Use of Cadastral Data in Recovery from Disaster - Quality Issues

The Norwegian cadastre as a tool for reconstruction of boundaries

FIG WW 2016 Christchurch

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1. Concept of boundary registration.
2. City fire in Bergen in 2008
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Concept of boundary registration in Norway
The 1800s

• While neighbouring countries and elsewhere in central Europe made nationwide cadastral maps in the 1800s, this did not take place in Norway
Boundary registration up to 1980

- Rural areas
  - Written descriptions by laymen
  - Land consolidation maps

- Cities and towns
  - Cadastral mapping
  - Coordinates from latter 1920s
Economic mapping project

- Cadastral mapping in rural areas firstly from 1960 in Norway
  - the Economic mapping project
  - triggered by the needs for land planning and control
- Areal photogrammetry
Cadastral reform 1980

- Triggered by the economic mapping project
- Municipal surveying
- No authorization of municipal surveyors
- Strong focus on coordinates
Cadastral «renewal» from 2010

- Nationwide cadastral map
- Further strong focus on coordinates
- Delivery from municipal surveyor to registrar normally a list of coordinates
  - «External reliability 0,1 m»
Case Skuteviksboder
Agreements on reconstruction are entered, based on survey certificates from 1914 and 1920.
For 1914 kr. 4.5. fra den på Bolingslede av Tj. Hjesurdal i Askere. Flyve-ekstra Kaptein Arne Østergaard, og meldte av fremgang med ansetning av Husene i Bolingslede. 1915, da var jordbrukskommissär til en Enomnem feier hevde Bolingslede.

Foreningen administreres av mig, og Vertslærd, fremtager i kommunen av og med 2. juli 1916.

Kart over
SKUTENVÁGSBOG #13
NY BETEGNLINGE:

GNR 167, NBN 08.

En av Sjøgater. 4. October 1916.

Sjøgaten
There are discussions
New building planned on no. 13

- Disagreements occurs about how the building shall be positioned
- How «unravel the tangle» ?
Kva er egentlig A – B?
Bergen City Archives are searched for more detailed information
There are new discussions about the width of the plot towards the sea.
Survey certificate of 1914: 24,33 m
Construction map: 24,26 m
Measured 1.2.2013: 24,04 m
The solution

THE PARTIES AGREES ABOUT THE REBUILDING OG THE NEW BUILDING ON SKUTEVIKSBODER 13

Alternative: the courts
How better meet the challenges
Discussion

• The case highlights the strong standing of the freedom to enter into contracts in Norway
• The solution was found in professional attitude and negotiations
• The cadastral map and its coordinates does not have sufficient quality for reconstruction of boundaries and positioning of buildings after fires in dense built areas
• Normally coordinates with accuracy 0,1 m will have sufficient quality in rural areas
  • But what if the coordinates are not correct?
• Coordinates as boundary evidence have clear limitations
  • There are no regulations in Norwegian law giving coordinates any legal significance, and coordinates have low evidentiary value in court; Rt-2000-1325
  • Accuracy of 10 cm is anyway not good enough where it is cramped for space and land values are very high (eg. in city centers)
Finally

• We can better meet the challenges in the Norwegian cadastral system by strengthening the role of the surveyor, more than only to handle coordinates

• Is there also a need to return to the old ways of boundary documentation, by distances to local points like corners of houses, walls and other fixed points?
Thank you!