

## **Denmark seen from above: communicating landscape change**

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# DENMARK SEEN FROM ABOVE: COMMUNICATING LANDSCAPE CHANGE

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## Activating the European Landscape Convention: Using landscape history to involve local citizens in participatory processes.

The European Landscape Convention (ELC) calls for a participatory approach towards landscape planning and management by including the broader public in the planning process. One of the fundamental tasks in this respect is to raise public awareness about landscape related issues and stimulate public participation in landscape planning and management. Different methods have been proposed for educating and involving the public, but the explanatory report of the ELC stresses the importance of specialist training and formal education to achieve public participation, however this kind of top-down approaches often fails to involve the broader public (Jones and Stenseke 2011). As Baas et al. (2011) has illustrated, communication about landscape history can be an important aspect of participatory planning processes. They focus on the concept of Landscape Biography as a tool for bringing the more abstract issues of general landscape management and change processes in relation to local landscapes, where more people can relate to them. In connection to this Michelin et al., (2011) has shown the potential of historical aerial photographs to visualize landscape change in ways which are easily accessible for the wider public.

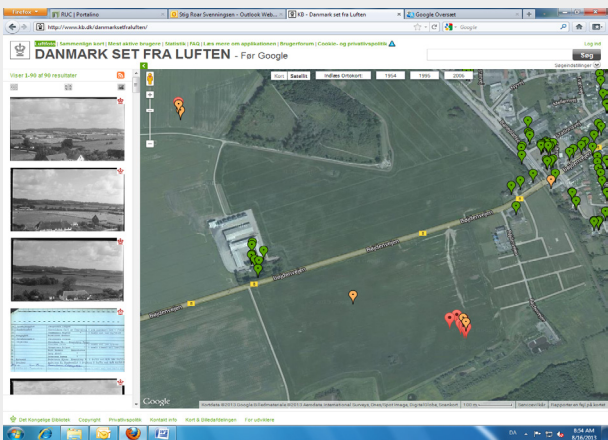
The aim of this poster is to present the potential of a new Danish online database with geo-referenced historical aerial photographs as a tool to involve local citizens directly in the development of landscape policy making processes.

## Public participation in data generation

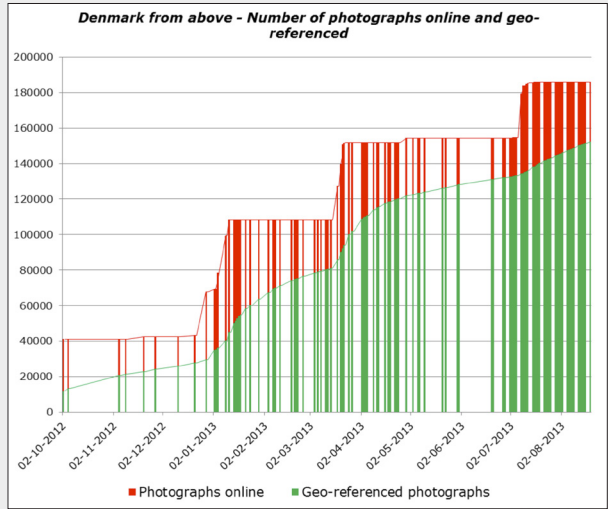
Crowdsourcing is at the core of the Denmark seen from above project. The original archives contain limited information about the individual properties which were photographed. Often the metadata amounts only to the name of an owner and an approximate location. If the millions of aerial photographs are to be assigned precise geo-coordinates and additional metadata, it has to be done manually. A project like this could never have been realized without the mobilization of volunteers with extensive knowledge of the local areas. The project went online in September 2012. After only 10 months online 141,500 photos have been locally placed by app. 500 enthusiastic local citizens. If this work was to have been carried out by the employees of The Danish Royal Library, it would have cost more than 6 full time years of work. The work effort and commitment shown by our users has exceeded all expectations!



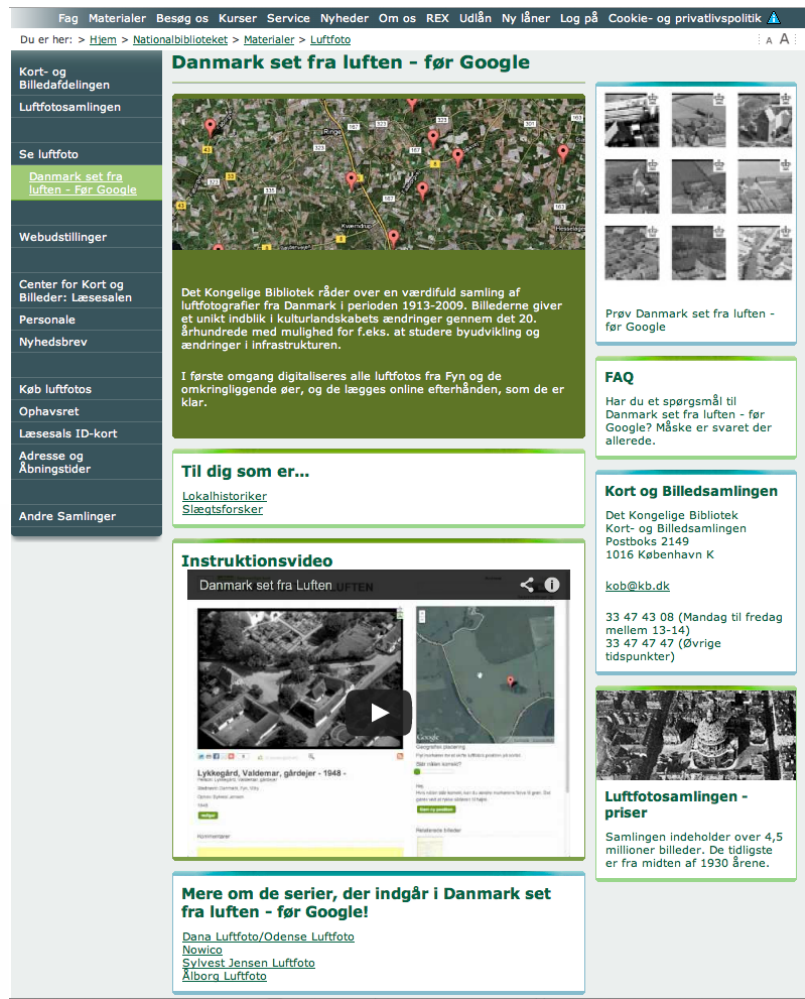
(https://www.facebook.com/groups/525744970816362/?fref=ts)  
Debate on the project is also spreading to other platforms, such as Facebook, involving a growing part of the public in the participatory process of exploring local landscape histories.



All aerial photographs that have been positioned are represented by green pins. Red pins, mostly placed in clusters, represent the photographs that are not yet in place. The application is designed so that the users are awarded points every time they move a photo or add metadata to one. Everyone can keep track of who has the most points on the statistics of most active users.



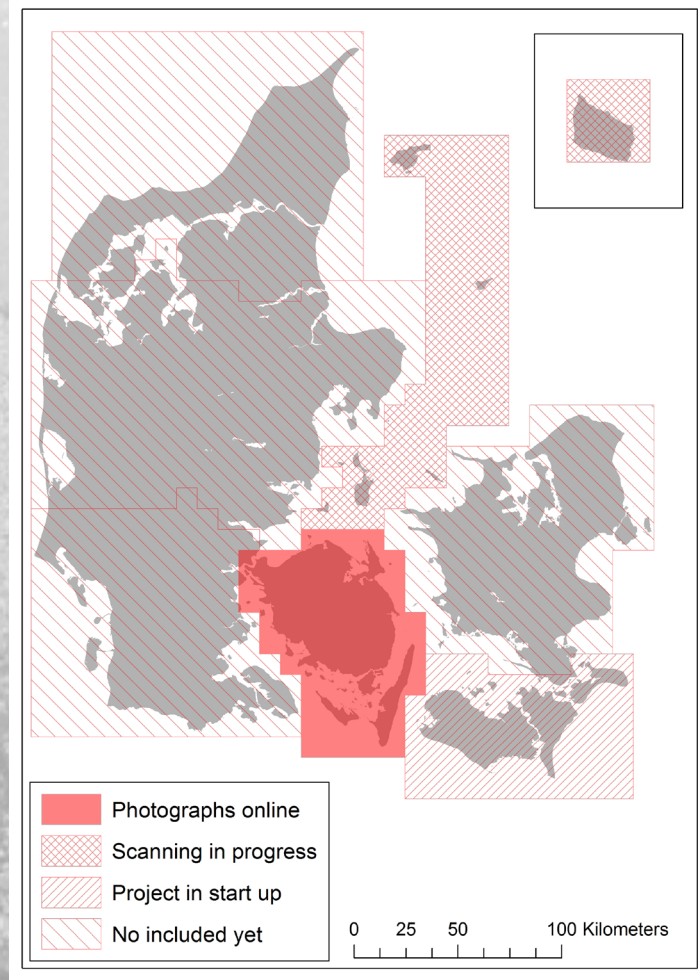
The total number of photographs online and number of geo-referenced photographs, December 2012 to June 2013



## About the project: “Denmark seen from the above”

The Royal Library of Denmark holds a large collection of more than 5 million aerial photographs, covering Denmark from 1890 to 2010. The collection contains both vertical and oblique photos, the latter of which originated from companies specialized in aerial photos of agricultural holdings, which were sold to farmers as a commodity from the 1930ties until app. 1992. The photos have later been used for number of academic- and management purposes, primarily by environmental consultants and other landscape management professionals to locate potential areas of soil pollution from unregistered petrol stations – as has been the case in other countries (Christensen 2013). The collection has only to a very limited degree been accessible to the broader public however due to the time consuming work of manual retrieval of the pictures and the related high cost of copies of the images.

In 2009 The Royal Library received a grant of 4 million DKK to create an online database of scanned images from the collection of oblique aerial photos. However providing easy access to these pictures is not only a matter of digitizing them. They also need to be placed – the users need to know the location of the photos in order to use them and the amount of metadata is often very limited. In consequence, the project was designed to rely on the knowledge of local people, who were involved directly in the process of geo-locating the photographs through a so-called “crowdsourcing” approach. To facilitate this, a website with a set of tools making it possible for members of the public to



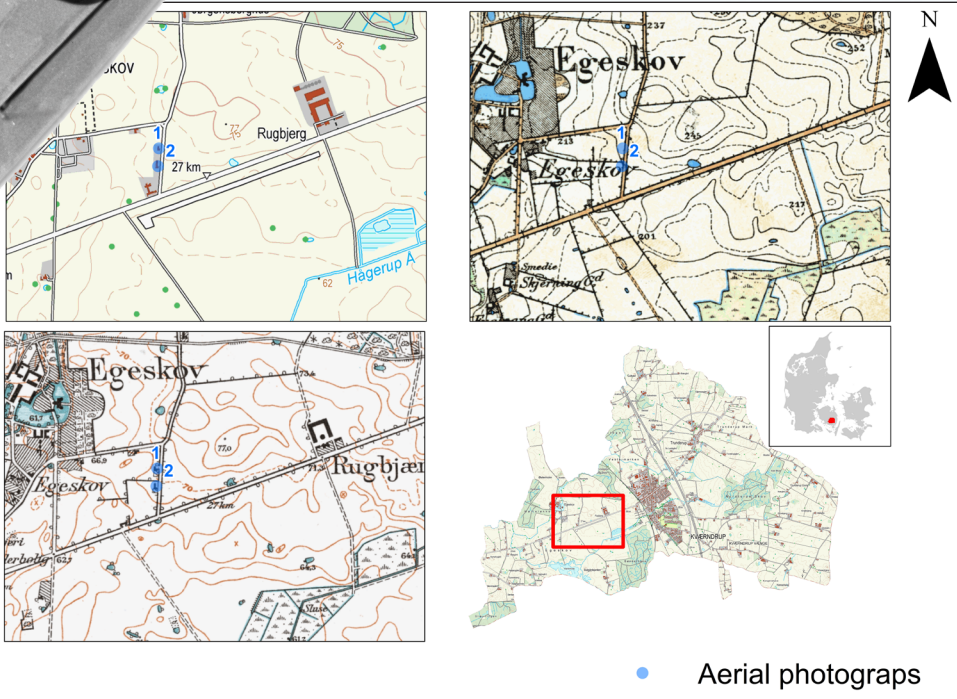
The plan is to expand the coverage of the project to all of Denmark and over time be able to provide access to all of the archived aerial photographs in the collections held by the Royal library.

## An example of the insights into landscape change in a local area

The landscape of the case area Kværndrup has undergone significant changes in relation to agricultural intensification, urbanization and development of infrastructure. These changes are visible on maps and in land use statistics, but can be difficult to grasp for the local citizen, with limited access to and training in the use of historical cartographic material. Local residents may also have a relative short time perspective as reference to hold changes against.



The case area has undergone significant transformations in the form of urbanization and the development of infrastructure. The railway from the 19th century created the first basis for urban development in connection to the town. Agricultural intensification has led to the subsequent removal of many small biotopes, and in 2009 a new motorway was built. Source: The Royal Library and DDOland 2012 © COWI



Local scale landscape changes in Kværndrup parish: 1950 to 1989. Small-holder fields were merged into the fields of larger manorial estates in the area – a process which led to the removal of numerous hedgerows in and between the two small farms, which today only serves residential purposes.



## Conclusion:

Geo-referenced historical material has a huge potential to be used in participatory landscape planning at the local level. Photographs at good resolution from different time periods from the local context, is far easier for people to relate to, than abstract land use statistic or land change maps. In this poster we have presented the project Denmark from above, but it is only one example on how such portals might contribute with data for communication of landscape related issues at local level. The Danish project related here illustrates a more general point: it is worthwhile to involve the public in participatory processes as early as possible – even in the processes involving data production!

## Reference:

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