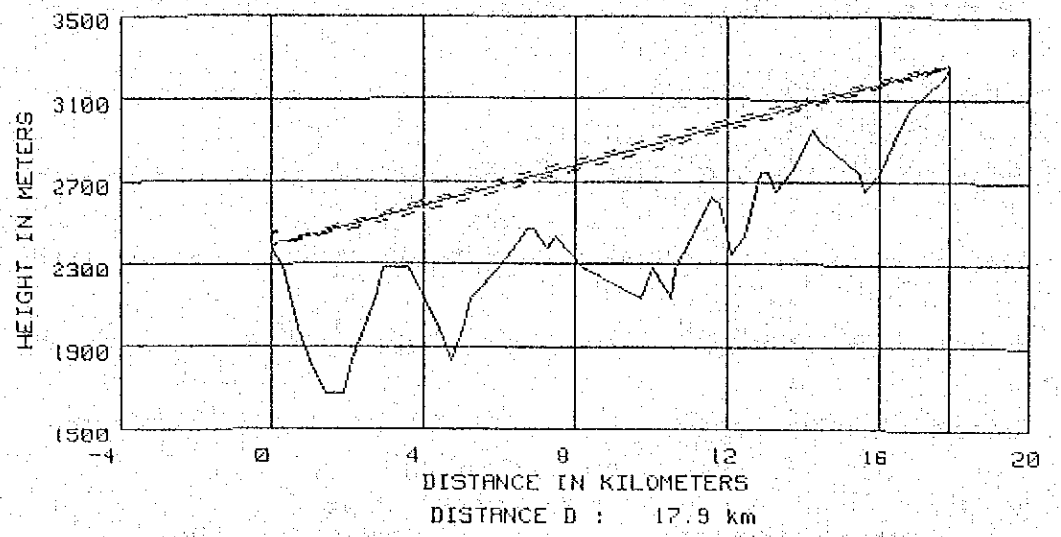
LUPGHO (08-9)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 17.9 km

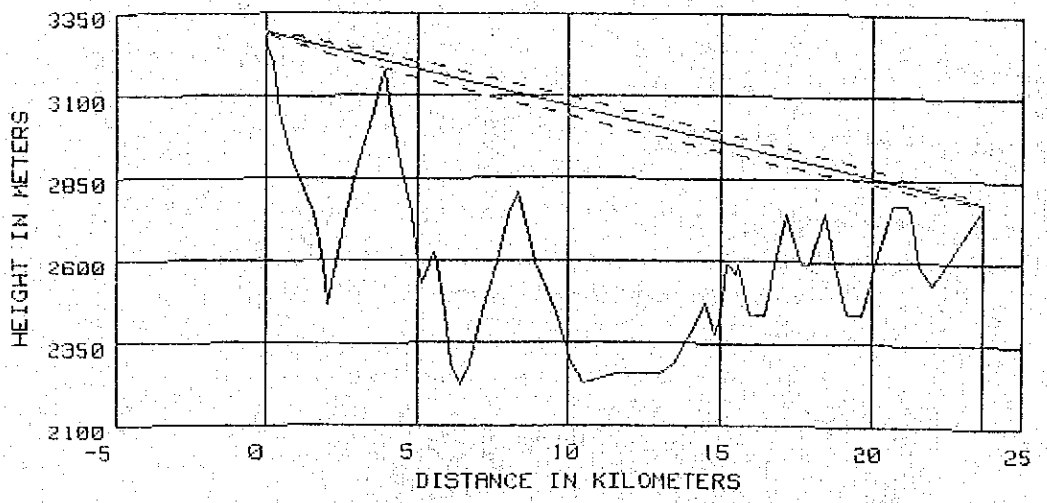
SITE 1 : LUPRU
GROUND ELEVATION:2377.4 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : GHONHORE
GROUND ELEVATION:3261.4 m
ANTENNA HEIGHT: 10.0 m

GHOMAL (08-10)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 23.7 km

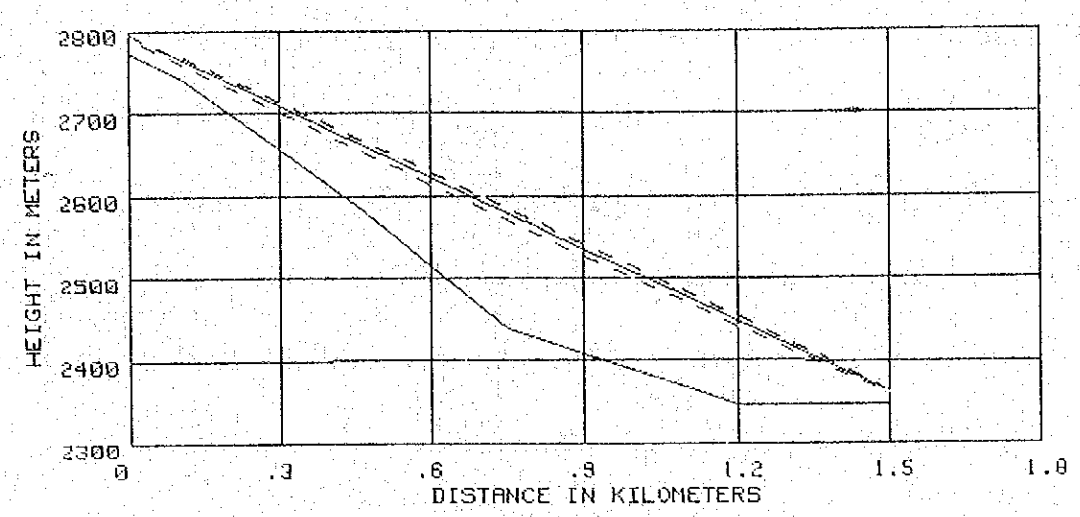
SITE 1 : GHONHORE
GROUND ELEVATION:3261.4 m
ANTENNA HEIGHT: 30.0 m

SITE 2 : MALABHIR
GROUND ELEVATION:2773.7 m
ANTENNA HEIGHT: 10.0 m

MALJUN (08-11)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 1.5 km

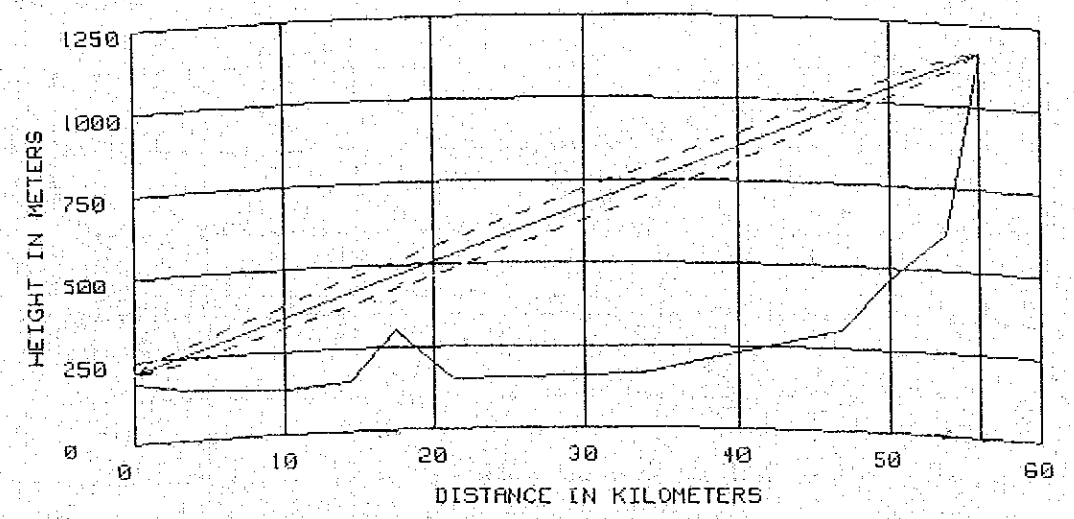
SITE 1 : MALABHIR
GROUND ELEVATION: 2779.7 m
ANTENNA HEIGHT: 20.0 m

SITE 2 : JUNLA
GROUND ELEVATION: 2347.0 m
ANTENNA HEIGHT: 15.0 m

NEPRAJ (08-12)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 56 km

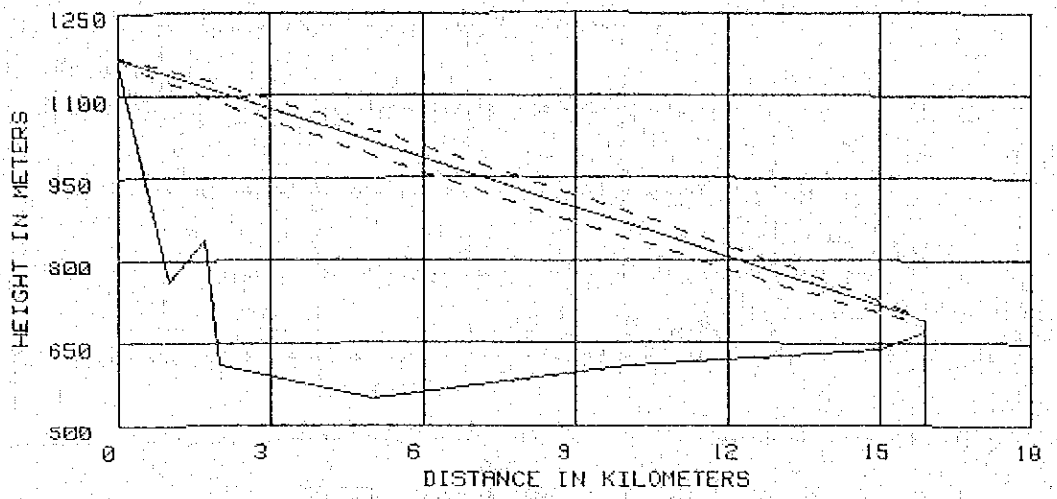
SITE 1 : NEPALGUNJ
GROUND ELEVATION: 182.9 m
ANTENNA HEIGHT: 30.0 m

SITE 2 : RAJHAKOT
GROUND ELEVATION: 1156.1 m
ANTENNA HEIGHT: 10.0 m

RAJTUL (08-13)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 15.9 km

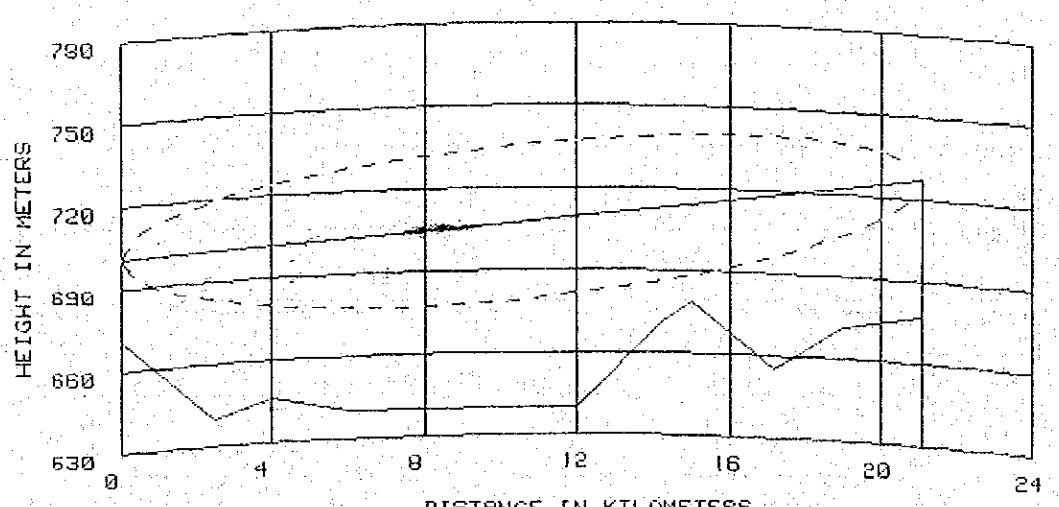
SITE 1 : RAJHAKOT
GROUND ELEVATION: 1156.1 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : TULSIPUR
GROUND ELEVATION: 671.0 m
ANTENNA HEIGHT: 20.0 m

TULGHO (08-14)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 21.1 km

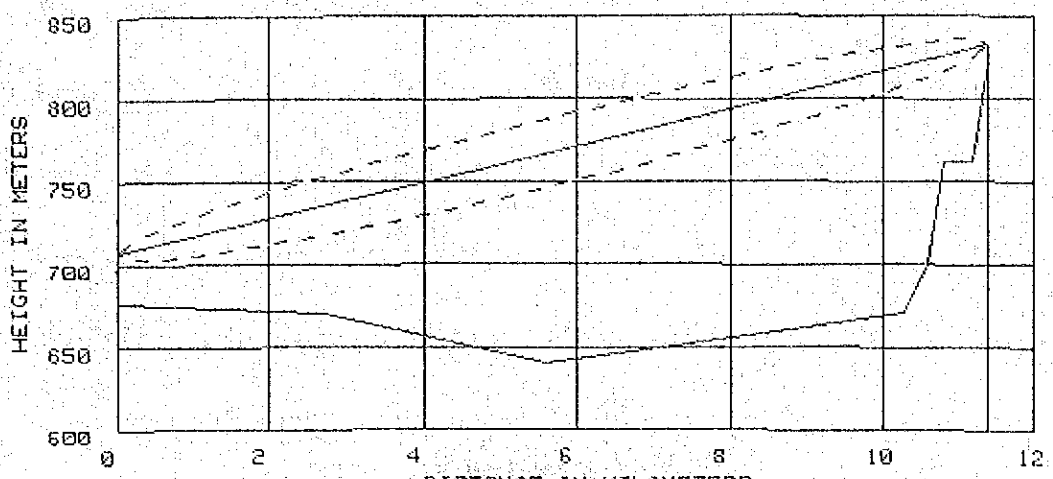
SITE 1 : TULSIPUR
GROUND ELEVATION: 671.0 m
ANTENNA HEIGHT: 30.0 m

SITE 2 : GHORAHI
GROUND ELEVATION: 676.7 m
ANTENNA HEIGHT: 50.0 m

GHOCHA (08-15)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 11.4 km

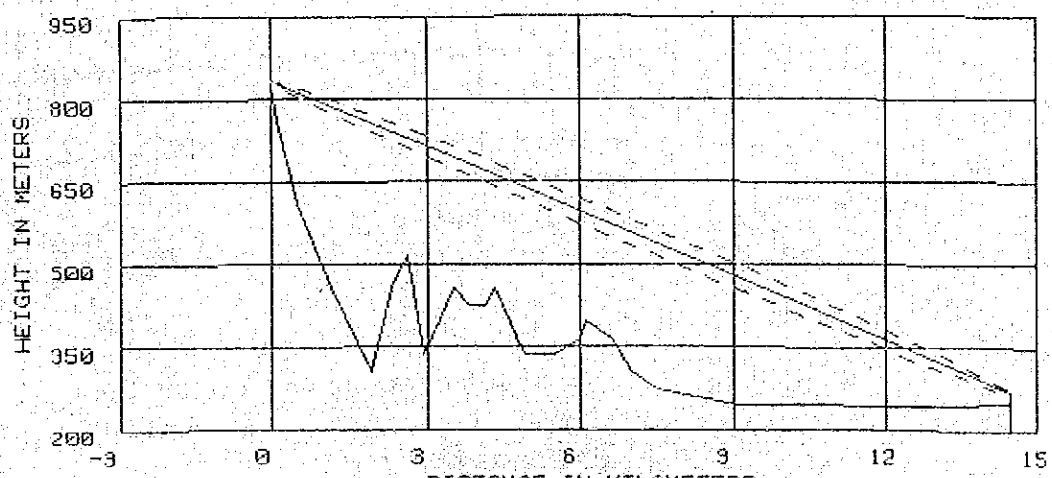
SITE 1 : GHORAHI
GROUND ELEVATION: 676.7 m
ANTENNA HEIGHT: 30.0 m

SITE 2 : CHAUPATTA
GROUND ELEVATION: 823.0 m
ANTENNA HEIGHT: 10.0 m

CHAGAD (08-16)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 14.5 km

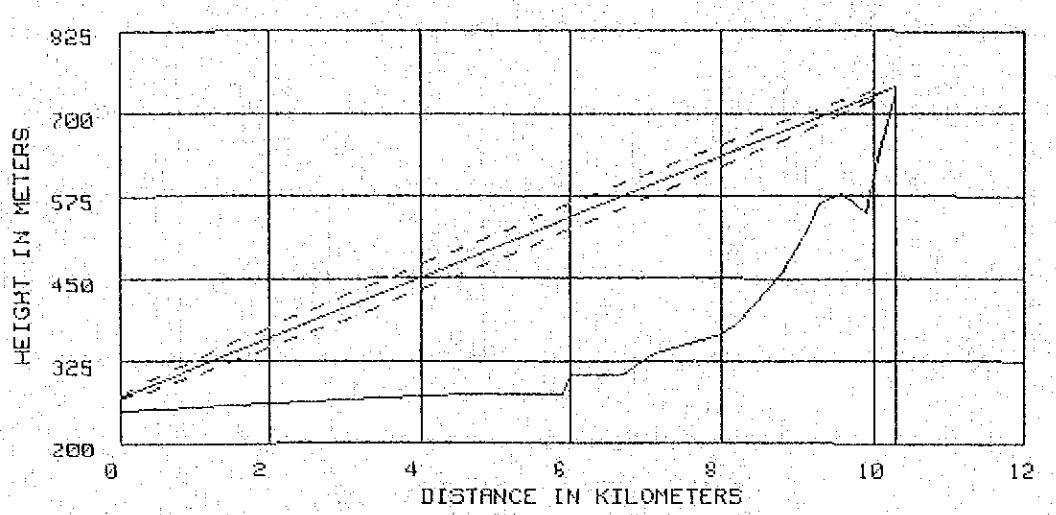
SITE 1 : CHAUPATTA
GROUND ELEVATION: 823.0 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : GADHAWA
GROUND ELEVATION: 249.9 m
ANTENNA HEIGHT: 20.0 m

GAD240 (08-17)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 10.3 km

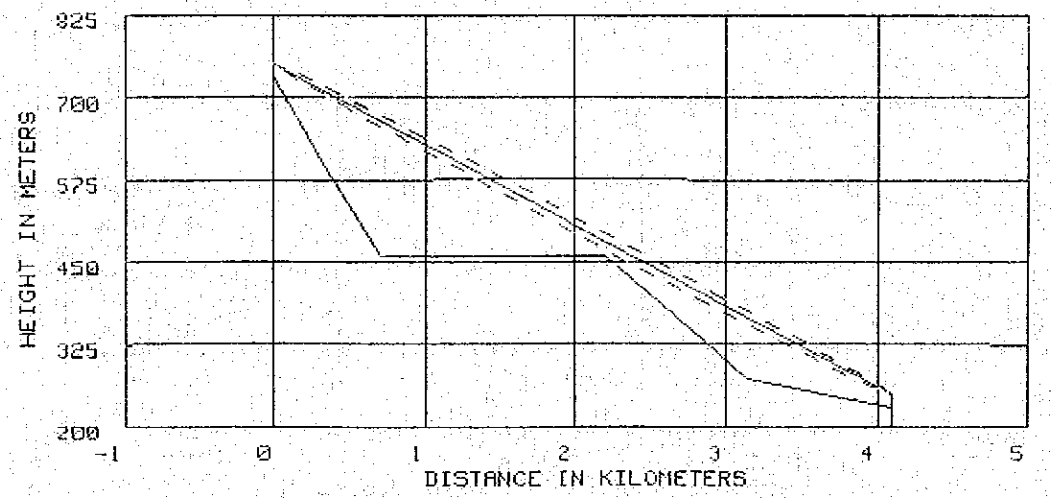
SITE 1 : GADHANA
GROUND ELEVATION: 249.9 m
ANTENNA HEIGHT: 20.0 m

SITE 2 : RS(2400F)
GROUND ELEVATION: 731.5 m
ANTENNA HEIGHT: 10.0 m

KOI240 (08-18)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 4.1 km

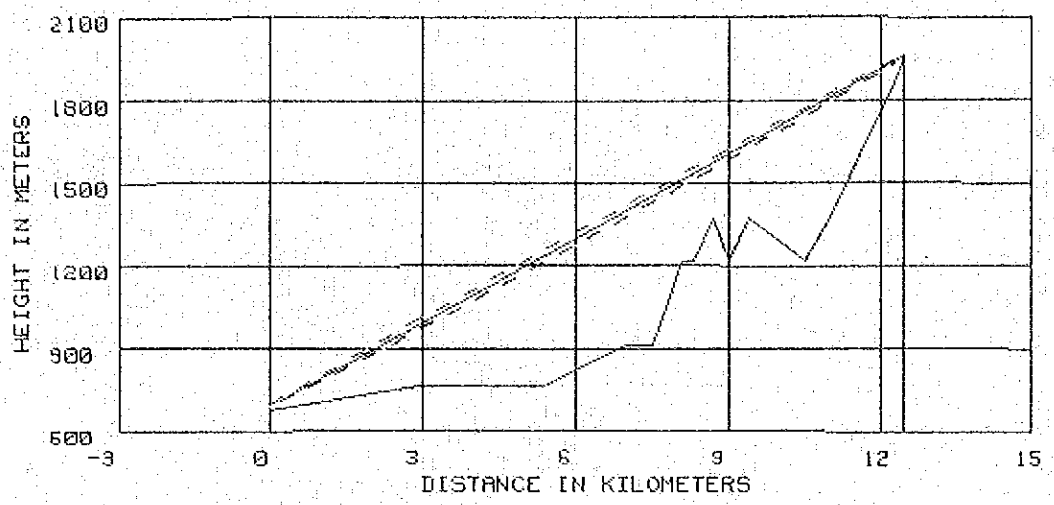
SITE 1 : RS(2400F)
GROUND ELEVATION: 731.5 m
ANTENNA HEIGHT: 20.0 m

SITE 2 : KOILABAS
GROUND ELEVATION: 228.6 m
ANTENNA HEIGHT: 20.0 m

TULBAL (08-19)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 12.5 km

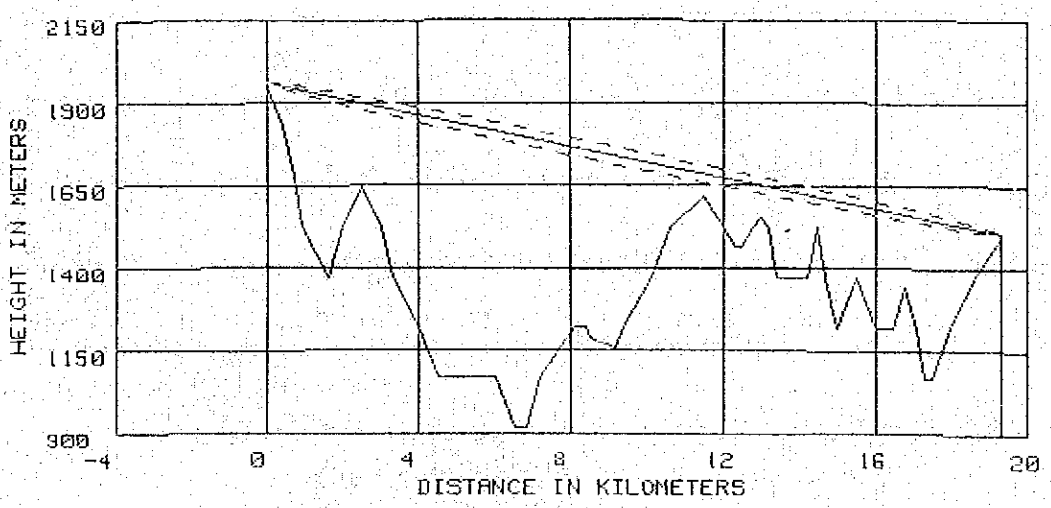
SITE 1 : TULSIPUR
GROUND ELEVATION: 671.0 m
ANTENNA HEIGHT: 20.0 m

SITE 2 : BALLE
GROUND ELEVATION: 1950.7 m
ANTENNA HEIGHT: 10.0 m

BALSAL (08-20)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 13.3 km

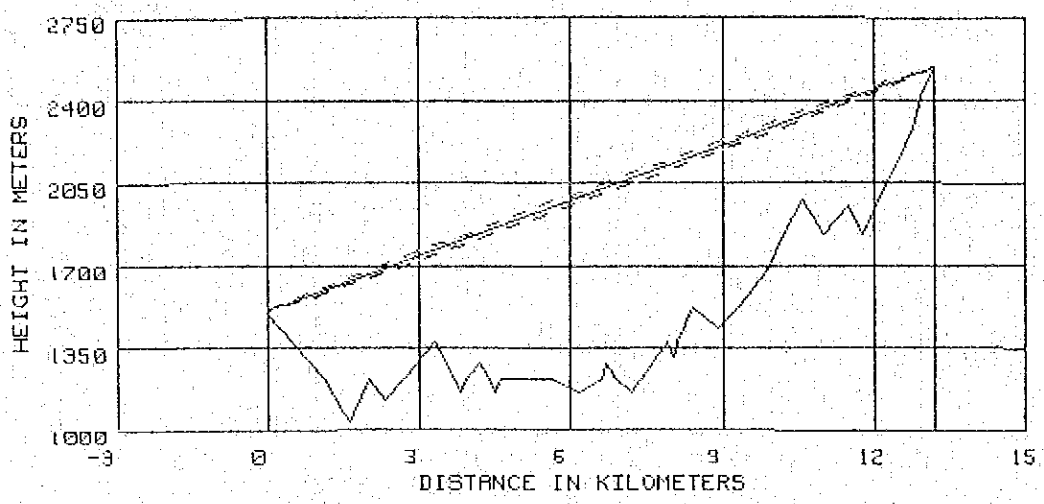
SITE 1 : BALLE
GROUND ELEVATION: 1950.7 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : SALYAN
GROUND ELEVATION: 1493.5 m
ANTENNA HEIGHT: 15.0 m

SALKUM (08-21)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 13.2 km

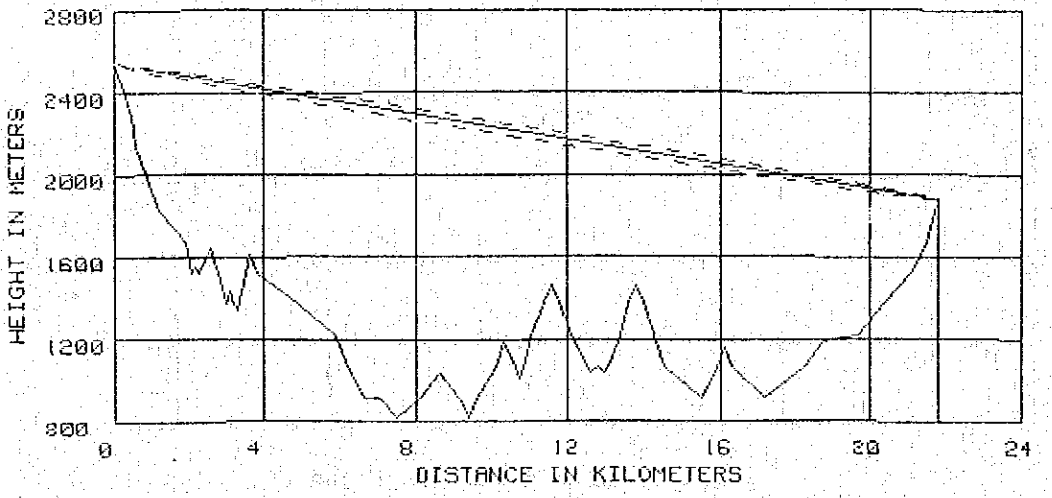
SITE 1 : SALYAN
GROUND ELEVATION:1493.5 m
ANTENNA HEIGHT: 15.0 m

SITE 2 : KUMAR
GROUND ELEVATION:2529.0 m
ANTENNA HEIGHT: 10.0 m

KUMKHA (08-22)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 21.8 km

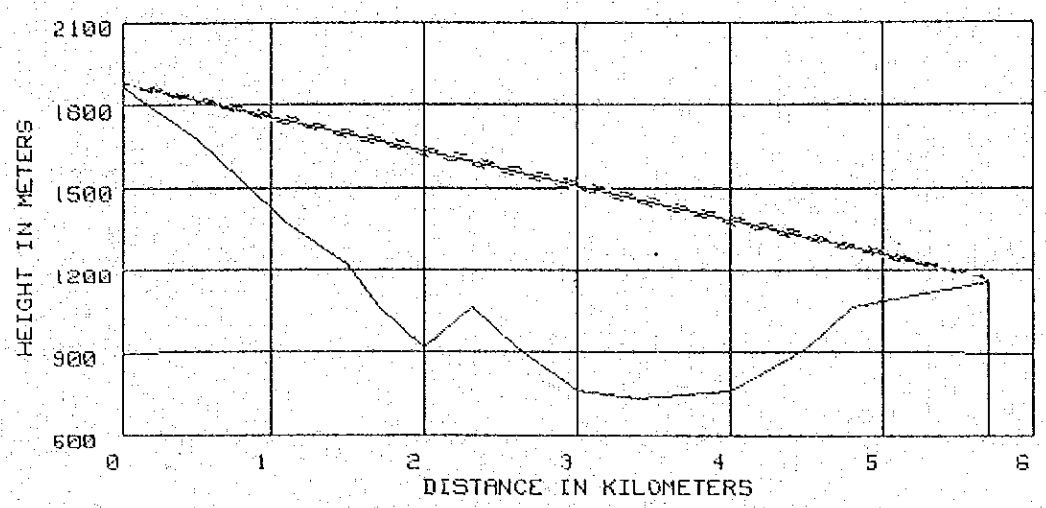
SITE 1 : KUMAR
GROUND ELEVATION:2529.0 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : KHAGO
GROUND ELEVATION:1871.5 m
ANTENNA HEIGHT: 10.0 m

KHAJAJ (08-23)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 5.7 km

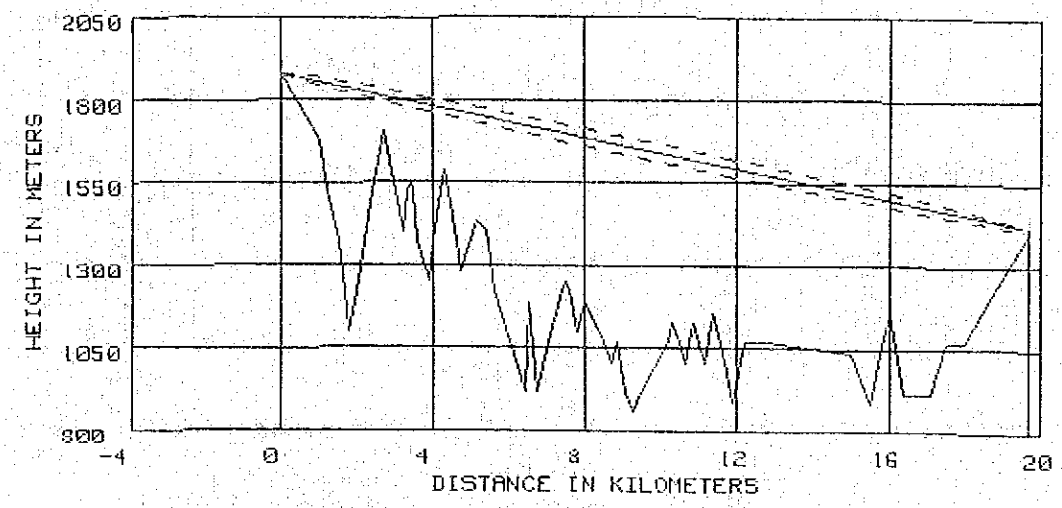
SITE 1 : KHAGO
GROUND ELEVATION: 1871.5 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : JAJARKOT
GROUND ELEVATION: 1158.2 m
ANTENNA HEIGHT: 15.0 m

KHAMUS (08-24)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 19.7 km

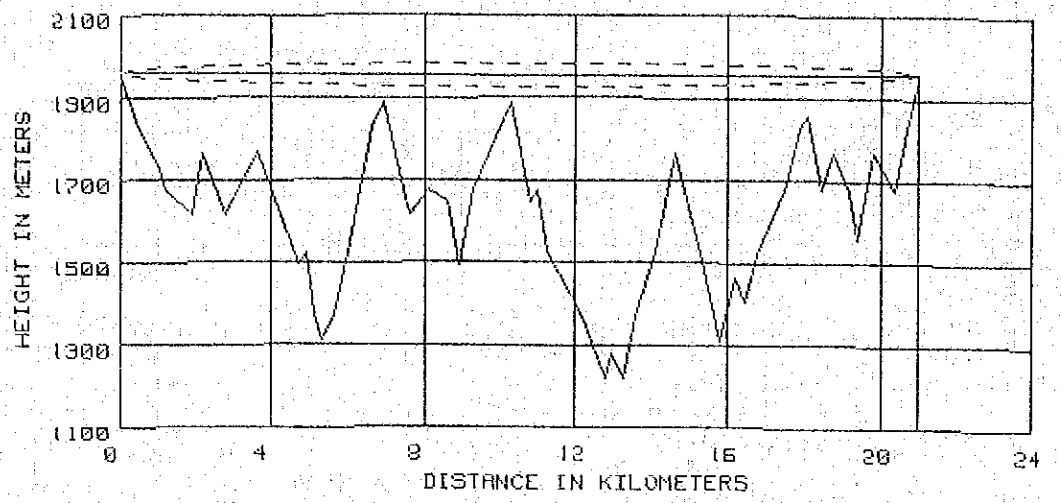
SITE 1 : KHAGO
GROUND ELEVATION: 1871.5 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : MUSIKOT
GROUND ELEVATION: 1402.1 m
ANTENNA HEIGHT: 15.0 m

BALSAM (08-25)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 21 km

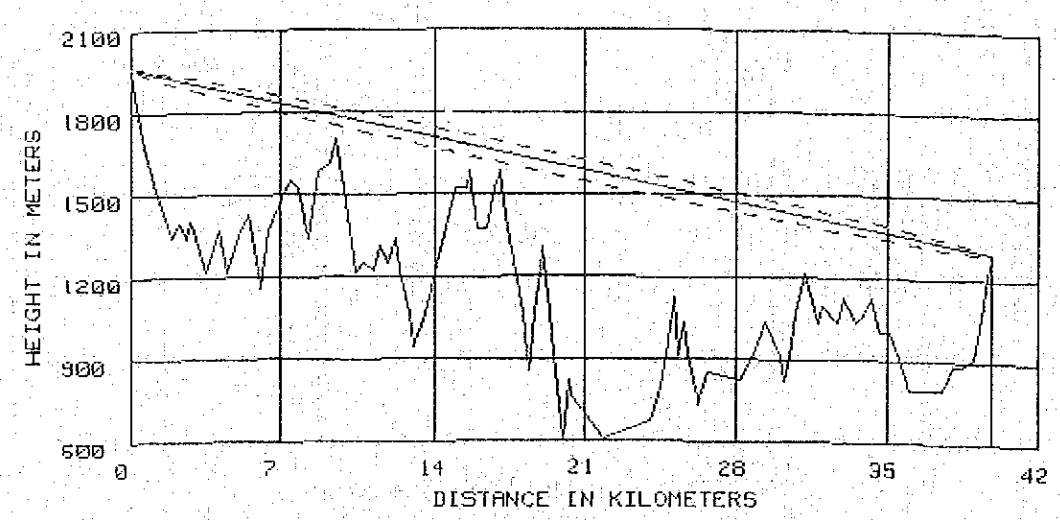
SITE 1 : BALLE
GROUND ELEVATION: 1950.7 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : SAMRI
GROUND ELEVATION: 1950.7 m
ANTENNA HEIGHT: 10.0 m

SAMPYU (08-26)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 39.8 km

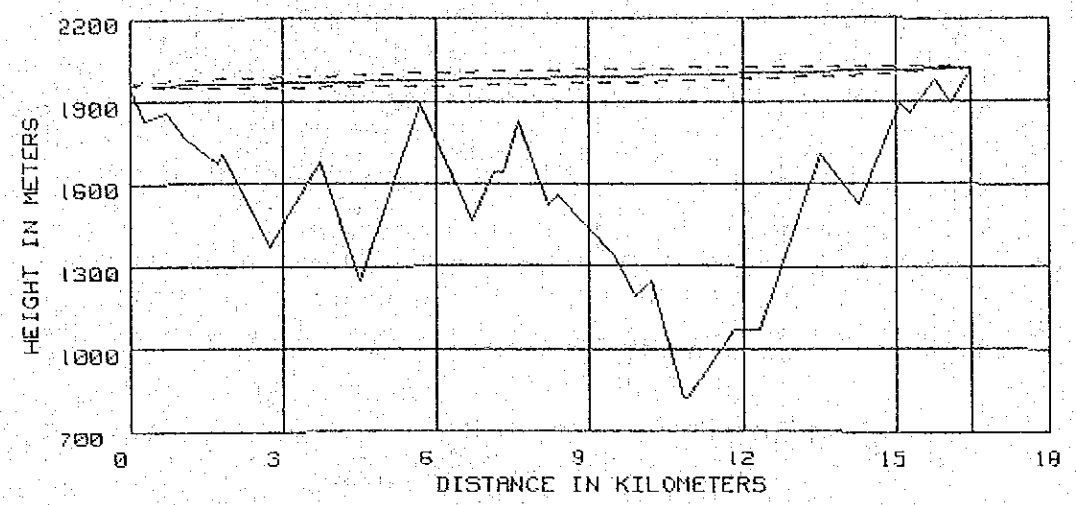
SITE 1 : SAMRI
GROUND ELEVATION: 1950.7 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : PYUTHAN
GROUND ELEVATION: 1280.2 m
ANTENNA HEIGHT: 15.0 m

SANDHA (08-27)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 16.5 km

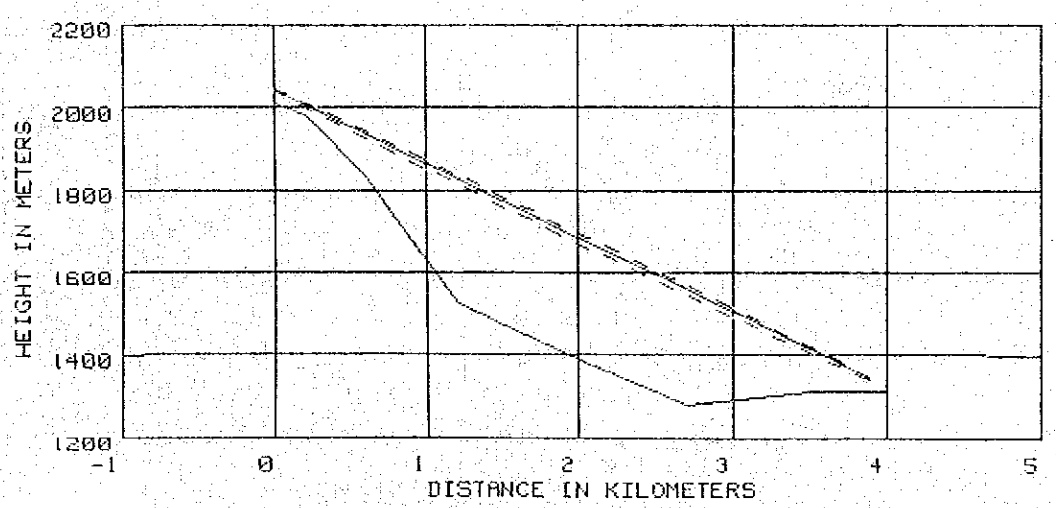
SITE 1 : SAMRI
GROUND ELEVATION:1951.0 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : DHARBAN
GROUND ELEVATION:2012.0 m
ANTENNA HEIGHT: 10.0 m

DHALIB (08-28)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 4 km

SITE 1 : DHARBAN
GROUND ELEVATION:2011.7 m
ANTENNA HEIGHT: 30.0 m

SITE 2 : LIBNGGAON
GROUND ELEVATION:1310.6 m
ANTENNA HEIGHT: 15.0 m

Elevation and Coordinates of Station Site (09 Area)

No.	Site Name	Elevation (m)	Coordinates	
			Longitude	Latitude
1	DANGADHI	183	80°36′00"E	28°42′00"N
2	BURETOLA	1189	80°34′47"E	28°55′23"N
3	KAPHALI	2560	80°35′14"E	29°13′25"N
4	DANDELDHURA	1829	80°35′23"E	29°17′52"N
5	DHANGA	2530	80°25′12"E	29°29′03"N
6	BAITADI	1524	80°26′01"E	29°33′14"N
7	BALCHKHARKA	1920	80°27′02"E	29°46′28"N
8	DARCHULA	914	80°32′42"E	29°50′38"N
9	KADO	2012	80°57′20"E	29°26′30"N
10	PANIKHA	1707	81°11′06"E	29°31′35"N
11	CHAINPUR	1326	81°12′03"E	29°33′06"N
12	S.DOTI & DIPAYAL	1280	80°59′02"E	29°16′01"N
13	SEMRI	1978	81°07′10"E	29°09′21"N
14	MANGALSEN	1326	81°15′20"E	29°08′26"N
15	MARTADI	1585	81°28′44"E	29°27′29"N
16	BHAJANI	152	80°58′12"E	28°29′40"N
17	TIKAPUR	152	81°08′04"E	28°30′07"N

Path Profile Maps (09 Area)

1	Buretola	-	Dangadhi
2	Kaphali	-	Buretola
3	Dandeldhura	-	Kaphali
4	Dandeldhura	-	Dhanga
5	Dhanga	-	Baitadi
6	Baitadi	-	Balchkharka
7	Balchkharka	-	Darchula
8	Dandeldhura	-	Kado
9	Kado	-	Panikha
10	Panikha	-	Chainpur
11	Dandeldhura	-	S. Doti
12	S. Doti	-	Semri
13	Semri	-	Mangalsen
14	Semri	-	Martadi
15	Dangadhi	-	Bhajani
16	Bhajani	-	Tikapur

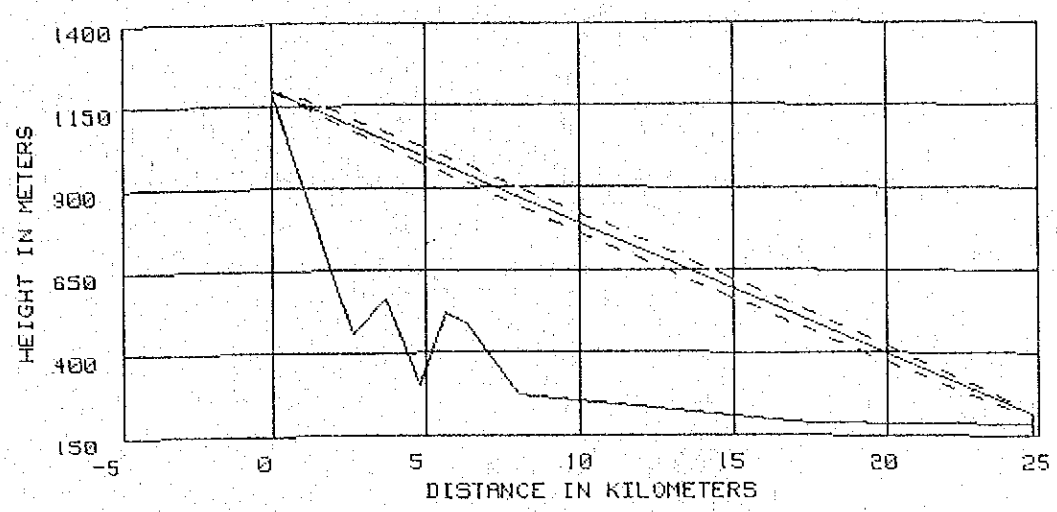
Path Profile Map (08 - 09 Area)

1 Rajapur - Tikapur

BURDHA (09-1)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 24.6 km

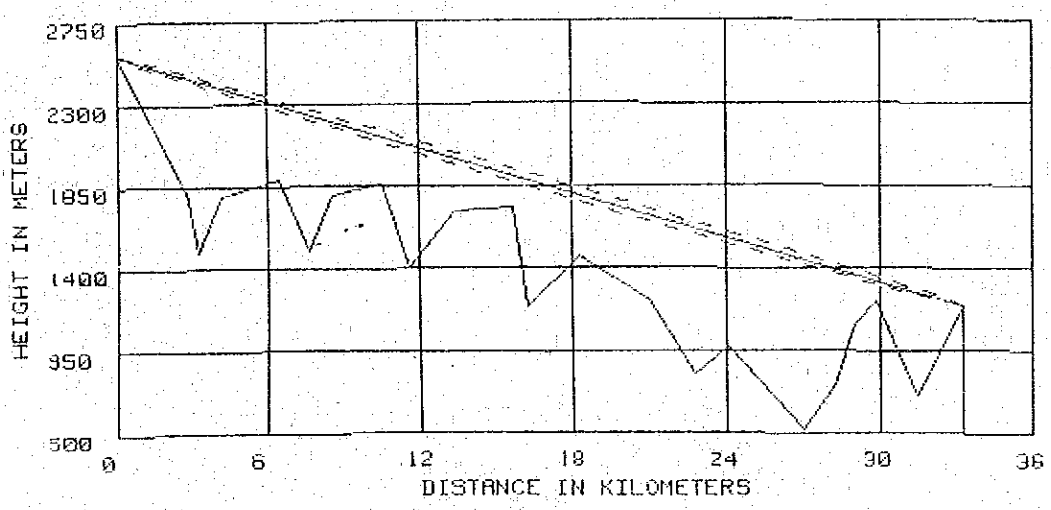
SITE 1 : BURETOLA
GROUND ELEVATION: 1109.0 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : DANGADHI
GROUND ELEVATION: 193.0 m
ANTENNA HEIGHT: 30.0 m

KAPBUR (09-2)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 33.3 km

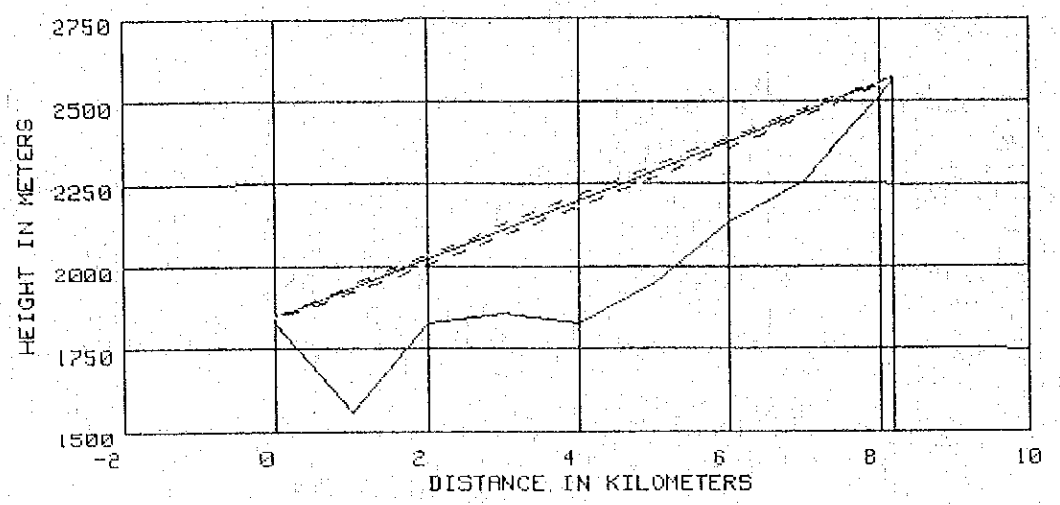
SITE 1 : KAPHALI
GROUND ELEVATION: 2560.0 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : BURETOLA
GROUND ELEVATION: 1109.0 m
ANTENNA HEIGHT: 10.0 m

DANKAP (09-3)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 8.2 km

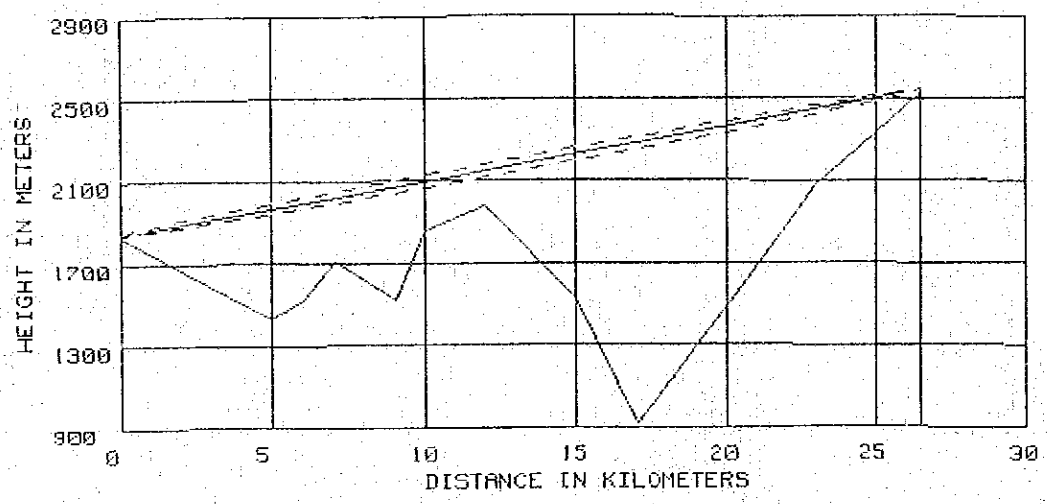
SITE 1 : DANDELDHURA
GROUND ELEVATION: 1829.0 m
ANTENNA HEIGHT: 15.0 m

SITE 2 : KAPHALI
GROUND ELEVATION: 2560.0 m
ANTENNA HEIGHT: 10.0 m

DANDHA (09-4)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 28.5 km

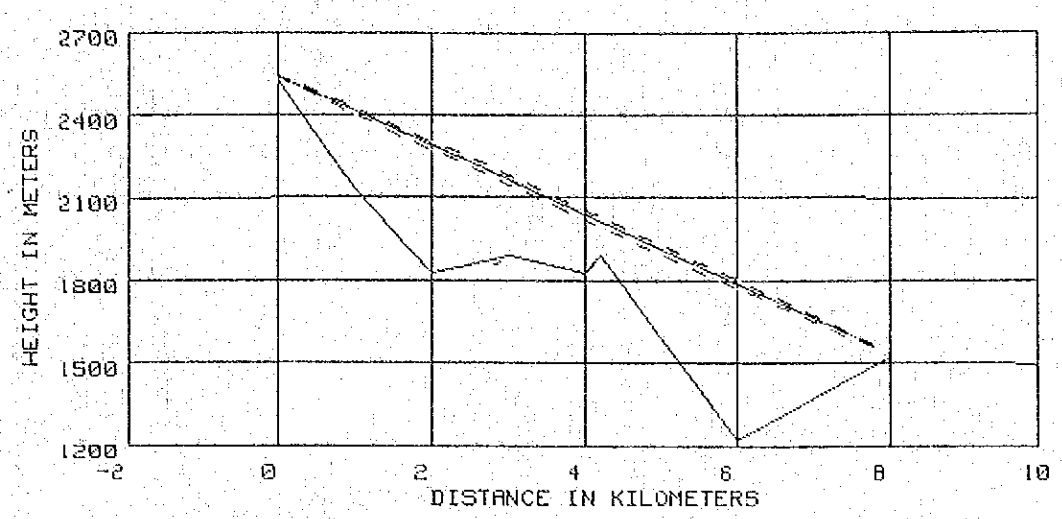
SITE 1 : DANDELDHURA
GROUND ELEVATION: 1829.0 m
ANTENNA HEIGHT: 15.0 m

SITE 2 : DHANGA
GROUND ELEVATION: 2530.0 m
ANTENNA HEIGHT: 10.0 m

DHADAI (09-5)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 8 km

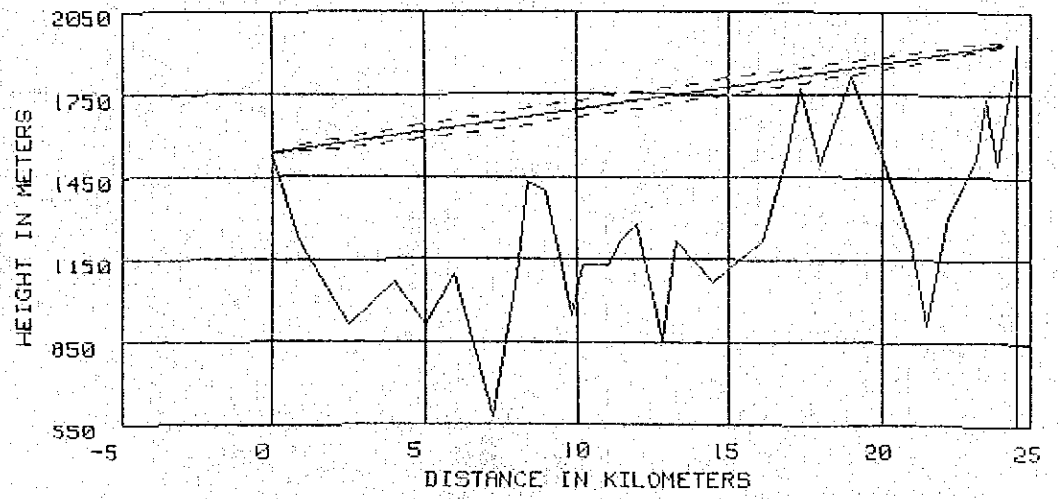
SITE 1 : DHANGA
GROUND ELEVATION: 2530.0 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : BAITADI
GROUND ELEVATION: 1524.0 m
ANTENNA HEIGHT: 15.0 m

BAIDAL (09-6)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 24.5 km

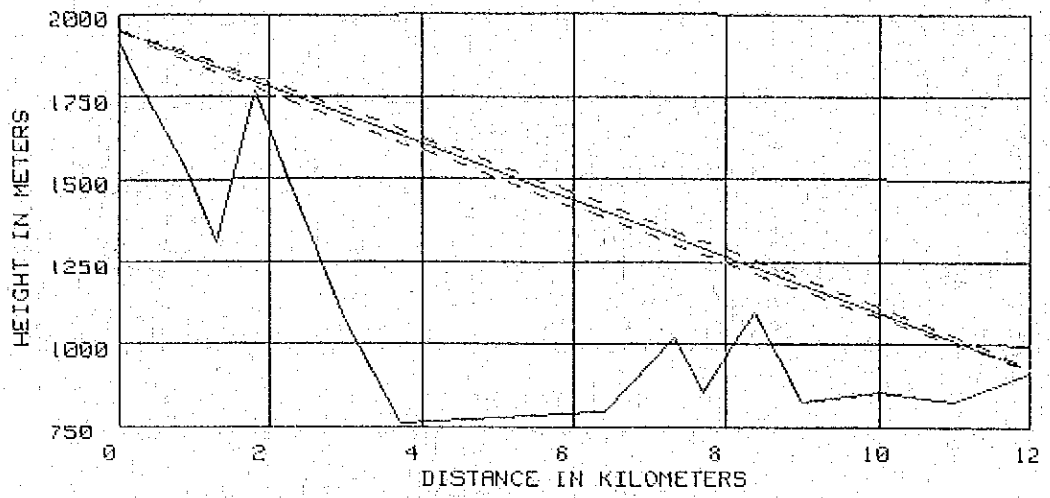
SITE 1 : BAITADI
GROUND ELEVATION: 1524.0 m
ANTENNA HEIGHT: 15.0 m

SITE 2 : BALCHKHARKA
GROUND ELEVATION: 1920.0 m
ANTENNA HEIGHT: 25.0 m

BALDAR (09-7)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 12 km

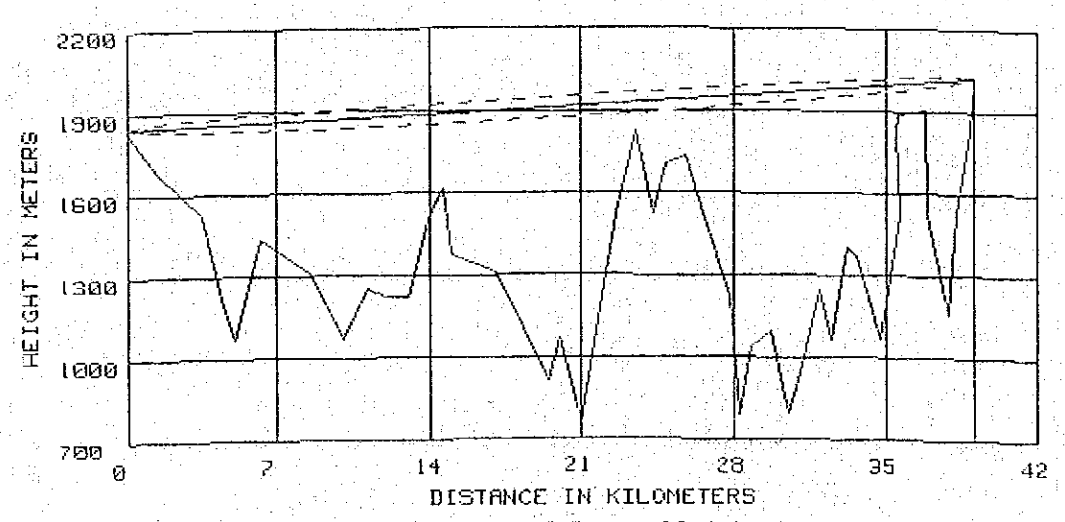
SITE 1 : BALCHKHARKA
GROUND ELEVATION: 1920.0 m
ANTENNA HEIGHT: 30.0 m

SITE 2 : DARCHULA
GROUND ELEVATION: 914.0 m
ANTENNA HEIGHT: 15.0 m

DANKAD (09-8)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 39.1 km

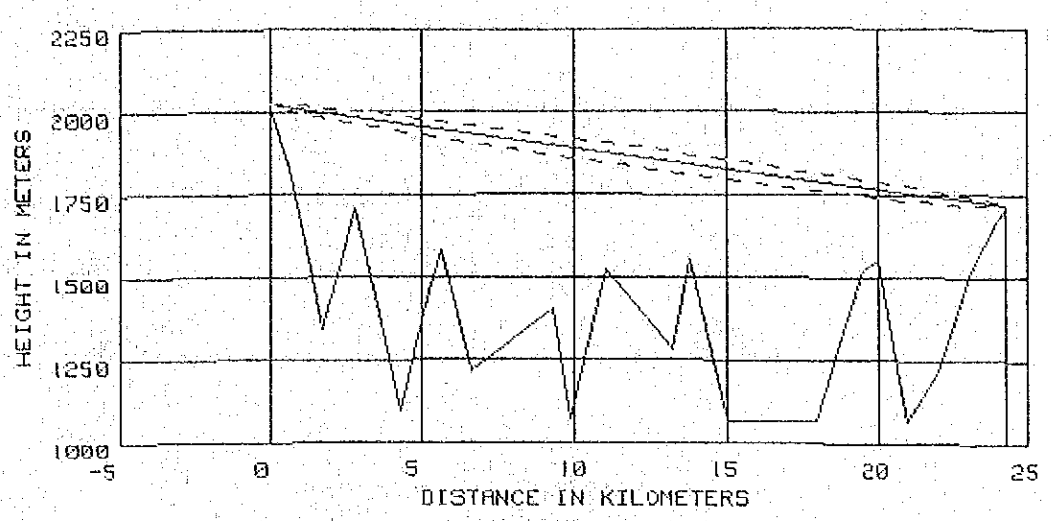
SITE 1 : DANDELDHURA
GROUND ELEVATION: 1829.0 m
ANTENNA HEIGHT: 15.0 m

SITE 2 : KADO
GROUND ELEVATION: 2012.0 m
ANTENNA HEIGHT: 10.0 m

KADPAN (09-9)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 24.3 km

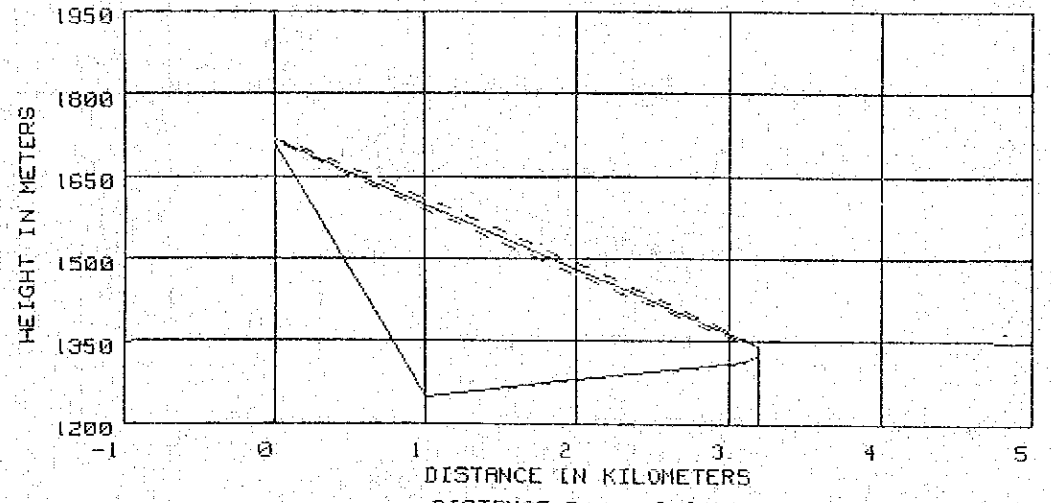
SITE 1 : KADO
GROUND ELEVATION: 2012.0 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : PANIKHA
GROUND ELEVATION: 1707.0 m
ANTENNA HEIGHT: 10.0 m

PANCHA (09-10)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 3.2 km

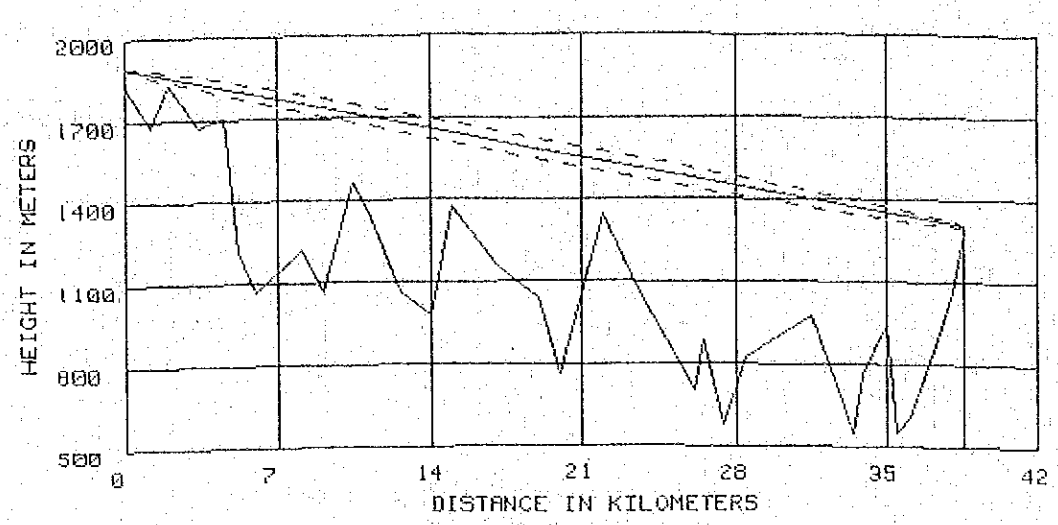
SITE 1 : PANIKHA
GROUND ELEVATION: 1707.0 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : CHAINPUR
GROUND ELEVATION: 1326.0 m
ANTENNA HEIGHT: 15.0 m

DANS.D (09-11)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 38.6 km

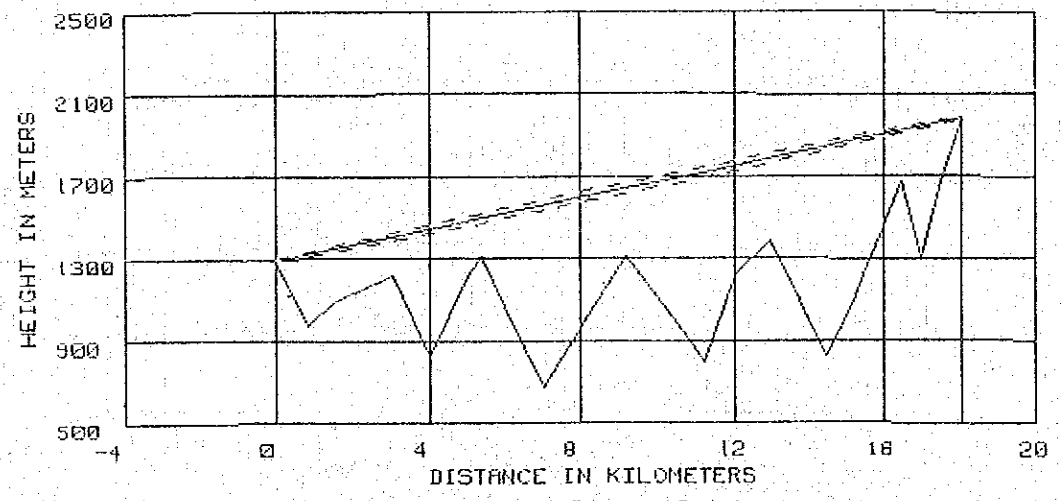
SITE 1 : DHANDELDHURA
GROUND ELEVATION: 1829.0 m
ANTENNA HEIGHT: 65.0 m

SITE 2 : S.DOTI
GROUND ELEVATION: 1280.0 m
ANTENNA HEIGHT: 25.0 m

S.DSEM (09-12)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 18.1 km

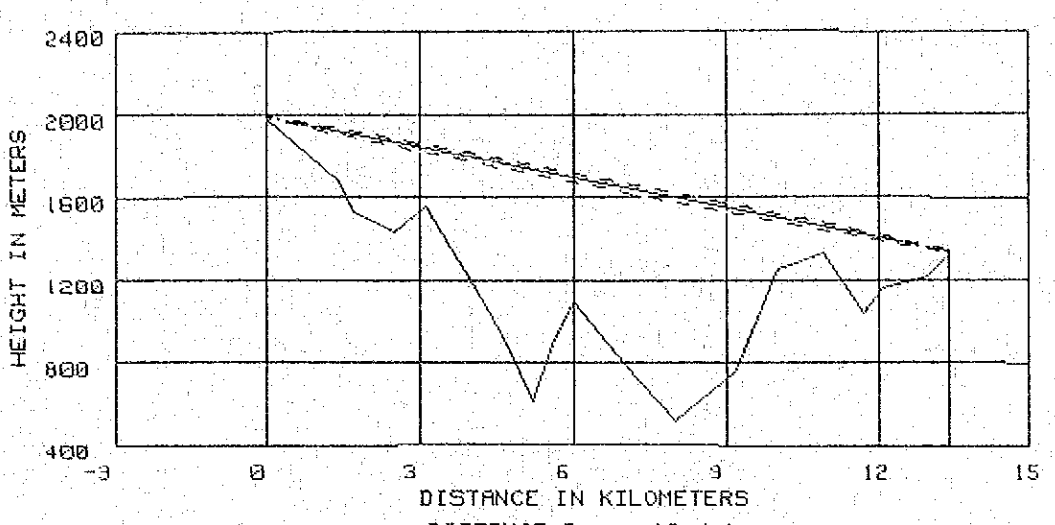
SITE 1 : S.DOTI
GROUND ELEVATION: 1280.0 m
ANTENNA HEIGHT: 15.0 m

SITE 2 : SEMRI
GROUND ELEVATION: 1970.0 m
ANTENNA HEIGHT: 10.0 m

SENMAN (09-13)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 13.4 km

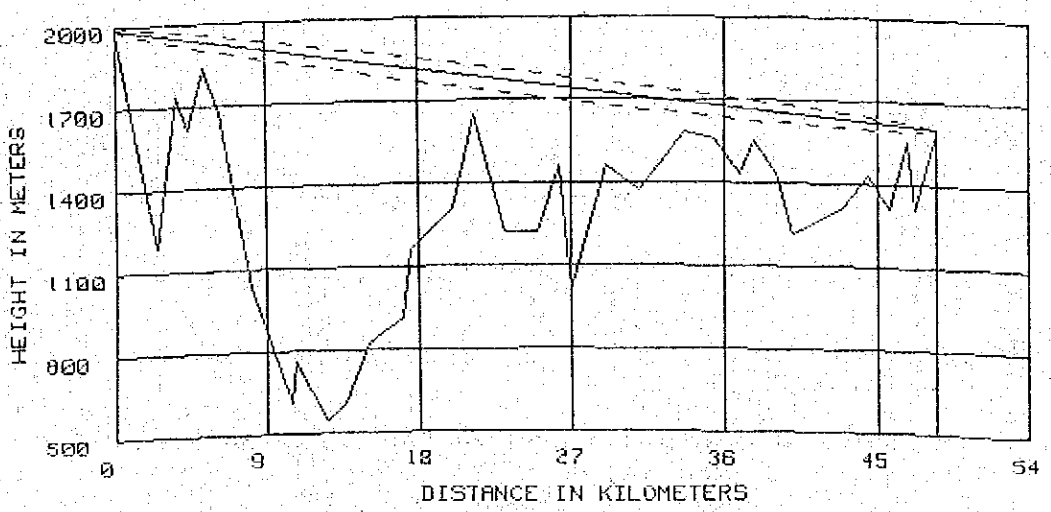
SITE 1 : SEMRI
GROUND ELEVATION: 1978.0 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : MANGALSEN
GROUND ELEVATION: 1326.0 m
ANTENNA HEIGHT: 15.0 m

SENMAR (09-14)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 48.5 km

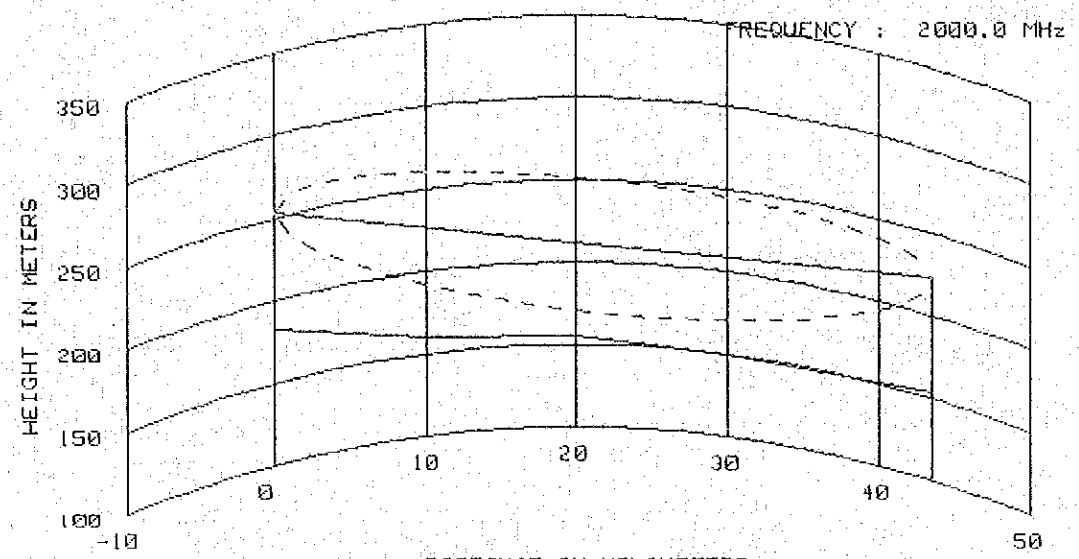
SITE 1 : SEMRI
GROUND ELEVATION: 1978.0 m
ANTENNA HEIGHT: 10.0 m

SITE 2 : MARTADI
GROUND ELEVATION: 1585.0 m
ANTENNA HEIGHT: 15.0 m

DHABHA (09-15)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE IN KILOMETERS

DISTANCE D : 43.5 km

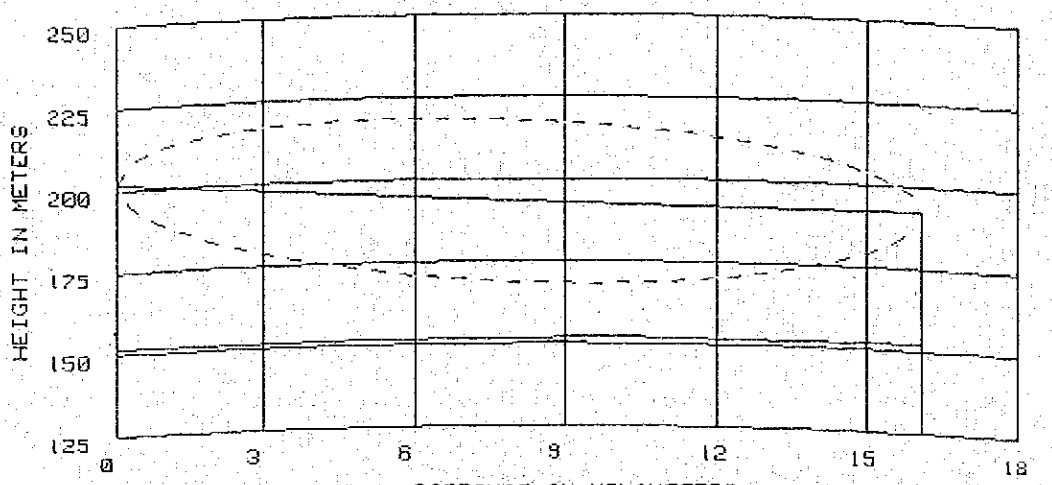
SITE 1 : DANGADHI
GROUND ELEVATION: 183.0 m
ANTENNA HEIGHT: 70.0 m

SITE 2 : BHAJANI
GROUND ELEVATION: 152.0 m
ANTENNA HEIGHT: 70.0 m

BHATIK (09-16)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE IN KILOMETERS

DISTANCE D : 16.1 km

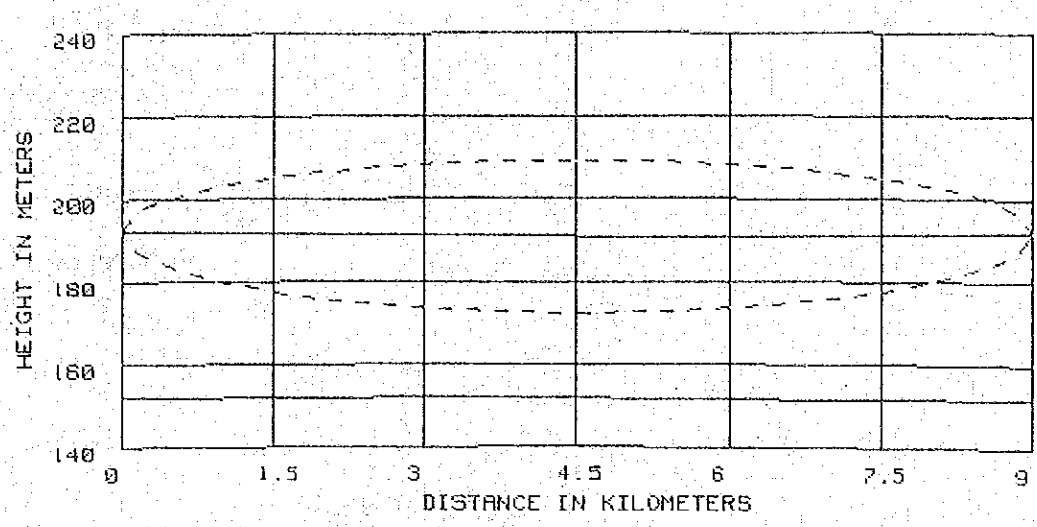
SITE 1 : BHAJANI
GROUND ELEVATION: 152.0 m
ANTENNA HEIGHT: 50.0 m

SITE 2 : TIKAPUR
GROUND ELEVATION: 152.0 m
ANTENNA HEIGHT: 40.0 m

RAJTIK (08, 09-1)

PATH PROFILE (4/3 RADIUS)

FREQUENCY : 2000.0 MHz



DISTANCE D : 9 km

SITE 1 : RAJAPUR	SITE 2 : TIKAPUR
GROUND ELEVATION: 152.0 m	GROUND ELEVATION: 152.0 m
ANTENNA HEIGHT: 40.0 m	ANTENNA HEIGHT: 40.0 m

APPENDIX B

APPENDIX B

Facsimile Terminal Equipment (Reference for Future Introduction)

(1) Selection of Equipment

Three kinds of facsimile terminal equipment, i.e., G-I, G-II and G-III types, are recommended by CCITT. Out of these three, the selection of G-II equipment is recommended for the reasons described below:

- G-I equipment is becoming out-of-date type nowadays.

- G-III equipment outperforms G-II equipment in data processing speed: the former takes only one minute to produce A4 size text though the latter requires three minutes. Consequently, the transmission quality required of the former's transmission and switching systems is stricter than the latter's.

- G-III equipment can have additional functions of many kinds, including the function to codify the document. Hence the higher cost (about 1.5 times) than G-II equipment. Such additional functions are effective when utilized by specific users for their respective special purposes. However, in general public communications, the merit that can be expected from those functions is small.

- Service life of facsimile equipment averages 5 to 6 years. Thus, for the immediate future, the introduction of G-II equipment can serve the purpose. At the time the replacement of G-II equipment in operation becomes necessary, it will be opportune to examine whether to continue the use of G-II equipment or to replace it with G-III equipment. In this examination, the cost trend of facsimile equipment, as well as the demand behavior for facsimile service, should be carefully considered.

- The most part of objective sites where to introduce the facsimile system are denied easy access to commercial power supply. Thus, for power supply, the stand-alone type system, such as solar photovoltaic cell system, must necessarily be considered. In this case, the selection of G-II equipment, whose power consumption is 40 to 50% of that of G-III equipment, contributes to the saving of power supply system cost.

(2) Text Handling Capacity of G-II Equipment

Text handling capacity of G-II equipment, selected as per the preceding paragraph, when calculated on the assumption that the time required for the circuit to be established is 40 seconds and the use of equipment efficiency is 85%, proves to be about 14 texts in standard A4 size per hour per equipment. (The time required for the circuit to be established includes dialling time, connection time, and send-receive procedure setting time between both terminals.)

When the operating hours per day of the facsimile terminal equipment installed in the public call office are assumed to be 12 hours (7 a.m. - 7 p.m.), i.e., the same as the existing HF radio system operating hours, the maximum number of texts in A4 size that can be handled by G-II equipment in one day is approximately 168.

Since the text size per telegraphic message is considered to be smaller than A4 size, the number of texts to be actually handled by G-II equipment will be greater than mentioned above.

Assume that the text size per telegraphic message is half the A4 size and the text size per document is the full A4

size, and that the demand for telegraphic messages and document transmission is balanced at 50:50. Then, the number of texts that can be handled by G-II equipment reaches approximately 200.

However, in the succeeding study, the text handling capacity of G-II equipment is regarded to be 168 texts in A4 size per day, and this capacity includes spare capacity to some extent.

(3) Number of Equipment Required

To estimate at the present stage the number of facsimile terminals required at the final stage is practically useless. For, first, the future trend of demand for telegraph and document transmission services is difficult to forecast; second, the service life of facsimile terminal equipment is not longer than 5 to 6 years; and third, the demand fluctuations have little to do with the switching and transmission system capacity setting.

Such being the circumstances, the number of facsimile terminals required is to be so determined as to be commensurate with the estimated demand size as of 1990, i.e., five years after the service-in.

The number of facsimile terminals required in 1990 at the public call office, independent exchange and parent exchange, as determined from the demand forecast in Paragraph 4-1-2 for telegraph and document transmission services and from the data processing capacity of G-II equipment specified in the preceding paragraph, is as under:

a) Public Call Office

The total number of telegraphic messages and document transmissions handled per day per call office as of 1990 is estimated at 68. This number is less than the text handling capacity per day of G-II equipment, i.e., 168 texts. Therefore, the number of facsimile terminal to be installed in the public call office is to be one.

b) Independent Exchange

The demand size at the independent exchange is considered to be larger than at the public call office. Even if the demand size is twice as large, such demand can be completely fulfilled by one G-II equipment. Therefore, the number of facsimile terminal to be installed in the independent exchange is to be one.

c) Parent Exchange (excluding Kathmandu)

At the parent exchange, traffic from public call offices that belong to it and from public call offices in other areas concentrates. Although the volume of traffic from the latter category of public call offices is difficult to forecast due to the lack of data, it may be safely assumed to be 60% of the traffic from the former category of public call offices.

The number of facsimile terminals required as of 1990 determined by the foregoing is one per 3.7 public call offices in each parent exchange area. Therefore, the number of facsimile terminal(s) to be installed in the parent exchange is to be estimated as follows:

Parent Exchange	Number of Facsimile Terminal(s) Working	Standby	Number of Public Call Offices in each Parent Exchange Area
Biratnagar	1	1	4
Bhadrapur	2	1	5
Rajbiraj	2	1	6
Janakpur	1	1	3
Birganj	1	1	*3
Hitauda	1	1	1
Pokhara	3	1	10
Bhairahwa	1	1	4
Nepalgunj	4	1	**14
Dangadhi	3	1	***9

Note: * includes Kalaiya independent exchange.

** includes Tulsipur and Ghorahi independent exchanges.

*** includes S. Doti independent exchange.

Facsimile service is considered to be practiced in the cities where telephone exchanges are already established also. When those telephone exchanges are included in the parent exchanges, the number of facsimile terminals required in the parent exchanges exceed the number shown above. However, those telephone exchanges are not taken into consideration in this study because they are outside the scope of study, this time. Also excluded from the study, is the number of terminals required for facsimile service between each two parent exchanges.

d) Kathmandu

At Kathmandu, traffic to/from eight public call offices in the Kathmandu parent exchange area and to/from 59 public call offices in other areas (including four independent exchanges taken up in this study) is handled. According to the study in Paragraph 4-1-2, the average volume of traffic from one public call office out of the total that concentrates at Kathmandu in 1990 is presumed to measure 28 in terms of telegraphic messages and document transmissions. Therefore, the number of facsimile terminals required at Kathmandu is 13. These 13 plus four standbys aggregating 17 are to be installed.