



SIBWA

Seeing Is Believing Very High Resolution for Smallholders

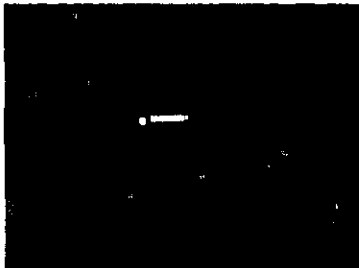


VHRI_{box}... Very High Resolution? Veritably, a Huge Revolution!!

Bamako – July 5, 2009

Remote sensing has had to offer an ever-growing wealth of information to monitor land processes and vegetation. From optical indices that intercept photosynthesis, to thermal sensors that sip out water stress, to microwaves that carve out canopy structure. But stay tuned. THE major operational breakthrough of this decade is, with no doubt... **CRISPINESS**. Without **CRISPINESS**, you wouldn't see your cat in your driveway (okay, okay, your car). Without **CRISPINESS**, Google Earth wouldn't exist. Without **CRISPINESS**, geography would remain an academic fantasy. Without **CRISPINESS**, you cannot relate to the people on the ground. You cannot relate to your neighbors. You cannot relate to yourself... well, wait a minute. Of course you can, but without optical depth. **Without a projection. WITHOUT A PERSPECTIVE. Remote sensing today is the unmatched source of spatial inputs to deal with the large, heterogeneous areas associated with agricultural landscapes.** Remote sensing today is this other mirror on your wall. The mirror that reflects on how well you spread out. "Mirror, mirror on the wall, what does tomorrow hold for us all?" **Doubtful still? Check this out:**

Tractor-trailer separation on main Koutiala-Kourou highway: 124cm (Sukumba, Mali)



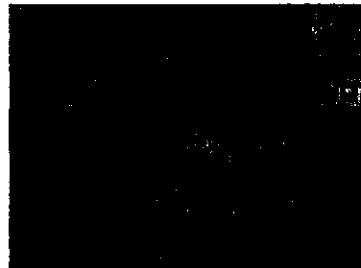
12.2015°N, 5.1556°W

Average hill separation, compound yam field: 153cm (Pisii, Ghana)



9.9648°N, 2.4770°W

Average furrow width, low fertility millet-cowpea field: 204cm (Serkin Hawsa, Niger)

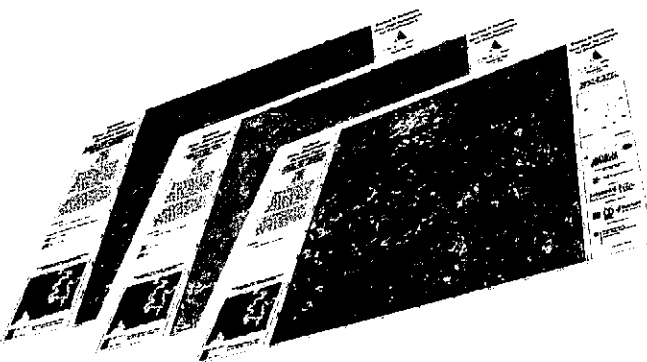


13.9195°N, 7.5645°E

Not yet convinced? Fair enough. Some more food for thought here (please be honest and tell us if you've seen these figures elsewhere):

Site	FAN ¹	NOB ¹	PIS ¹	SER ¹	SUK ¹	TEG ¹
Estimated space saturation (% cropland)	31.76	20.35	22.70	61.55	30.28	25.20
Number of smallholder fields extracted	823	2031	2488	3765	1548	826
Tentative field size, ha (avg ± stdev) ²	2.5 ± 2.97	0.73 ± 1.15	0.59 ± 0.69	1 ± 0.98	1.33 ± 1.15	1.97 ± 1.61
Tentative field geometry (compactness index) ²	0.07	0.77	0.75	0.77	0.22	0.07
Proportion of smallholder fields by toposequence class - provisional (Bottom - Medium - Top, in %) ³	B = 5.25 M = 58.61 T = 34.68	B = 27.50 M = 32.80 T = 39.70	B = 40.43 M = 47.48 T = 11.77	B = 41.33 M = 37.56 T = 21.11	B = 23.58 M = 25 T = 51.42	B = 39.95 M = 48.44 T = 16.75
Standardized field-level NDVI anomaly (average)	0.07	0.03	0.04	0.03	0.08	0.10
Tentative field slope (avg ± stdev) ⁴	1.17 ± 3.34	1.58 ± 0.95	1 ± 1.29	1.84 ± 1	2.45 ± 0.59	1.77 ± 0.78

1. FAN = Fansirakoro, Mali; NOB = Nobere, B. Faso; PIS = Pisii, Ghana; SER = Serkin Hawsa, Niger; SUK = Sukumba, Mali; TEG = Tegena, Mali
2. Proxy indicators of the presence of animal traction, and fitness for production intensification (such as introduction of contour ridge tillage) and mechanization.
3. Proxy indicator of overall water availability and water-related stresses and pests (such as aflatoxin in peanuts)
4. Proxy indicator of soil erosion risk and field fitness for soil and water conservation measures



Okay stop. Let's step back a moment now. Could there be any reasonable justification that rural communities in Africa (or anywhere BTW) be deprived of access to such key information? Critical metrics to help them inject elements of agricultural landscape **DESIGN** in their development plans? Meaningful maps to help them **DEVISE** new development plans from scratch? After all, **over 60% of Sub-Saharan Africa's population is rural.** How much longer will they have to wait? How much longer will they have to flight, because we failed to provide one essential tool to slow down rural exodus? **You decide and you tell them. Because now Pandora's box is open. And the news is spreading.**

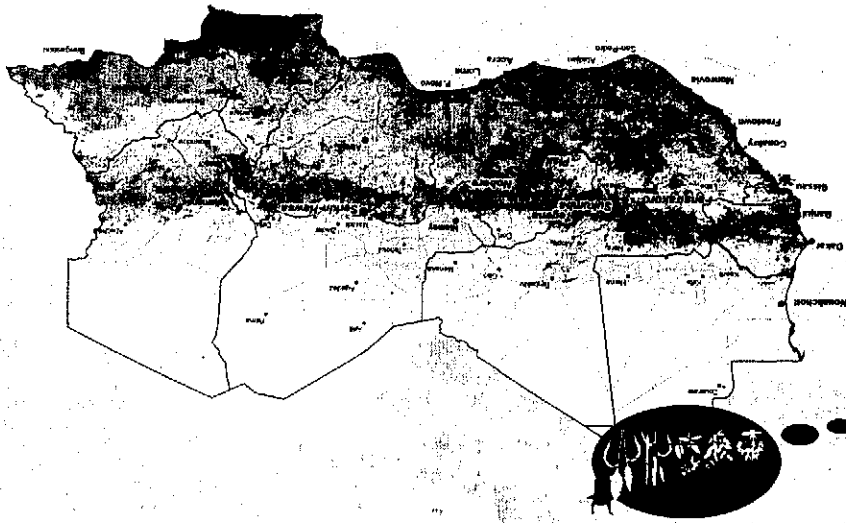
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What you see is what you believe

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About ICRISAT
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The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a non-profit, non-political organization that does innovative agricultural research and capacity building for sustainable development with a wide array of partners across the globe. ICRISAT's mission is to help empower 644 million poor people to overcome hunger, poverty and a degraded environment in the dry tropics through better agriculture. ICRISAT belongs to the Alliance of Centers of the Consultative Group on International Agricultural Research (CGIAR).

SotubaGIS

A geospatial joint-venture initiated by ICRISAT and IER, SotubaGIS is based on *Decisive. Spatial. Analysis.* In Bamako, the fastest growing metro area of Africa. Hosted by national partner IER on the campus of the Sotuba Regional Agronomic Research Center, it flips upside down traditional partnerships to incubate collaborative modes of tomorrow: multi-stakeholder, decentralized, grass-root, trans-disciplinary and focused on regional integration.



AGCommons

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Mission: Improve the incomes and lives of small farmers in sub-Saharan Africa through location-specific information.

AGCommons (Agricultural Geospatial Commons) is an Africa-based service bureau that provides geospatial information technology services to extend the reach and impact of existing agricultural initiatives, and improve the productivity and incomes of smallholder farmers in Sub-Saharan Africa. AGCommons extends geospatial information to these smallholders, and helps them communicate their rich knowledge on various aspects of farming, along with location specific data, back to the groups and organizations working on their behalf.

The services are provided through a "commons" approach, to create the greatest possible good for the largest number of people and include data development and acquisition, visualization and cartography, and sophisticated spatial modeling specific to the agriculture development sector. AGCommons is establishing working relationships with existing service providers and work within the community to build capacities that currently are in short supply locally. AGCommons promotes the use of geospatial information technologies for agricultural development, and identifies and seeks funding for high-win initiatives.

AGCommons was launched by the Bill & Melinda Gates Foundation as part of their Geospatial Technology Program. It is led by the Consultative Group on International Agricultural Research (CGIAR) in partnership with Spatial Development International.



Seeing is Believing West Africa
Very High Resolution for Smallholders

VHRI: build site-specific VHR information containers and proto-maps. VHR: build a human interface for VHR information extraction and exchange. ROLL: roll out VHR to farmer fields. FARM: populate VHR through in-situ interactions (incubate on-farm). SILCO: explore VHR support functions (incubate in-silico). FEED: Collate information from incubators, forward updated maps to sites and collect feedback.

