

Supplementary material

Security of deep groundwater against arsenic contamination in the Bengal Aquifer System: a numerical modeling study in southeast Bangladesh

M. Shamsudduha^{1,*}, A. Zahid² and W.G. Burgess³

¹Institute for Risk and Disaster Reduction, University College London, Gower Street, London WC1E 6BT, UK

²Bangladesh Water Development Board, 72 Green Road, Dhaka 1205, Bangladesh

³Department of Earth Sciences, University College London, Gower Street, London WC1E 6BT, UK

* Corresponding author: M. Shamsudduha (m.shamsudduha@ucl.ac.uk)

Telephone: +44(0) 203 108 1103

Supplementary Figures:

Figure S1. Histograms showing distribution of simulated travel times (year) of back-tracked flowpaths under eight groundwater abstraction scenarios aggregated over all grids ($n=336$) within the model domain. Blue line – density distribution curve; Red line – mean travel time.

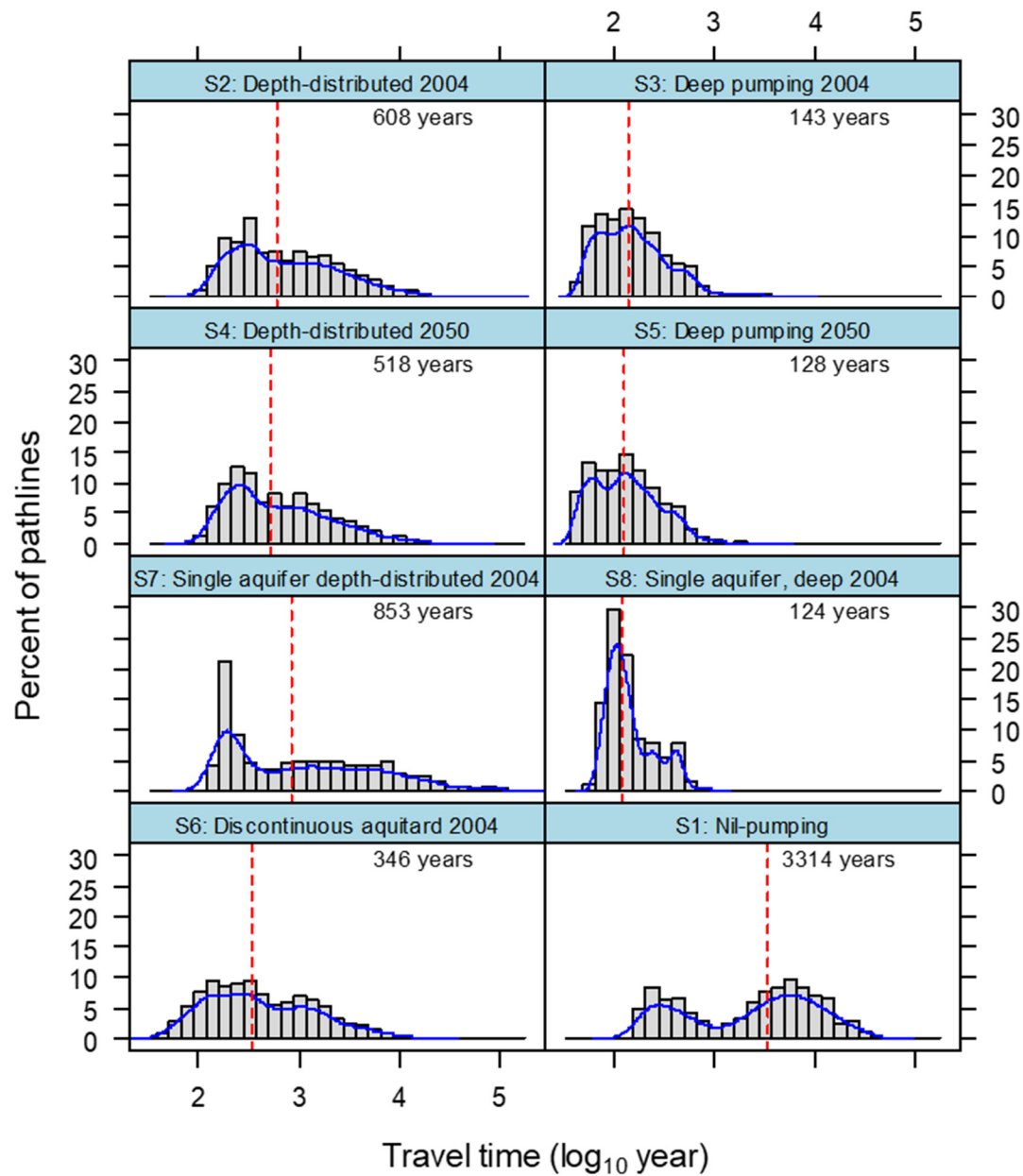
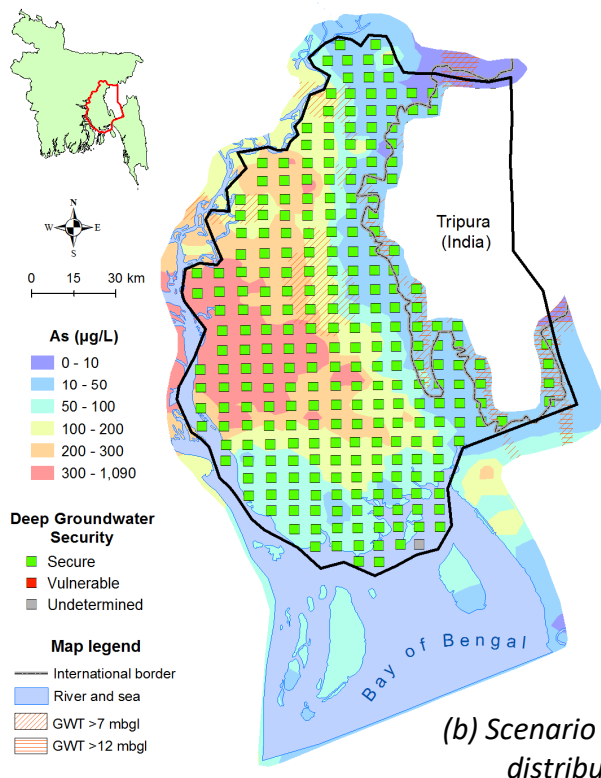
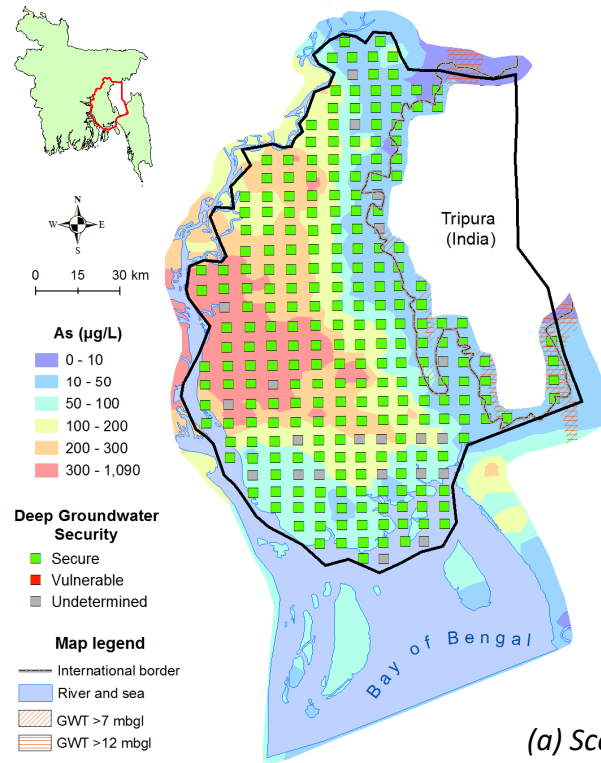
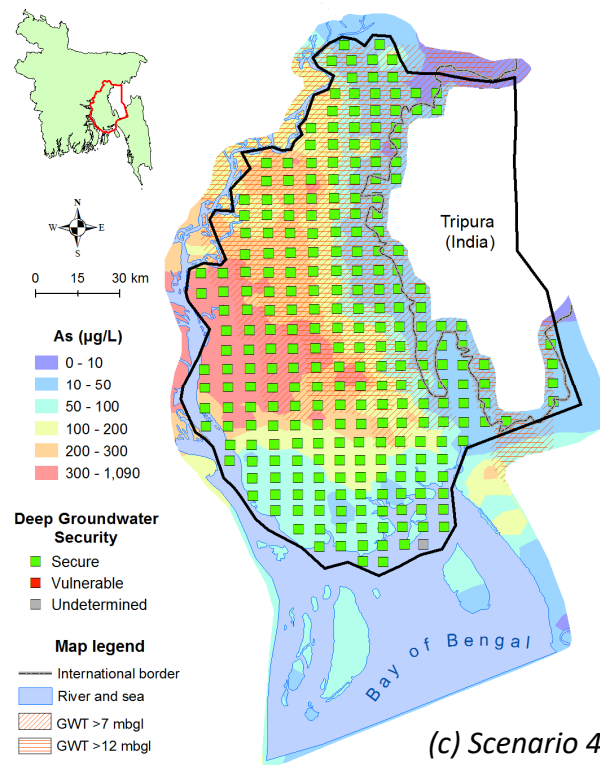
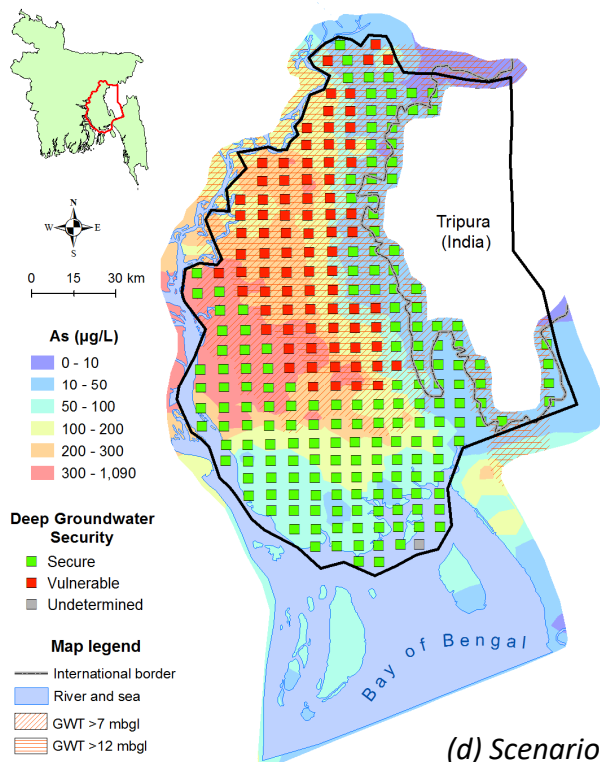


Figure S2. Deep groundwater security to As invasion in SE Bangladesh under (a) nil-pumping (scenario 1), (b) single aquifer, depth-distributed pumping, 2004 quantities (scenario 7), (c) depth-distributed pumping, 2050 (scenario 4), (d) deep pumping, 2050 (scenario 5), (e) discontinuous aquitard, depth-distributed pumping, 2004 (scenario 6).

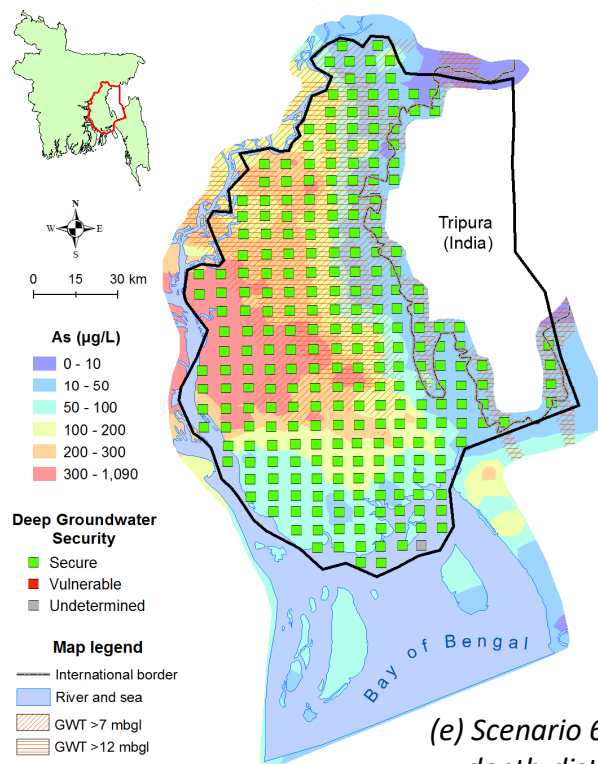




(c) Scenario 4: Depth-distributed, 2050



(d) Scenario 5: Deep pumping, 2050



(e) Scenario 6: Discontinuous aquitard, depth-distributed pumping, 2004