

Geo-spatial Tools to Enhance ESIA Quality

for compliance with IFC Performance Standards



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IFC PS REQUIREMENTS

- Cumulative impacts
 - Existing other sources
 - Potential future sources
- Depth of SIA → FPIC (in case of land acquisition/ livelihood impacts esp. involving indigenous people)
- Biodiversity Impacts
- Supply Chain E&S Risks
 - Biodiversity
 - Labor Issues

GEO SPATIAL TOOLS

Google Maps / Google Earth

Integrated Biodiversity Assessment (IBAT)

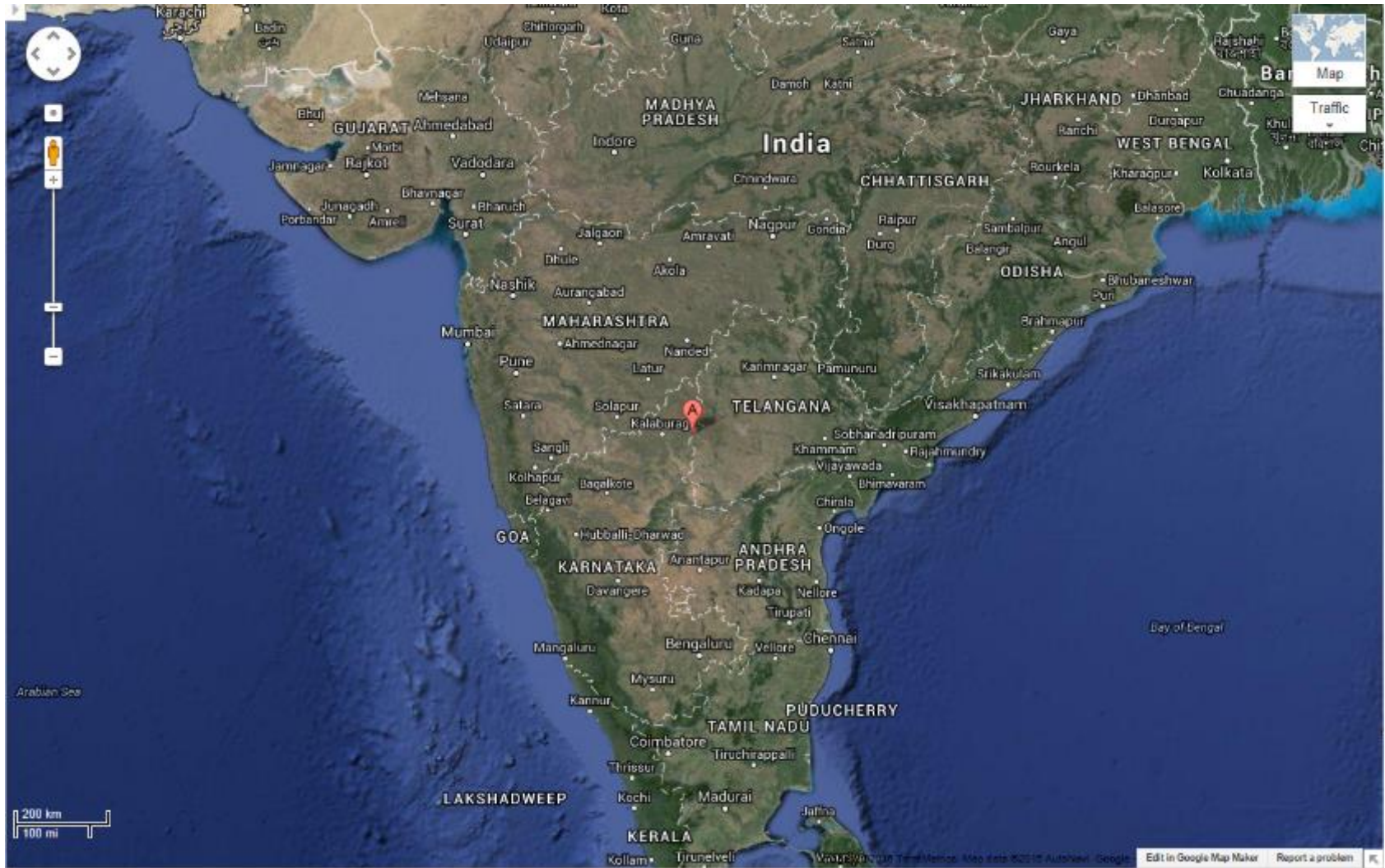
The Global Map of Environmental & Social Risk in Agro-commodity Production (GMAP)

“Smartphone” !!

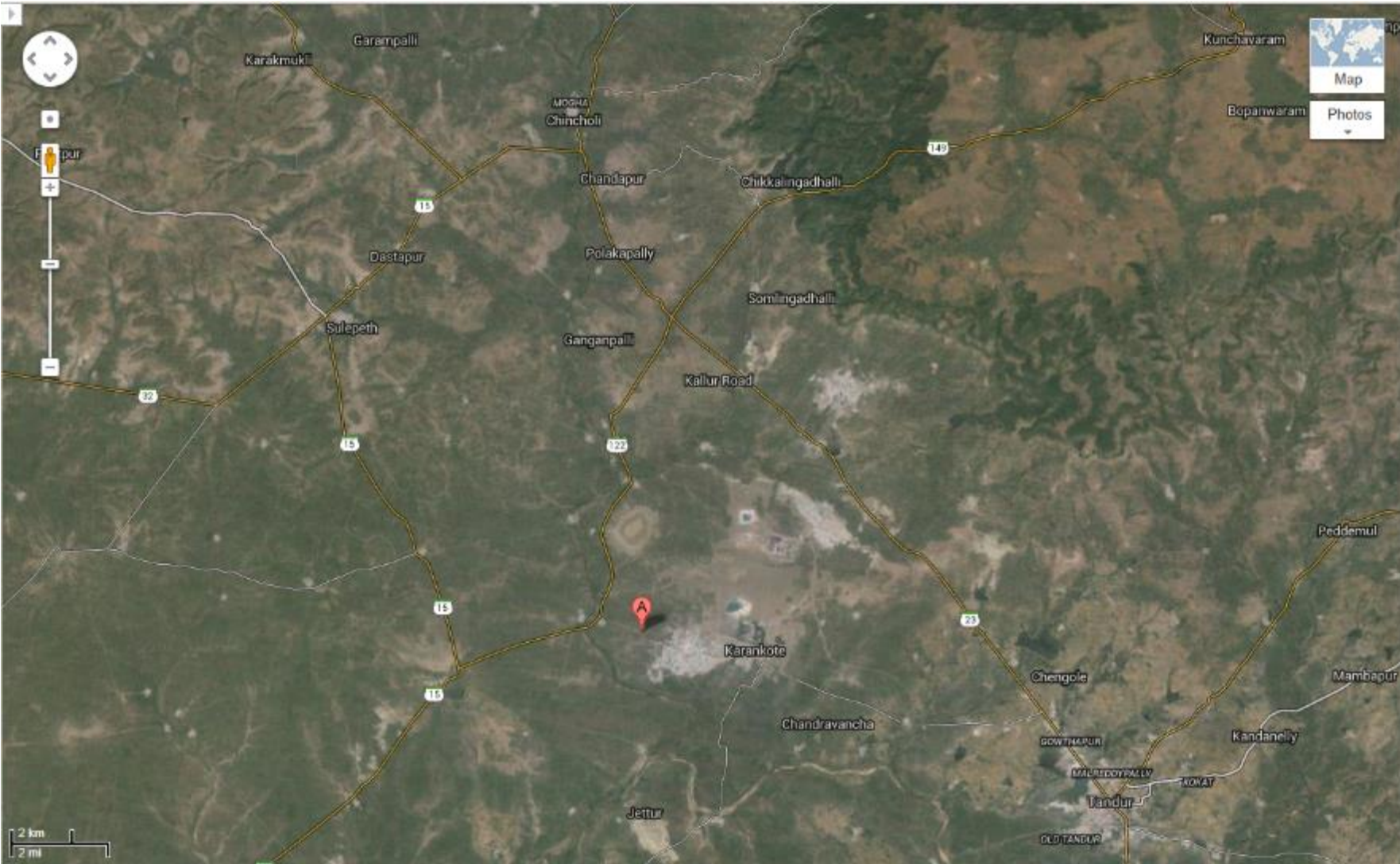
Greenfield Cement Plant

*Cumulative impacts on air & watershed
with some interesting twists in alternatives
assessment !*

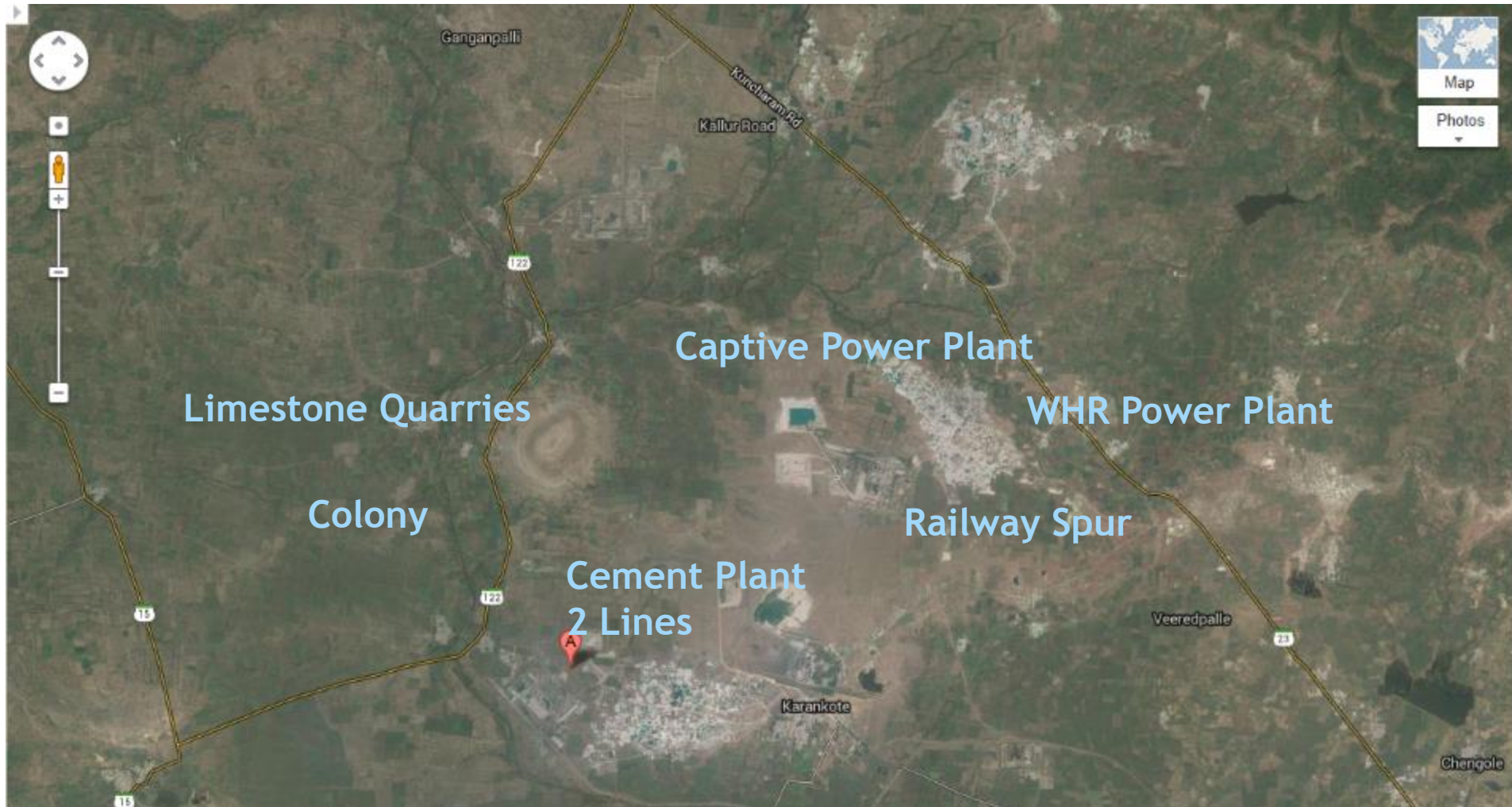
Greenfield cement project in India



Greenfield cement project in India



Greenfield cement project in India



Project “Land”scape:

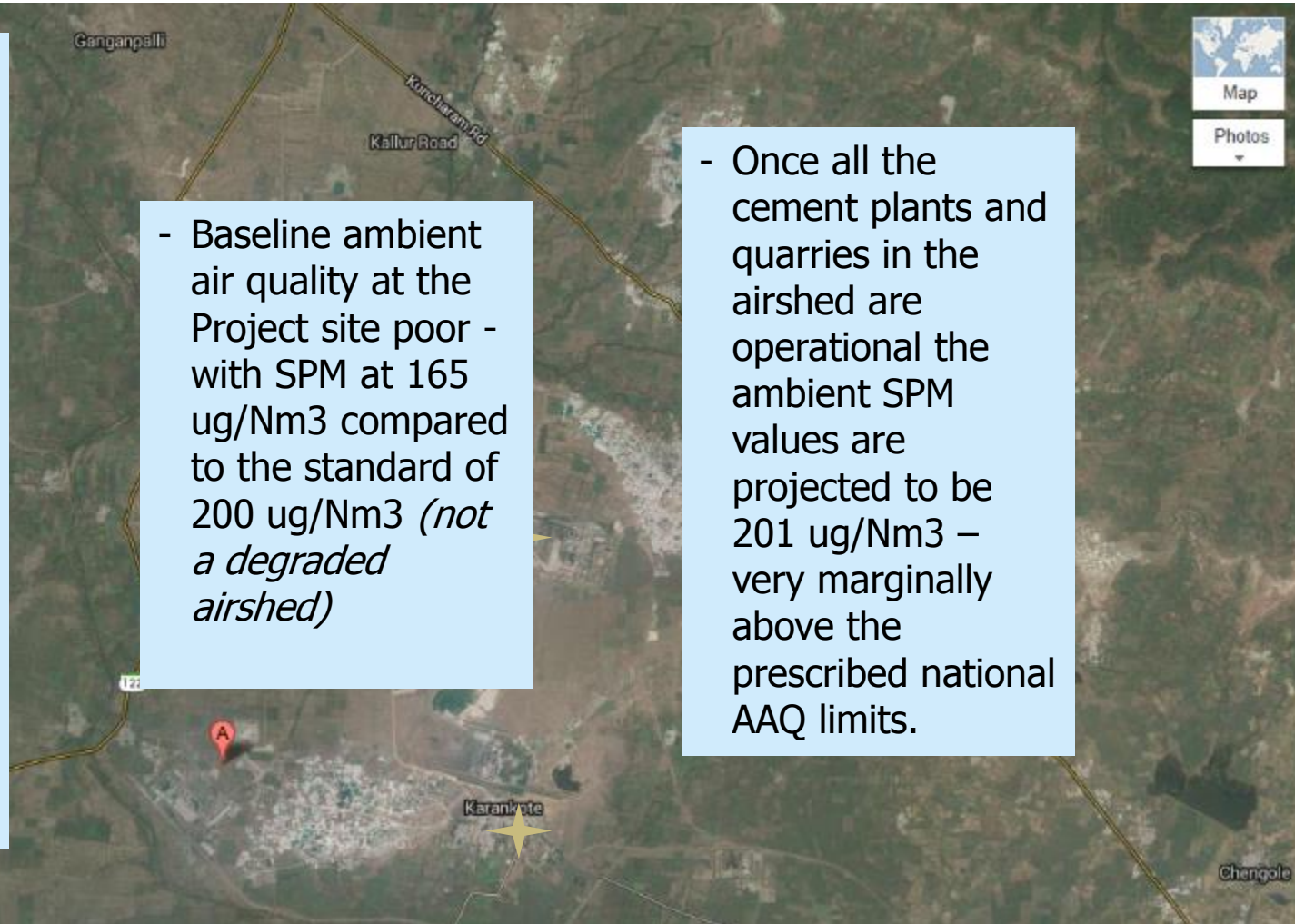


Cumulative Impacts on Airshed

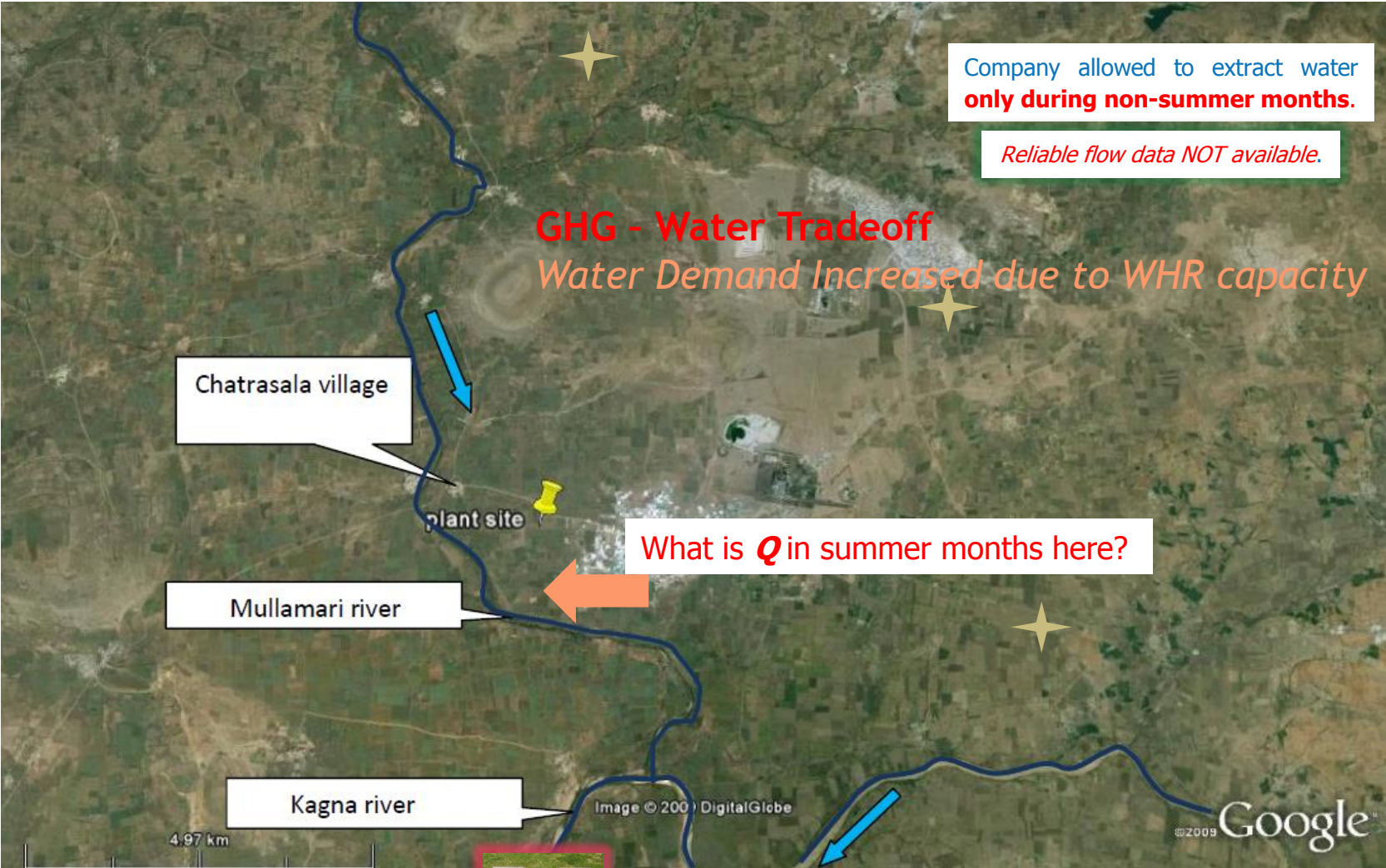
- 2 existing and 1 (err, 2!) proposed cement plants plus the project → (4) 5 cement plants in study area
- Cumulative Impact Assessment assuming that all the 5 cement plants and limestone quarries operating in the area operate at full capacity

- Baseline ambient air quality at the Project site poor - with SPM at 165 ug/Nm³ compared to the standard of 200 ug/Nm³ (*not a degraded airshed*)

- Once all the cement plants and quarries in the airshed are operational the ambient SPM values are projected to be 201 ug/Nm³ – very marginally above the prescribed national AAQ limits.



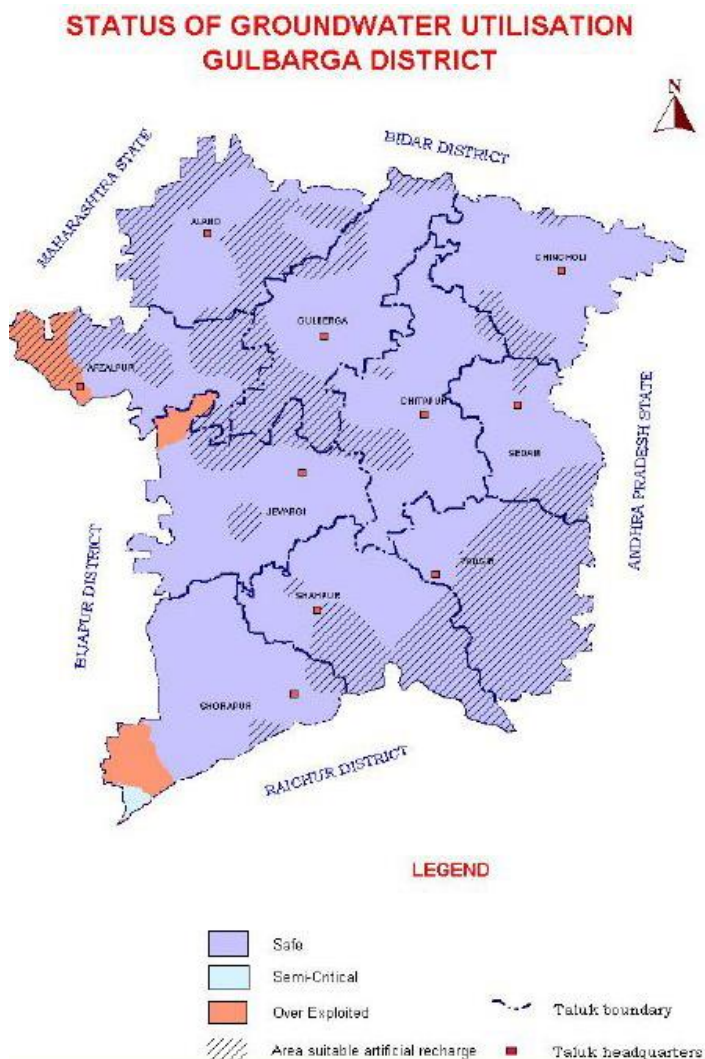
Water Sustainability: Inadequate IA



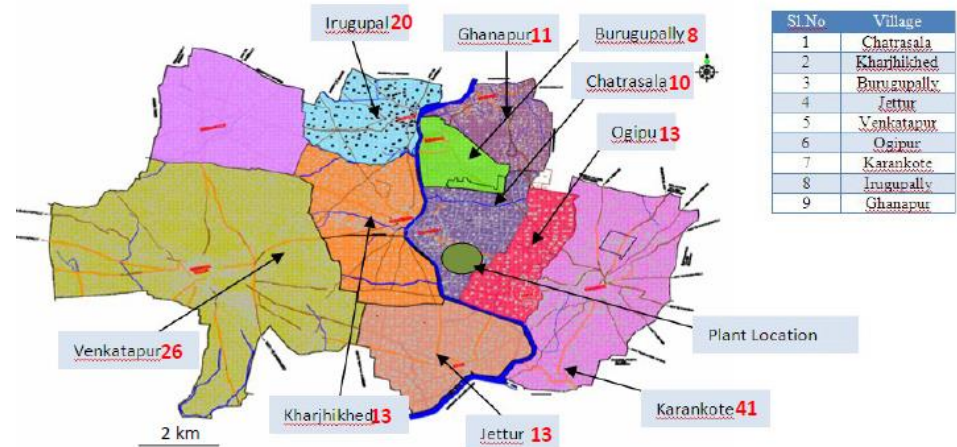
Limited flow data available.



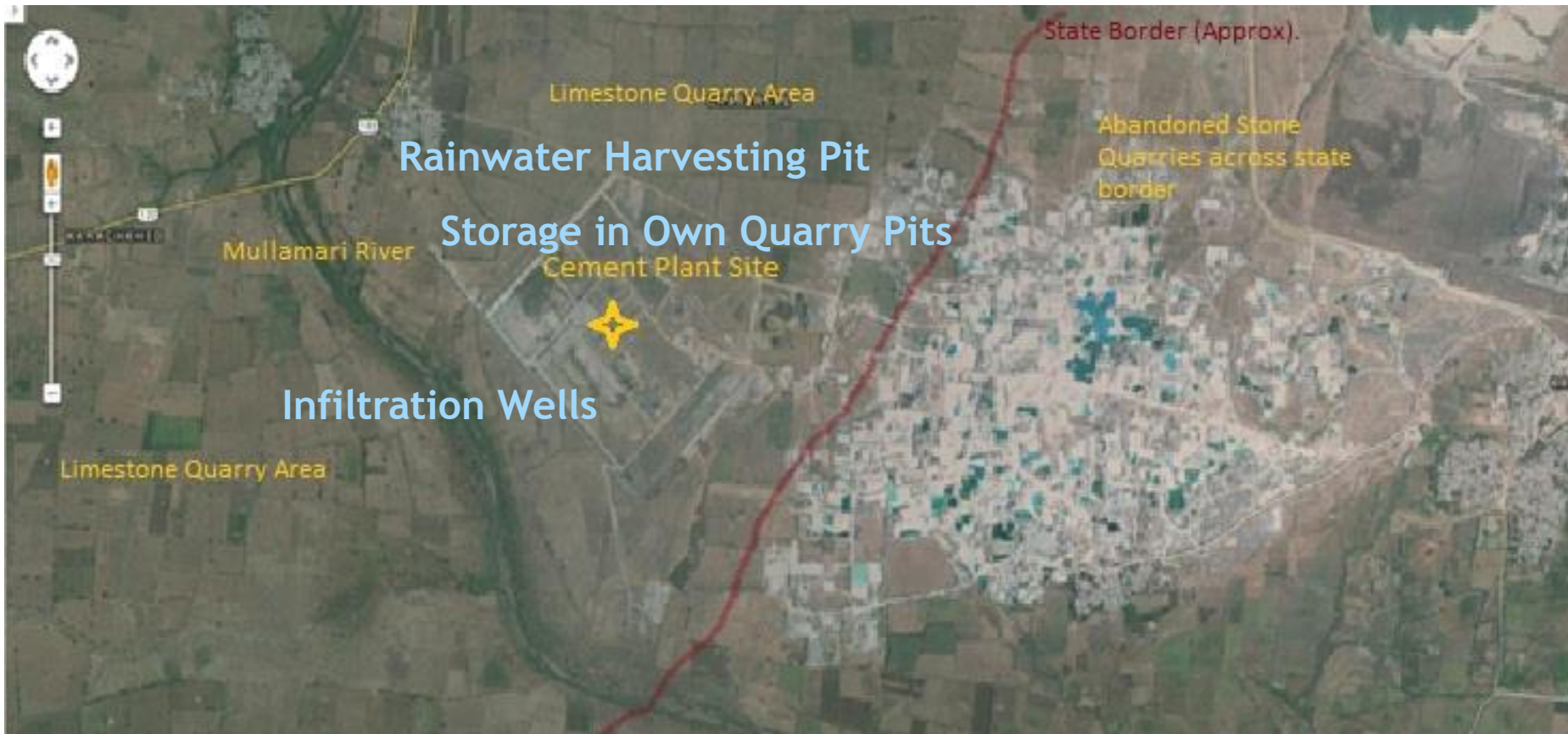
Groundwater availability at district level and in the vicinity



Survey of 145 wells within 5 km from site



No groundwater, Rainwater in stone quarries out of reach!



Biodiversity Red Flags?

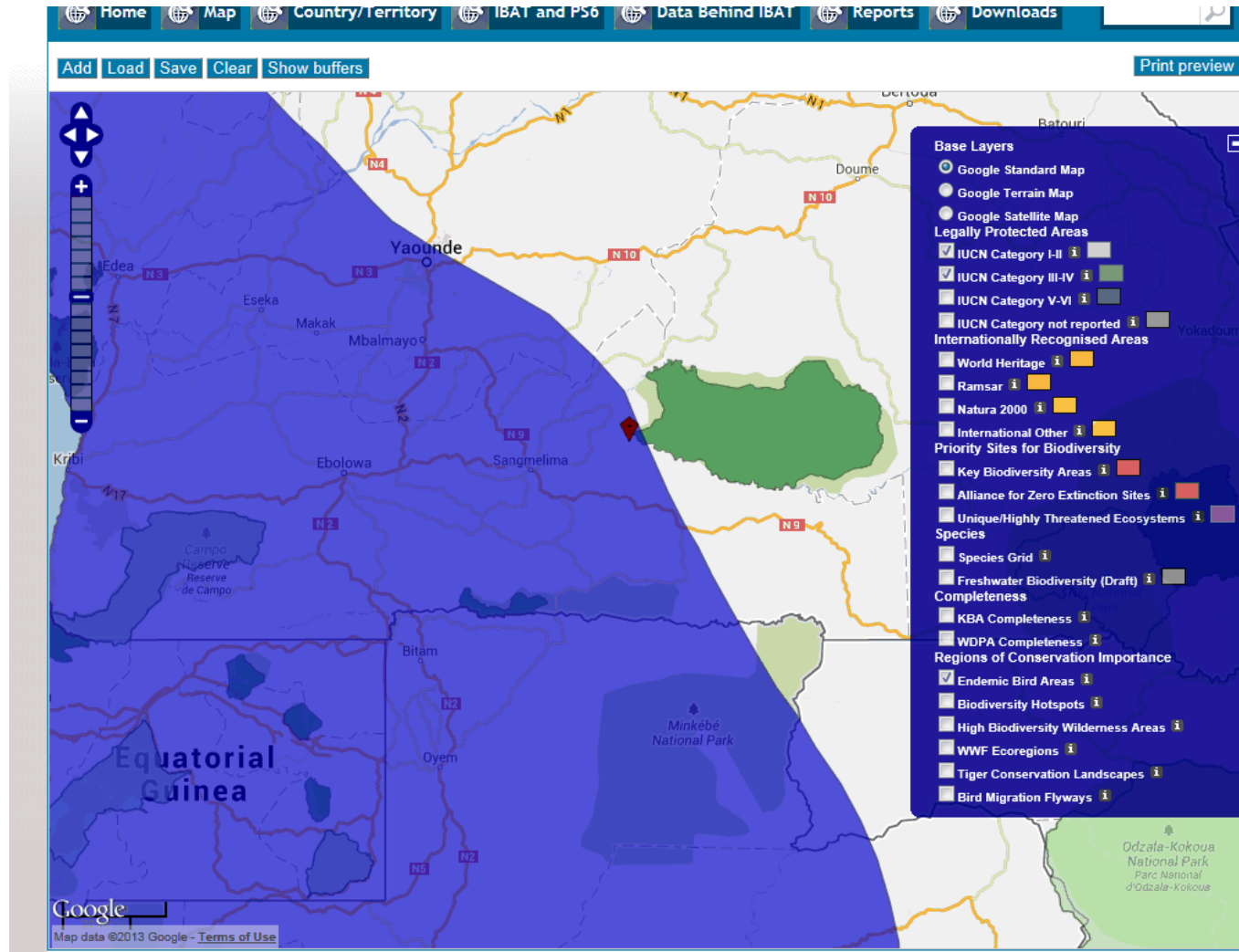
IBAT for understanding potential biodiversity risks and impacts for wind farms, plantations...

Integrated Biodiversity Assessment Tool (iBAT)

<https://www.ibatforbusiness.org/login>

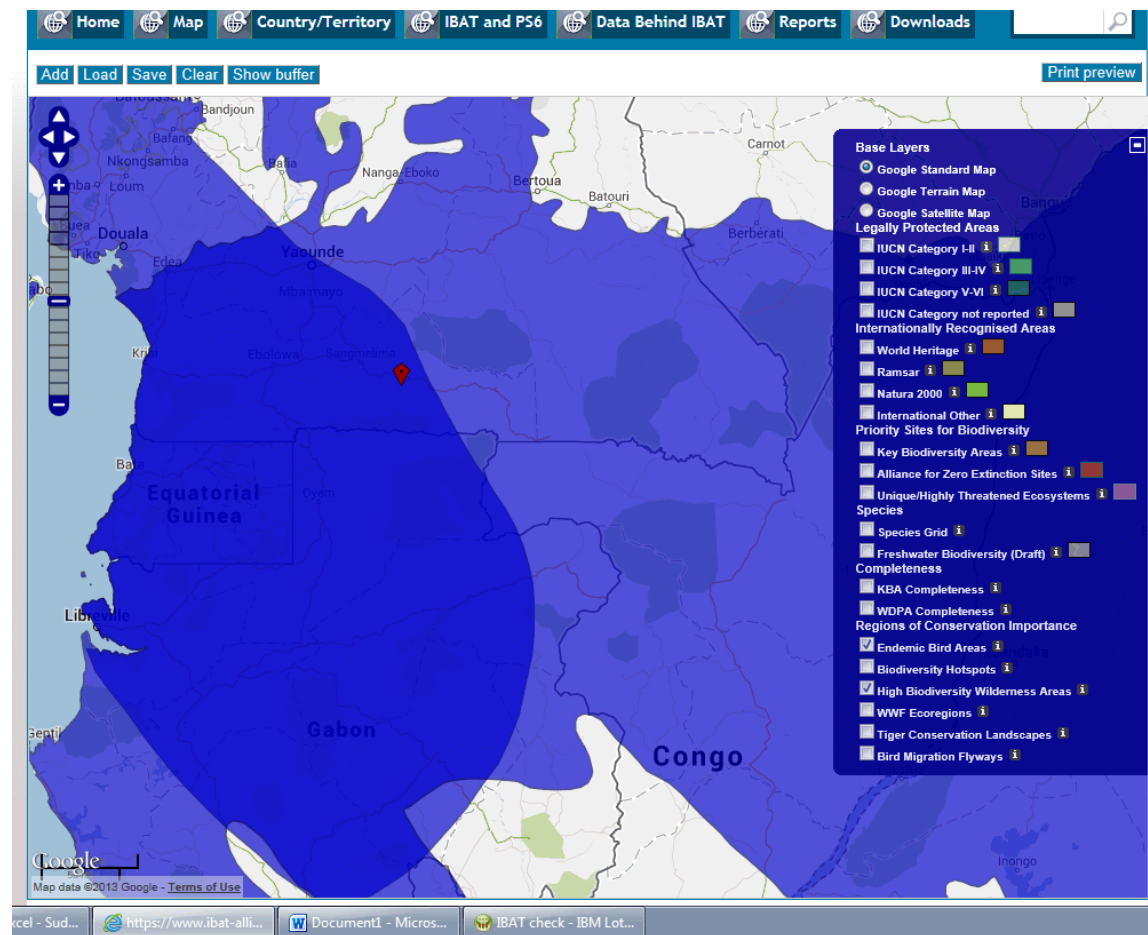
The screenshot shows the homepage of the Integrated Biodiversity Assessment Tool (iBAT) for Business. At the top left is the iBAT logo, which includes a globe icon and the text "ibat FOR BUSINESS Integrated Biodiversity Assessment Tool". The main content area features a large background image of a woman in a blue sari working in a tea plantation. On the left side of this image, there is a "Welcome" section with text explaining the tool's purpose and a link to a video. On the right side, there is a login form with fields for "User name" and "Password", a "Login" button, and links for "Subscribe", "Trial account", and "Forgotten password?". Below the main image are four navigation buttons: "About iBAT", "iBAT & Your Business", "Data behind iBAT", and "Subscription options". At the bottom, there is a footer with navigation links (About, FAQs, Subscribers, Supporters, Contact Us, Terms of use, Privacy), a copyright notice for 2011-2014 iBAT, and logos for BirdLife International, Conservation International, IUCN, UNEP, and WCMC.

Use of iBAT for understanding biodiversity issues



Site near
Endemic Bird
Areas and in
the Legally
Protected Area
IUCN Cat III

Screening out projects with high risk to biodiversity



Site in Endemic Bird Area as well as High Biodiversity Wilderness Area

→ PS Requirements of biodiversity assessment, offsets, net positive gains

Viability? Client capacity?

Supply Chain E&S Risks

IFC's Global Map of Environmental and Social Risk in Agro-Commodity Production (GMAP)

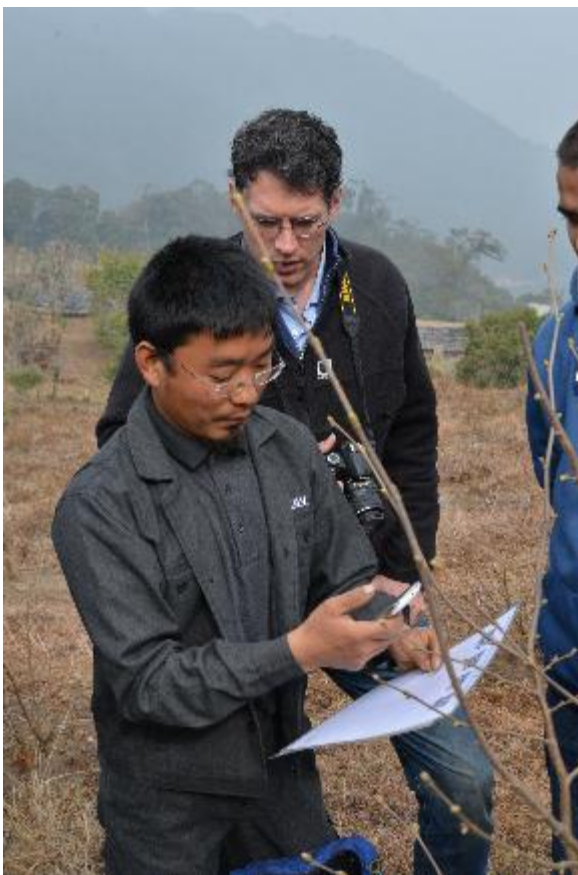
Database, aligned to IFC's Performance Standards, which collects public information on environmental and social (E&S) risks for 150 country-commodity combinations (e.g. Brazil/soy, Ghana/cocoa, Vietnam/coffee).



The screenshot shows the IFC website's 'Sustainability at IFC' page. The main heading is 'Global Map of Environmental and Social Risks in Agro-Commodity Production (GMAP) Pilot'. Below the heading, there is a 'Welcome to the GMAP Pilot Page' section. A central graphic features a globe with the text 'GMAP Pilot' and 'Global Map of Environmental and Social Risk in Agro-Commodity Production'. To the right of the graphic, there is a paragraph explaining that the website is set up for selected individuals to begin using the beta version of the tool. Below this, there is a 'GMAP Resources' section with a list of links to various documents, including 'What is the GMAP?', 'GMAP Video Demo', 'GMAP Quick Reference Guide', 'GMAP Factsheet', 'Presentation on GMAP Methodology and Application', 'Counterparty Assessment Questions: Trader', and 'Counterparty Assessment Questions: Primary Producer'. The page also includes a navigation menu at the top and a sidebar on the left with a 'Sustainability at IFC' menu.

www.ifc.org/gmap

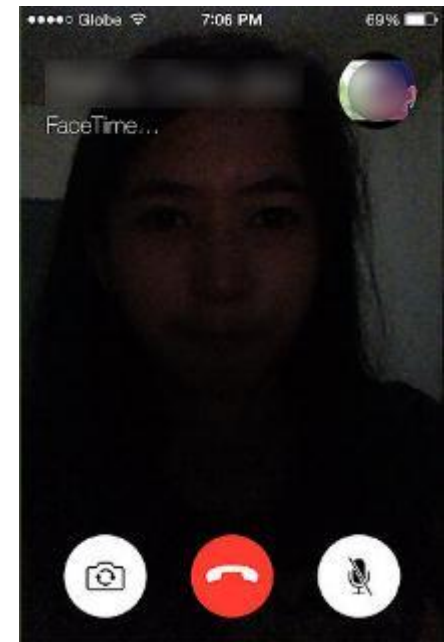
“Land Truthing” and Supply Chain Risk Management in Bhutan



- Hazelnut outgrower model with buyback guarantees for farmers in rural Bhutan
- Smartphone based Remote Management & Traceability (RMT) System to collect social and environmental baseline information from its partner farmers, and agro-climatic, traceability, and tree health statistics
- “Land truthing” before registrations to ensure orchards only on fallow and degraded land –overlaying the digitized government land records
- Field monitors visit every orchard every thirty days to provide continuous training and monitoring.
- Monitoring of GAP, pesticide management, any child labor issues

“Smart” ESIA in the future

“Smart” ESIA in near future



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Breaking barriers of distance, language and media

- Smartphone a very powerful geospatial device (location data)
- Highly sophisticated translation and transcription tools – for audio, video interviews
 - With time and geo-coordinates stamps
 - Audio/video “search” functions possible
- Highly sophisticated analysis
- Cloud-based archives and benchmarking
- Overlaying/cross checking with government records and data (*including biometric data possible e.g. India’s “Aadhar” number*)
- Baseline data collection in SIA
- Health Impact Assessments
- Supply chain traceability and risk management
- Biodiversity impact assessments (trees, wildlife)

Thank you!

