



Sustainable Development Networking Programme  
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## Arsenic Contamination

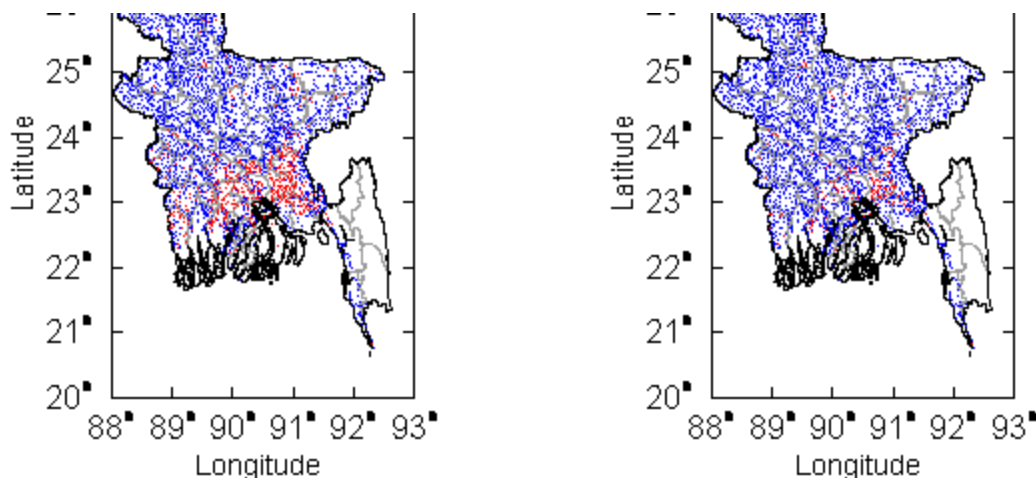
### Further regional survey results from northern Bangladesh

The sampling of wells from that part of northern Bangladesh not sampled in the 1998 survey was completed in July 1999. A further 1500 samples were collected making a total of some 3500 samples from the whole of Bangladesh. These have all now been analysed with the exception of some 30 samples. The Chittagong Hill Tracts in the south east of Bangladesh were not surveyed. Well selection was based on a form of stratified random sampling but had to be adapted to local conditions. In particular, convenience of access was an important criterion in the final selection of wells. Most of the wells sampled had been installed by the Government of Bangladesh (DPHE) since these had the most reliable construction records.

The maps below show this regional groundwater arsenic data plotted using threshold values ranging from 0.003 mg/L to 0.300 mg/L. Red signifies wells above the threshold and blue signifies wells below the threshold. The plots are based on the results of some 3000 wells. Arsenic was determined by hydride generation-atomic fluorescence spectrometry. The method has a detection limit of about 0.0005 mg/L. Separate maps have been produced for wells from the 'shallow' aquifer (less than 150 m depth) and the 'deep' aquifer (more than 150 m deep). It is the shallow aquifer that is most seriously contaminated. Many of the deep wells have been installed in the coastal region of southern Bangladesh where salinity affects the shallow aquifer.

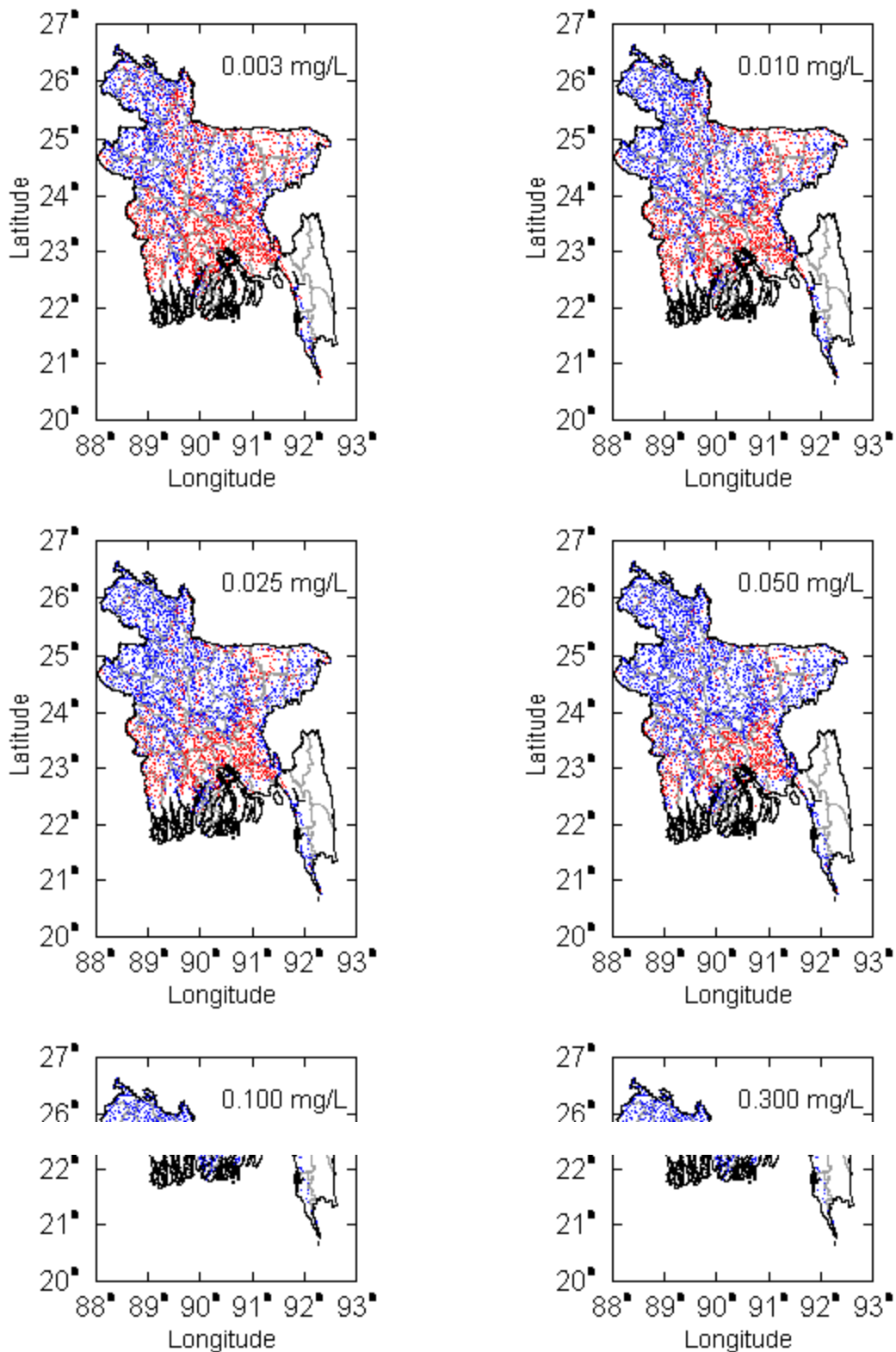
Some care has to be exercised in interpreting these maps. Because of the high density of samples at the mapped scale, some overlapping of plotted symbols is inevitable and hence the order of plotting is important. In all of the maps displayed below, the blue symbols were plotted after the red ones. Hence the maps will tend to minimise the apparent extent of arsenic contamination.

The results of this survey and our other work in Bangladesh are currently being written up.



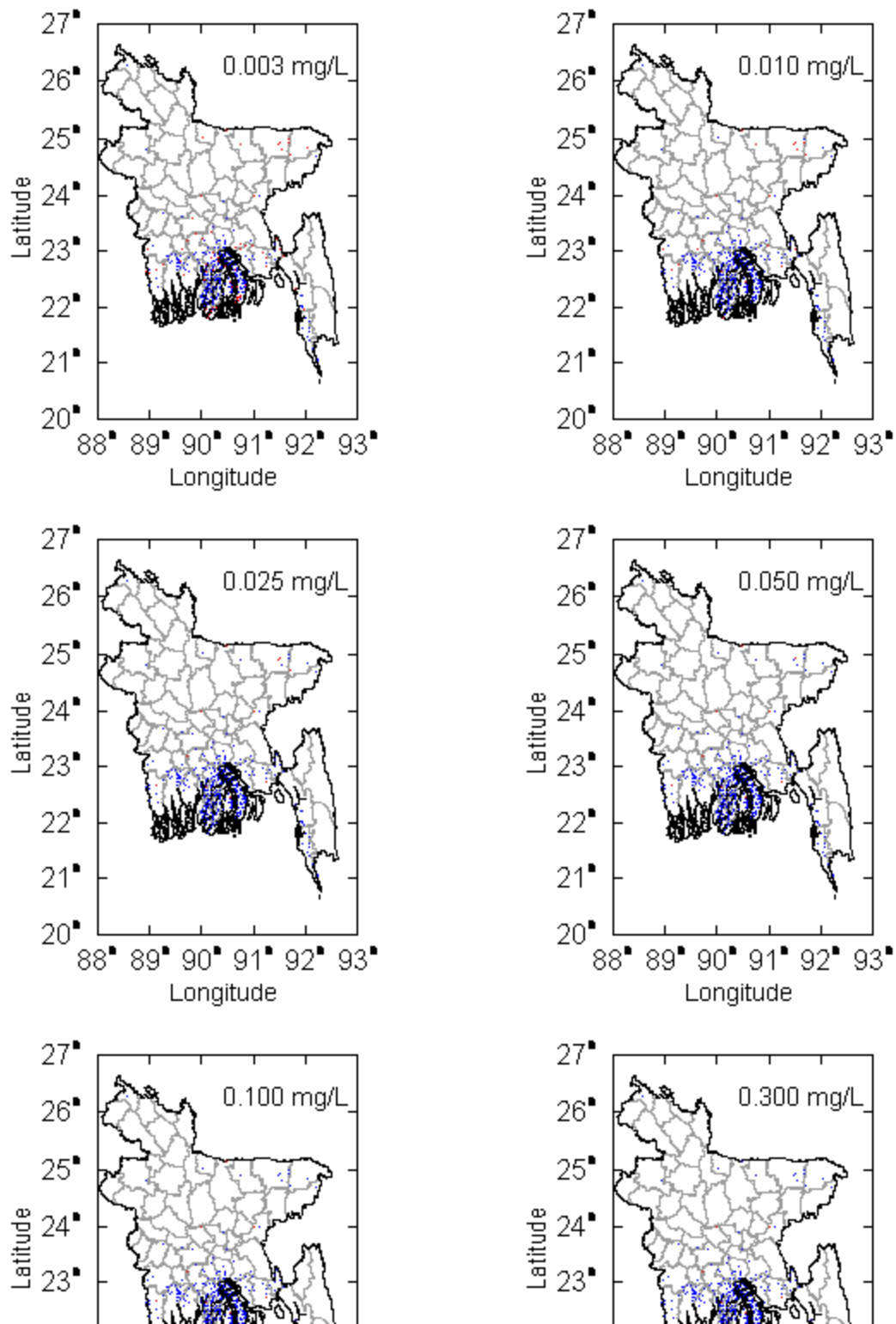
(c) BGS/DFID/DPHE (1999)

## Wells less than 150 m deep



(c) BGS/DFID/DPHE (1999)

## Wells greater than 150 m deep



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Sustainable Development Networking Project (SDNP)

E-17 Agargaon, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh. Email: [info@sdnbd.org](mailto:info@sdnbd.org)