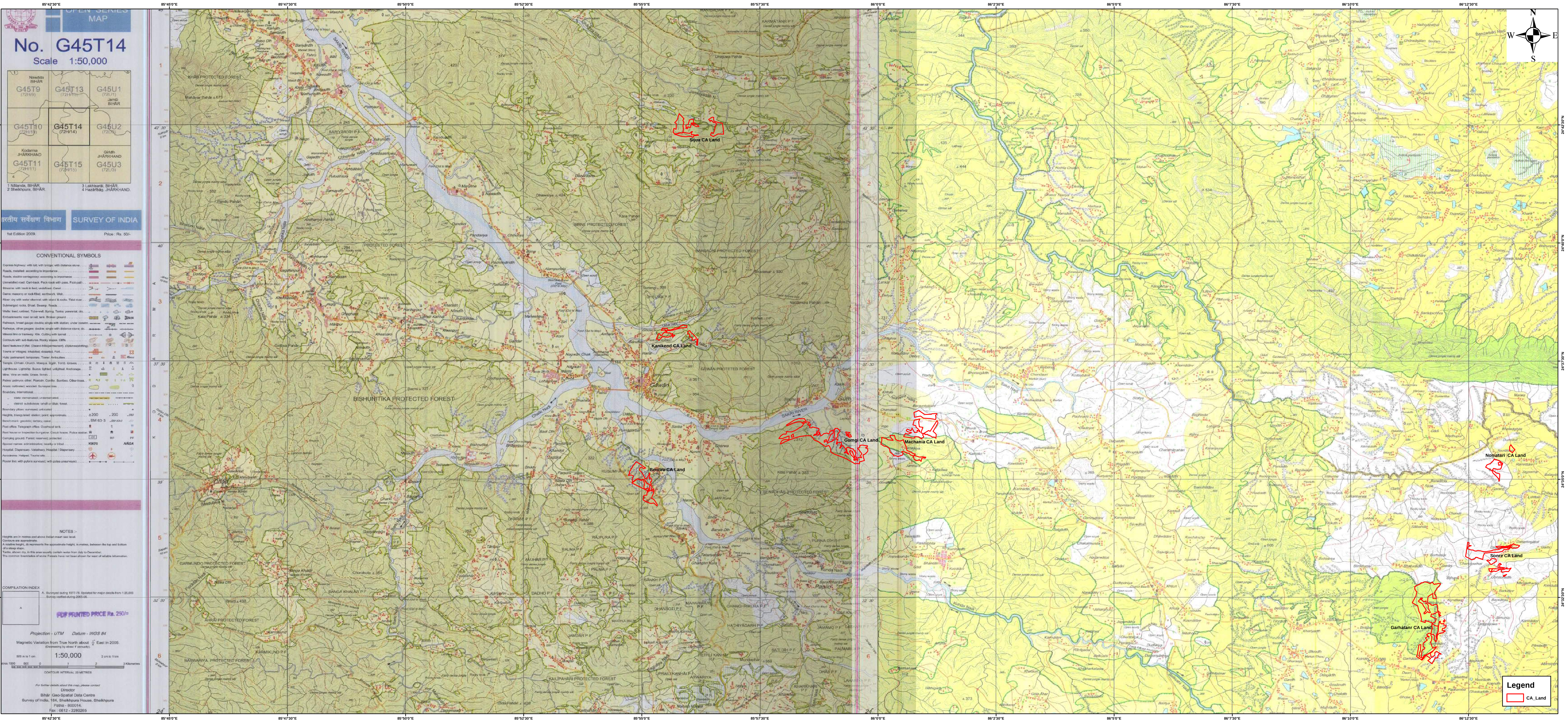




OPEN SERIES
MAP

10	G45T14 (72H14)	G45U2 (72L2)
11	G45T15 (72H15)	G45U3 (72L3)
12	G45T16 (72H16)	G45U4 (72L4)

Price: R\$ 50 /-

...thin bridge with distance stone		Thin
...to impregnate		Impregnate
...ing according to importance		Importance
...flat, foot-track with axis, foot-path		Foot-track
...unintended, Canal		Canal
...flat, bankwork, Wall		Bankwork
...with board & rocks, Tidal river		Tidal river
...Swamp, Reeds		Swamp
...Sho, Shoa, Tanka, general, dry		Sho
...dry, Basin, ground		Basin
...ridge, single with station, under constn.		Station
...with distance stone, do		Distance stone
...Rk, Cutting with tunnel		Cutting
...Rocky slope, Q.R.R.		Rocky slope
...one-side government, (Under)waterfall		Waterfall
...Tide, desert, Fort		Fort
...Tide, Anticipation		Anticipation
...Baque, Equip, Tanka, Gravel		Baque
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		Equip
...Equip, Tanka, Gravel		

usually contains water from July to February.
through the cultivated portion of this sheet; only the important
rivers in this sheet have not been adjusted to the heights of the spirit
level but are generally in accordance with them.
on contour courses in the southern half of the sheet.
the approximate height, in metres, between the top and bottom of a
along the railways and roads and shown in ascent type, e.g., 'S' whereas
in contour type, e.g., 'S'.
Protected Forests have not been shown in want of reliable information.
Areas of Reserved or Protected forests are shown by green rhombs.

A. Compiled from 1:250,000 survey 1876-79. Updated for major details
during 2004-05.

ic Variation from True North about $\frac{1}{4}^\circ$ West in 2005.

1:50,000 2 cm to 1 km



0 1 2 3 Kilometres

CONTOUR INTERVAL 20 METRES

For further details about this issue, please contact
Director
Bhārathend Geo-Spatial Data Centre
Survey of India, Doranda
Rānchi-834002
Fax : 0651 - 2482799

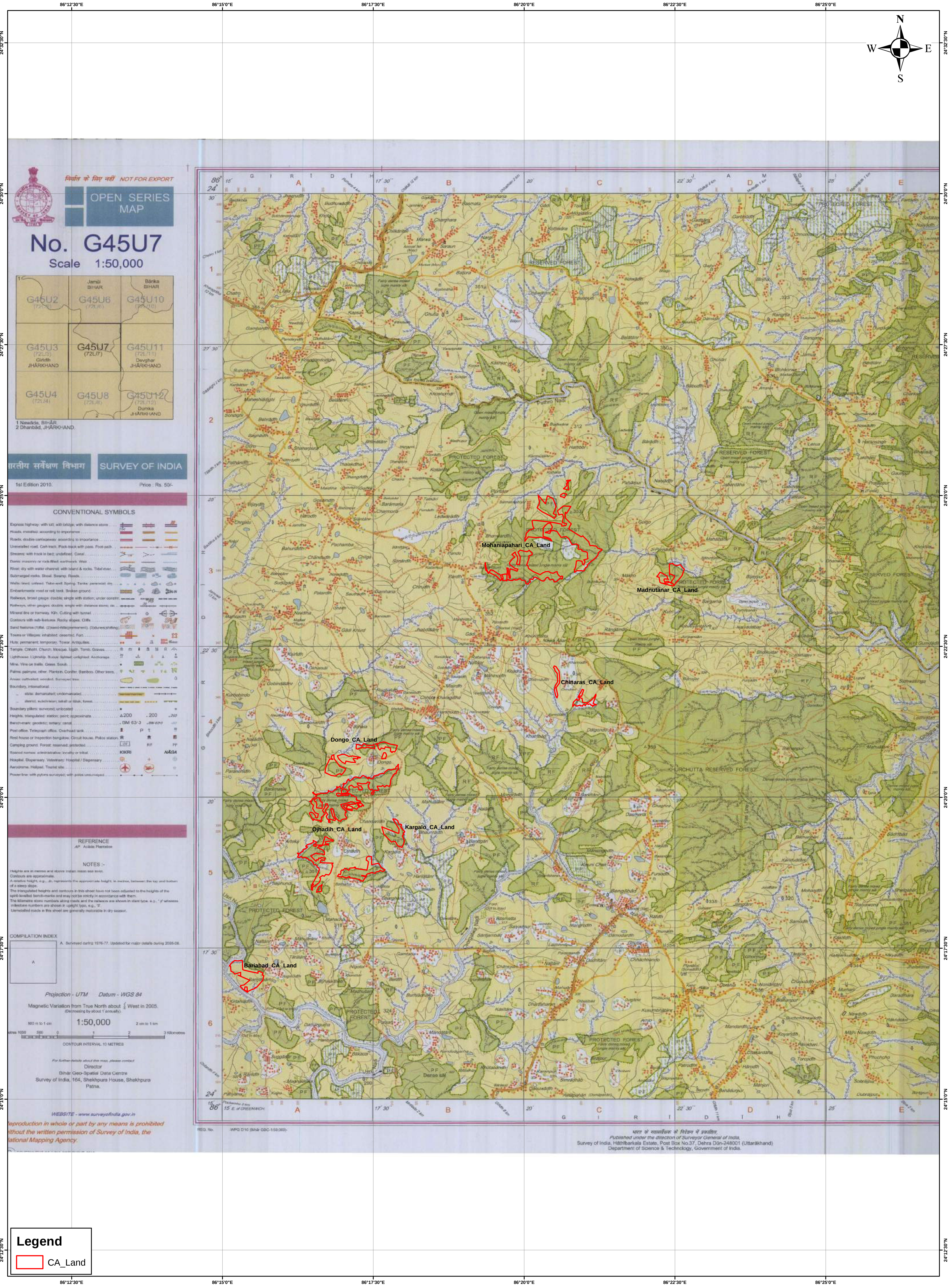
whole or part by any means is prohibited
 without the written permission of Survey of India, the
 Publishing Agency.

INDIA COPYRIGHT, 2008

REG. No. 8657-SPG D 708. Libraryband GDC-159.000-1015

भारत के महासर्वेक्षक के निदेशन में प्रकाशित,
Published under the direction of Surveyor General of India,
Survey of India, Hathiabarkala Estate, Post Box No. 37, Dehra Dun-248001 (Uttarakhand)
Department of Science & Technology, Government of India.

☐ CA_Land



निर्माण के लिए नहीं NOT FOR EXPORT
OPEN SERIES
MAP

No. G45U7
Scale 1:50,000

G45U2 (72L/5)	G45U6 (72L/6)	G45U10 (72L/10)
G45U3 (72L/3)	G45U7 (72L/7)	G45U11 (72L/11)
G45U4 (72L/4)	G45U8 (72L/8)	G45U12 (72L/12)

1 Nawada, BIHAR
2 Dhanbad, JHARKHAND.

भारतीय सर्वेक्षण विभाग SURVEY OF INDIA
1st Edition 2010. Price : Rs. 50/-

CONVENTIONAL SYMBOLS	
Express highway, with toll, with bridge, with distance stone	
Roads, marked according to importance	
Unimproved road, Cart-track, Paved track with pass, Foot path	
Streams, with track in bed, underflow, Canal	
Dam, masonry or rock-fall, earthen dam, Weir	
River, dry with water channel, with island & rocks, Tidal river	
Submerged rocks, Shoal, Swamp, Reeds	
Wells, (sacred, public), Tubewell, Spring, Tank, Perennial dry	
Embankment, road or rail track, Broken ground	
Railways, broad gauge, double single with station, under construction	
Railways, other gauges, double single with distance stone, etc.	
Mineral line or tramway, K.R. Cutting with tunnel	
Contours with sub-factors, Rocky slopes, Cliffs	
Sand features, (Tidal, Dunes, Mangroves), (Dunes, Mangroves)	
Towns or Villages, inhabited, deserted, Fort	
Huts, permanent, temporary, Tower, Antiquities	
Temples, Chhatra, Church, Mosque, Jajhi, Tomb, Graves	
Lighthouse, Lightship, Buoy, Sparrow, undipped, Anchorage	
Mine, Vine on hills, Grass, Scrub	
Palms, palms, other, Plants, Coffee, Bamboo, Other trees	
Areas cultivated, wooded, Surveyed area	
Boundary, International	
State, demarcated, undemarcated	
district, subdivision, taluk or block, forest	
Boundary pillars, surveyed, uncoloured	
Heights, triangulated, aneroid, point, approximate	
Gravimetric, geodetic, levelling, aneroid	
Post office, Telegraph office, Checkpost, tank	
Rest house or inspection bungalow, Circuit house, Police station	
Camping ground, Forest, reserved, protected	
Reserved names, administrative, locality or tribal	
Hospital, Dispensary, Veterinary Hospital / Dispensary	
Aerodrome, Helipad, Tourist site	
Power line, with pylons surveyed, with poles unsurveyed	

REFERENCE
A. Aerial Photograph

NOTES :-
Heights are in metres and above Indian mean sea level.
Contours are approximate.
A relative height, e.g., 10, represents the approximate height, in metres, between the top and bottom of a steep slope.
The triangulated heights and contours in this sheet have not been adjusted to the heights of the earth levelled bench-marks and may not be strictly in accordance with them.
The kilometre scale numbers along roads and the railways are shown in their type, e.g., 'K' for kilometre numbers are shown in upright type, e.g., 'K'.
Unimproved roads in this sheet are generally not suitable in dry season.

COMPILATION INDEX
A. Surveyed during 1976-77. Updated for minor details during 2005-06.

Projection - UTM Datum - WGS 84
Magnetic Variation from True North about 1/2° West in 2005.
(Decreasing by about 1' annually.)
1:50,000
CONTOUR INTERVAL 10 METRES
For further details about this map, please contact
Director
Bihar Geo-Spatial Data Centre
Survey of India, 164, Sheikhpura House, Sheikhpura
Patna.

WEBSITE - www.surveyofindia.gov.in
Reproduction in whole or part by any means is prohibited
without the written permission of Survey of India, the
National Mapping Agency.

Legend
CA_Land

भारत के सर्वेक्षण के विभाग ने सर्वेक्षण
Published under the direction of Surveyor General of India,
Survey of India, Hathi-Barkala Estate, Post Box No.37, Dehra Dun-248001 (Uttarakhand)
Department of Science & Technology, Government of India.

No. G45U8

Scale 1:50,000

G45U3 (72L/3)	G45U7 (72L/7)	G45U11 (72L/11)
G45U4 (72L/4)	G45U8 (72L/8)	G45U12 (72L/12)
F45C1 (73I/1)	F45C5 (73I/5)	F45C9 (73I/9)

भारतीय सर्वेक्षण विभाग

SURVEY OF INDIA

1st Edition 2009.

Price : Rs. 50/-

CONVENTIONAL SYMBOLS

- Express highway, with toll, with bridge, with distance stone.
- Roads, metalled, according to importance.
- Roads, double carriageway, according to importance.
- Unmetalled road, Cart track, Pack-track with pass, Foot-path.
- Streams, with track in bed, underflow, Canal.
- Dams, masonry or rock-fill, waterlock, Weir.
- River, dry with water channel, with island & rocks, Tidal river.
- Submerged rocks, Shoal, Swamp, Rocks.
- Wells, lined, unlined, Tube-well, Spring, Tanks, perennial, dry.
- Embankments, road or rail, track, Broken ground.
- Railways, broad gauge, double, single with station, under construction.
- Railways, other gauges, double, single with distance stone, do.
- Mineral line or tramway, Kin, Cutting with tunnel.
- Contours with spot-heights, Rocky slopes, Cliffs.
- Land features, (1) Bar, (2) Sand, (3) Mounds, (4) Dunes, (5) Shifting.
- Towns or Villages, inhabited, deserted, Fort.
- Huts, permanent, temporary, Tower, Antennae.
- Temples, Chhatra, Church, Mosque, Ghat, Tomb, Graves.
- Lighthouses, Lightships, Buoy, lighted, unlighted, Anchorage.
- Mine, Vine on trails, Grass, Scrub.
- Plants, palms, other, Plantain, Coriander, Bamboo, Other trees.
- Areas, cultivated, wooded, Surveyed trees.
- Boundary, international.
- State, demarcated, undemarcated.
- District, subdivision, tahsil or taluk, thana.
- Boundary pillars, surveyed, unlocated.
- Height, triangulated, station, point, approximate.
- Bench-mark, geodetic, tertiary, canal.
- Post office, Telegraph office, Overhead tank.
- Rail house or inspection bungalow, Circuit house, Police station.
- Camping ground, Forest, reserved, protected.
- Spaced names, administrative, locality or tribal.
- Hospital, Dispensary, Veterinary, Hospital / Dispensary.
- Aerodrome, Helipad, Tourist site.
- Power line, with pylons, surveyed, with poles, unsurveyed.

REFERENCES

Public Works Department

City, Chanay

NOTES:-

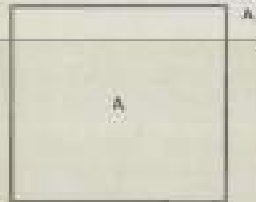
Contours are approximate.

Height, as in metres and above Indian mean sea level.

A relative height, as represents the approximate height, in metres, between the top and bottom of a steep slope.

This kilometre scale numbers along roads and railways are shown in black type & g., gharahs numbers are shown in upright type e.g., 5.

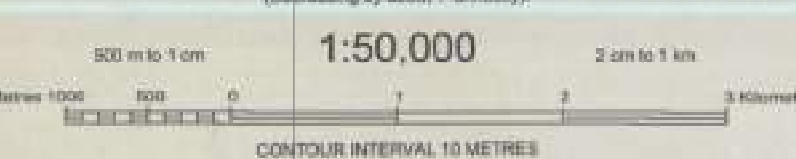
COMPILATION INDEX



Projection - UTM Datum - WGS 84

Magnetic Variation from True North about West in 2005

(Decreasing by about 1' annually).



For further details about this map, please contact

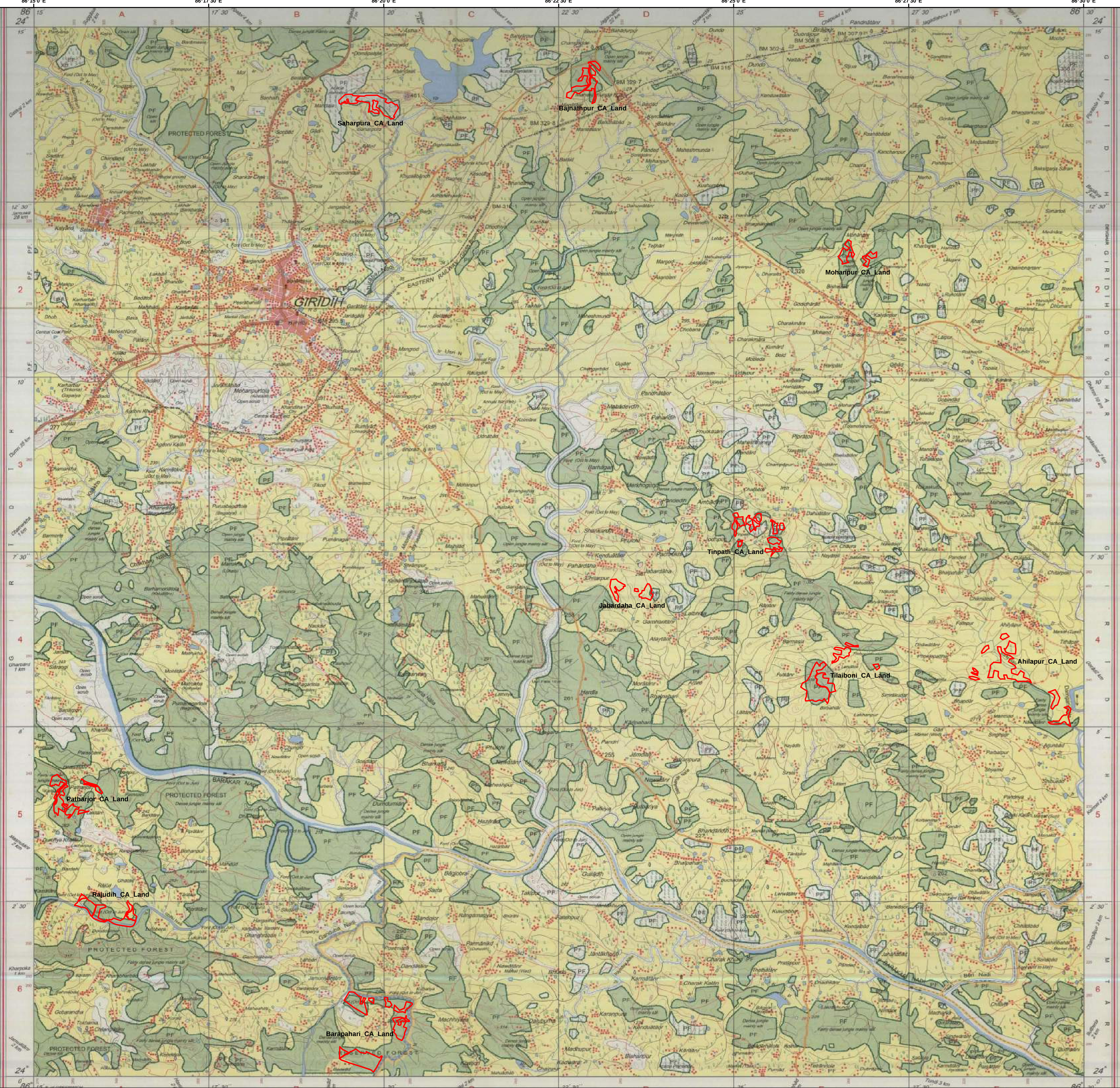
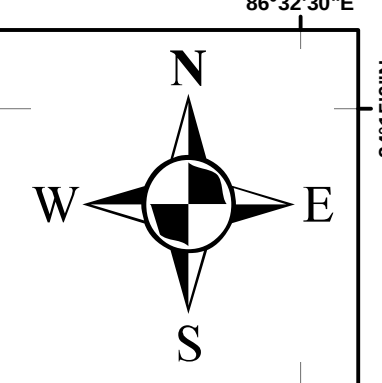
Director

Jharkhand Geo-Spatial Data Centre

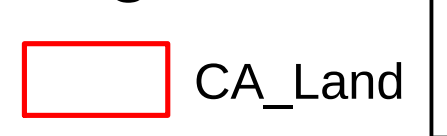
Survey of India, Durgam

Ranchi - 834002

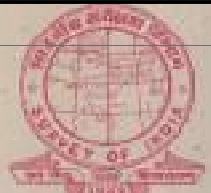
Fax: 0661 - 2482769



Legend







OPEN SERIES
MAP

No. G45T16

Scale 1:50,000

Kodarma JHARKHAND G45T11	G45T15	G45U3
G45T12	G45T16	G45U4
Hairbag JHARKHAND	G45U4 JHARKHAND	
F45B9	F45B13	F45C1
1 Dhanbad, JHARKHAND.		

भारतीय सर्वेक्षण विभाग SURVEY OF INDIA

1st Edition 2008.

Price: Rs. 50/-

CONVENTIONAL SYMBOLS

Express Highway with toll, with bridge, with distance stone	
Roads, metalled, according to importance	
Roads, unmetalled, according to importance	
Unmetalled road, Cart-track, Path, road with pass, Foot-path	
Sewer with track in bank, underfoot, Canal	
Dam, masonry or rock-filling, earthwork, Wall	
River, dry with water channel, with island & rocks, Tidal, River	
Waterfall, rapids, Shallow, Swamp, Marshy	
Wells, lined, unlined, Tube-well, Spring, Tank, pond, ch, etc.	
Embankment, road or rail, bank, Station ground	
Railway, broad gauge, double, single, with station, under canopy	
Railway, other gauge, double, single, with station, under canopy	
Mineral line or tramway, K.M. Cutting with tunnel	
Contours with sub-features, Rocky slopes, Cliffs	
Sentinel, (MuzZam-hill) (permanent), (Observation)	
Towns or Villages, inhabited, deserted, Fort	
Hill, permanent, temporary, Tower, Antenna	
Temple, Church, Mosque, Spili, Tank, Ganga, etc.	
Lighthouse, Lightship, Buoy, lighted, unlighted, Anchorage	
Mine, Vise on hill, Great, Small	
Palms, palms, other, Pans, Cactus, Bamboo, Other trees	
Arise, cultivated, wooded, Surveyed area	
Boundary, international	
Boundary, international, underfoot	
Boundary, international, underfoot, 200, 200, 200	
Height, interpolation, station, point, approximate	
Bench-mark, geodetic, levelling, canal, B.M. 63.3, B.M. 63.3, B.M. 63.3	
Post office, Telegraph office, Overhead tank	
Rail house or inspection, banglow, Circuit house, Police station	
Camping ground, Forest, reserved, protected	
Special names, administrative, locality or tribal	
Hostel, Dispensary, Veterinary hospital	
Airplane, Helipad, Tourist site	
Power line, with pylons surveyed, with poles unsurveyed	

REFERENCES

NH 2 National Highway No. 2. PWD Public Works Department.

NOTES

Heights are in metres and above Indian mean sea level. Contours are approximate. A relative height, h, represents the approximate height in metres, between the top and bottom of a mass slope. Fairs shown dry in this area usually operate only from July to December. Wells are numerous throughout the district, only the important ones have been shown. The interpolated heights and contours in this sheet have not been adjusted to the heights of the spirit-levelled bench-marks and may not be strictly in accordance with them. The contour boundaries of the Protected Forests have not been shown for want of reliable information. The Bagodar River and Barak had are generally fordable from November to June.

COMPILATION INDEX

A. Compiled from 1:25,000 survey 1975-76. Updated for major details during 2008-09.

Projection - UTM Datum - WGS 84

Magnetic Variation from True North about 1° West in 2005. (Decreasing by about 1° annually).

1:50,000

CONTOUR INTERVAL 20 METRES

For further details about this map, please contact

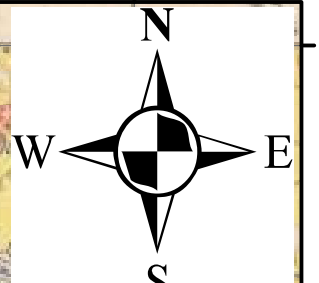
Director

Jharkhand Geo-Spatial Data Centre

Survey of India, Dhanbad

Pin - 834002

File - 0151 - 2452789



Legend

CA_Land