textsuperscript{th} 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
Early mapping

16mile map of Punjab, 1890

1:1M 1903 – including hachures
Review of SoI

• Major government review of SoI
• 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
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

• SoI 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 SoI 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
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 hyposmetric layers
1915 vs 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

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