

The Dutch Mapping of Indonesia

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Key words: Cadastre; Cartography; Engineering survey; History; Hydrography; Photogrammetry; Positioning; Land surveying

SUMMARY

For centuries, maps have sparked people's imagination of geographical reality. Large changes around 1800, both national and colonial, resulted worldwide in a significant increased demand for reliable maps. The Mapmaking of the Indonesian archipelago has been investigated in the period 1800-1990. Up to the transfer of sovereignty to the Republic of Indonesia in 1949, colonial relations influenced mapmaking. However, the impact of Indonesia's colonial past on mapmaking and the applied geodetic methods is virtually unknown.

A main question is the role and impact of the Netherlands presence in Indonesia in the technical and organizational development of geodesy and geodetic education in the Netherlands from 1850 to 1950. Military and civil experts, sent to the Netherlands Indies, were often engineers. They published their technical results in annual reports, special documents and articles. Here we show that the Dutch presence in Indonesia had large impact on geodesy and the geodetic education in the Netherlands. In the framework of the history of science, the developments in geodesy have been investigated as base for the topographic and hydrographic surveying and mapping. As is often the case in the history of science, for a long period, science was based on a paradigm, until this was not acceptable anymore and had to be replaced by a new paradigm. An example of a paradigm change in the Indies was the use of triangulation. Triangulation was initially used to check the topographical surveys afterwards, but later on it was used as a mathematical base for the surveys. Three areas are chosen where maps were indispensable and many maps emerged: towns and public works, railways and tramways and telecom connections. Population growth and rapid development of infrastructure from 1870 further stimulated the demand for maps. The geodetic challenges, which were the base for maps, are covered by navigation, positioning, hydrography, triangulation and photogrammetry. In some of these areas the Netherlands Indies played a leading role, benefitting the Netherlands with the obtained experience. Disturbing factors on measurements in the tropical

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environment, differed considerable from those in the Netherlands. The climate and the volcanos, atmospheric refraction, plumb line deflections, gravity anomalies and map projections required a different approach. The results of the Topographic Service, Land Registry and Hydrographic Service in the shape of maps and guides are covered.

Hydrographic activities, including oceanographic expeditions in this archipelago, illustrate the importance of safe shipping routes and deep-sea research. Besides the topographical maps, also nautical maps, aviation maps and atlases are covered. A comparison is made with the initial geodetic activities in France, the Netherlands, Germany, Great Britain and India. India was comparable to the Netherlands Indies. The Topographic Service in Batavia (now Jakarta) followed closely the developments in these countries. A comparison has been made between the Netherlands and the Netherlands Indies using specific fields of interest such as astronomical observation, triangulation, height measurement, photogrammetry and hydrography. People with their limited means have achieved impressive results. The large volume of literature is their witness.

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