（単位：百万円）

	ケース1	ケース2	ケース3
A　案	513.9	512.8	513.0
B　案	601.1	600.0	600.3

6－6 税　　金

北イエメンの税法，その他関連法規に基づき，法人税，固定資産税は免税されるものとする。

6－7 運 転 資 本

毎年操業を続けていく上で必要となる運転資本には，電話料の未収金，備品在庫等が考えられる。

本プロジェクトでは，年間営業収入額の1カ月相当分を運転資本として計上することとする。ちなみに，日本の例では1.2ヶ月である。

各ケースの運転資本は次のとおりとなる。

（単位：百万円）

年　次	ケース1		ケース2		ケース3	
	金　額	年増減	金　額	年増減	金　額	年増減
1990	332	332	50	50	108	108
1991	332	0	36	−14	94	−14
1992～2004	332	0	36	0	94	0

6－8 財務・経済分析

6－8－1 諸前提条件

(1) プロジェクト・ライフ

本分析では建設開始時期を1986年1月とし4年間の建設期間を経て，操業開始時期を1990年1月と仮定し，かつ本プロジェクトのプロジェクト・ライフを操業開始後15年とする。

(2) 営業収入および操業費用に関する基準価格

本分析における財務・経済計算では，1990年固定価格を基準とした不変価格により

表示する。この固定価格とは，１９９０年時点の実勢価格が，本プロジェクトの期間中不変であるとみなして設定した価格である。

(3) 内部収益性計算の前提

建設中金利および支払い利息は費用として考えない。また，減価償却費は会計上の費用であって，実際の現金の支払いを伴わないので費用とはみない。

土地代および運転資本は，プロジェクト・ライフの最終年度である２００４年に全額回収されることになる。それらの額は費用の欄にマイナスとして表示してある。

６－８－２ 財務分析

第５章で見積った建設費用および前６－１節で見積った収入（＝便益）に基づき，ＡおよびＢの各案，ならびに各ケースについての財務状況を収益性・流動性両面から分析する。

(1) 財務的内部収益率

1) 最初に，現行の料金体系（ケース１およびケース２）および現行の公衆電話委託費（ケースⅠ）について試算した結果，収益率は次のとおりである。

	ケース１ （ルーラル料金）	ケース２ （アーバン料金）
Ａ　案	３１.６０％	－？
Ｂ　案	２７.６９％	－？

上記“－？”は，収益率はマイナスであって，かつ解が得られない程大きいことを示している。数字から明らかなように，ケース１の収益率は非常に高いが，高額な電話料金を前提としたものであり，現実的でない。従って，両案の各ケースともフィージブルな計画ではない。

2) 次に，現行アーバン料金体系のうち，基本料金を６００ＹＲ／月，委託公衆電話のみ設置料を免除する料金代替案（ケース３）の場合，更にこれに加えて，公衆電話委託費を通話料の１０％とする委託費代替案（ケースⅡ）を採用した場合の内部収益率を検討すると，次のようになる。

	ケース３（代替アーバン料金） ケースⅠ （現行委託費）	ケースⅡ （代替委託費）
Ａ　案	－０.３４％	７.４３％
Ｂ　案	－３.５１％	４.４１％

この結果，A案のケース３，ケースⅡの財務的内部収益率は7.４３％であり（表６－３参照），この値は，世銀のアプレーザル・レポートによる資本の機会費用（一般に８％～１２％）を下回るものの，北イエメンにおける資本の機会費用（実質）を上回っている。従って，本プロジェクトの原価保障主義の観点からも，財務的にはフィージブルであると言える。（注１および注２）

一方，B案のケース３，ケースⅡの財務的内部収益率は4.４１％である（表６－４参照）。この値は，A案より３％程下回り，北イエメンにおける資本の機会費用の下限を上回っているが，財務的には厳しいものと言える。

ケース１の場合は，A案・B案とも期待される収益率が得られない。

（注１）資本の機会費用とは，調達された資本を投資に使用する場合に，その資本について事業体が稼ぎ出さねばならないと考えられる最低必要収益率。北イエメンの金利および物価上昇率を検討すると，最低４％は必要と考えられる。また，日本の長期プライム・レート7.６％（実質5.４％），米国財務省証券9.９７％（実質5.７７％）からみて（いずれも１９８４年１０月値），本プロジェクトの資本の機会費用は，４％～８％は必要となる。

（注２）原価保障主義とは，少なくとも操業費用程度の受益者負担は強いてもよいという考え方。

3）以上の内部収益率の計算結果より，ケース３とケースⅡを組合せた計画はフィージビリティが高い。従って，このケースについてのみ，感度分析のほか，次項以下の検討を行う。

(2) 感度分析

1）前項で得た財務的内部収益率に関して，収入，総所要資金，操業費の変動に伴う収益率の変化について感度分析を行った。その結果は次のとおりであり，図６－１にグラフで示す。

A　案

項　目	変動				
	＋２０％	＋１０％	０％	－１０％	－２０％
収　入	１０.６７	9.１０	7.４３	5.６３	3.６７
総所要資金	4.３９	5.８２	7.４３	9.２６	１１.３８
操業費	6.６３	7.０４	7.４３	7.８１	8.２０

B　案

項　目	変動				
	＋20％	＋10％	0％	−10％	−20％
収　入	7.60	6.06	4.41	2.61	0.64
総所要資金	1.36	2.80	4.41	6.22	8.29
操業費	3.39	3.91	4.41	4.89	5.38

上記変動率のうち，例えば収入が＋１０％変動する場合としては，次のような状況が考えられる。

基本料金	732	百万円
通話料	503.3	
計	1,235.3	

2）更に，基本料金を700YR／月，公衆電話委託費を通話料の１５％とした場合の収益率を検討した。この場合の収入および操業費は次のとおり見積られる。

A　案　　（単位：百万円）

収　入	初年度	次年度以降
設置料	171	−
基本料金	853	853
通話料	391	391
計	1,415	1,244
操業費		
保守費	231	231
運用費	11	11
委託費	18	18
計	260	260

B　案　　保守費が３００百万円となるほかは，A案と同じ。

収益率を検討した結果は次のとおりである。

A　案　　9.13％

B　案　　6.09％

(3) 資金繰り分析

北イエメンにおける電気通信事業の実際の運営は，１９８２年１月より独立採算制を採用してＰＴＣが行っている。

しかしながら，ＰＴＣは独自に利益処分をしたり投資を行ったりはできない。必要資金はその都度，大蔵省から渡されるし，利益が上がれば大蔵会計に繰り入れられることになっている。

ゆえに，ＰＴＣの財務内容に対する本プロジェクトのインパクトを分析することは不可能であるため，本件のみを単独にとらえて資金繰り分析を行うこととする。

1) 表６－５から表６－１０は，外貨金利を５％とした場合のＡ案およびＢ案に関する損益計算書，貸借対照表および資金繰り表である。

貸借対照表の"余剰現金（EXCESS CASH）"の欄は資金繰り表の"期末現金残高（ENDING CASH BALANCE）"である。通常の会計原則によると，現金は運転資本に含まれるべきであるが，ここでは本プロジェクトによってどの程度の余裕資金がＰＴＣの手に残るかを明確にするため，必要資金として固定される部分(未収金)と，余裕資金(現金)とを区分して計上した。

a) Ａ案の収支状況

操業開始年度（１年目）から営業利益は黒字となる。営業収支率（ここでは営業費用／営業収入）は，１年目５９％，２年目以降６８％と健全な値で推移する。一方，純利益は１年目に黒字になるものの，２年目から８年目まで赤字が続き，９年目から再び黒字に転換する。この結果，営業収入に対する利益率および初期投資額に対する利益率は，それぞれ単純平均で2.８％，0.４％と低くなるものの，内部留保は可能である。

借入れ金は，１９９６年より返済されることになるが，現金収支が充分なため，手元資金を取り崩すことなく返済が可能である。デット・サービス・レシオ（純利益＋減価償却費＋支払い金利／元本返済＋支払い金利）は，最も厳しい１９９６年で1.１２となり，同年以降２００４年までの平均値は1.２４である。

電気通信プロジェクトにおけるデット・サービス・レシオは，一般的に1.３以上が目標とされており，1.５以上であれば，より健全な事業運営が期待できる。従って，６－４節で仮定した融資条件よりも，緩い条件（特に金利）の適用，または，適時・適切な電話料金体系の改定ならびに保守・運用業務の合理化等による事業運営の健全性を増す施策の実施が望まれる。

b) B案の収支状況

営業利益は1年目から黒字となるが，純利益は1年目から赤字が続き，プロジェクト・ライフ中には累積赤字が解消されない。更に，営業収支率も1年目７１％，２年目以降８２％と高い値で推移する。この原因は，減価償却費の占める割合が高いこと，すなわち，交換機の設備費用の影響によるものである。

１９９６年よりの借入れ金の返済は可能となるものの，同年以降５年間のデット・サービス・レシオは平均0.９３である。従って，事業運営の健全性を増すために，融資条件の特段の緩和と，利益増大のための大胆な施策の実施が必要である。

６－８－３ 経 済 分 析

(1) 直 接 便 益

本プロジェクトの直接便益は，前項の財務分析で用いた営業収入である。

更に，通常発展途上国における市場価格は，真の経済的価値を反映してないと考えられる場合が多いので，次のような前提に基づき，市場価格を“シャドウ・プライス”に変換し検討する。

1) 財務分析で用いた価格を，標準変換係数（ＳＣＦ）を用いて国境価格に変換する。ただし，総所要資金の外貨分は，ＣＩＦ価格であるので変換は行わない。ＳＣＦを算出すると0.８１となる。（注）

国内価格にＳＣＦを乗じた値が国境価格と一致する。

2) 北イエメンの労働者は，海外への出稼ぎのため国内では払底しており，東南・南西アジア，東北アフリカから労働者を雇用している。従って，北イエメンの未熟練労働者の賃金は真の値を反映している。

3) 熟練労働者の賃金は，ＳＣＦを用いて国境価格に変換しても近似した値になる。

以上のことから次のような便益が考えられる。

1) 消費者が得るべき便益は，営業収入の１９％はある。

2) 総所要資金のうち，内貨分の１９％および保守・運用費の１９％は費用節減便益がある。すなわち，これは国内関連産業および労働者が得るべき便益である。ただし，未熟練労働者の便益は，調整すべきであるが，全体に占める割合は少ないので，上記費用節減便益に含めることとする。

(2) 経済的内部収益率

前述の直接便益に関して，経済的内部収益率を計算すると，次のような結果が得られる。

（表６－１１および表６－１２参照）

A　案　：　１１.９１％

B　案　：　８.８４％

すなわち，本プロジェクトを実施した場合，MOC／PTCにもたらす財務的便益（A案の内部収益率：7.43％，B案：4.41％）ばかりでなく北イエメン経済全体に対してそれを上回る率の経済的便益が期待できる。

（注）　標準変換係数（SCF）は次式で求めた。

$$SCF = \frac{Im + Ex}{Im + Tm + Ex + Sx - Tx}$$

ただし，　Im　：　輸入総額（CIF価格）

Ex　：　輸出総額（FOB価格）

Tm　：　輸入関税総額

Sx　：　輸出補助金総額

Tx　：　輸出税総額

この式に基づき北イエメンの統計データを用いて計算した結果は，次の表のとおりである。ここでは，Sx＝0，Tx＝0とした。なぜなら，その金額はSCFに影響を与えるほど大きくないからである。

SCFの値は，下記のデータから１９７７～１９８２年までの年平均値をとり，ここでは，SCF＝0.81を採用することにした。

（百万YR）

年度	貿易収支 輸入(Im)	輸出(Ex)	輸入関税(Tm)	SCF
１９７７	6,195	33	1,304	0.8268
１９７８	5,075	29	1,386	0.7864
１９７９	6,807	62	1,610	0.8101
１９８０	8,454	103	1,728	0.8320
１９８１	7,340	217	1,633	0.8223
１９８２	8,963	22	2,348	0.7928
平均値				0.8117

6－8－4 総合評価

本調査で策定した北イエメン地方電気通信網整備計画に基づいて，計画を具体化し，電気通信網を完成させることにより，同国の人口の大多数が住んでいる遠隔地や，きわめて交通の不便な山岳地域に散在する村落相互間，ならびに地方村落と近郊都市，または国家中央相互間に品質の安定した，かつ信頼性の高い通信手段が確立されることになる。MOC／PTCが提供する全時間稼働の即時通話サービスは，現在ほとんど通信手段を持たないこれら地域の電話利用を待望している者（行政機関，医療施設，学校，農業経営者など）にとって画期的なことであろう。

本プロジェクトを，事業主体であるMOC／PTCにもたらす直接的な経済便益の面から，定量的に評価すると，A案およびB案の各案とも経済的内部収益率は世銀による資本の機会費用の目標値内に納まっている。しかし，財務分析の結果においては，新規にルーラル交換機を導入する場合（B案）より既設交換機を利用する場合（A案）の計画の方が収益性がある。

利用を計画した6ヶ所の既設交換機，集線装置(HAJJAH，SANA'A，DHAMAR，IBB，TAIZZおよびHUDAYDAH）の設備容量は，本プロジェクトの対象加入者を収容するのに充分な予備容量があり，また交換技術上の問題もない。なお，本プロジェクト・A案の場合，現在のMOC／PTCの事業規模と対比すると，要員数で4.7％，操業費で6.6％に相当する。従って，事業規模を急激に拡大するものではないと言えよう。

本地方電気通信網整備計画は，北イエメン政府が国家開発計画の中で最大かつ緊急課題として取り挙げている「地方における社会的・経済的発展および生活条件の向上」の推進に多大な効果をもたらすことは明らかである。

特に農業は，同国の経済基盤であり，この地方電気通信網の果たす役割りのひとつは，農業部門の生産構造の改革を促進させ，その近代化を図ることである。例えば，効率的な通信手段を用いて情報交換が行われることにより，農業技術の向上，肥料，種子，機具等に関する有益な情報の入手，気象対策，流通・金融機構の改善などが行われるであろう。他方，行政，医療，教育等の様々な社会サービスの効率化ならびに円滑化に寄与することが大である。換言すれば，電気通信網の整備・拡充は，農業部門（関連産業を含む）の余剰生産物すなわち所得の増大ならびに福祉の向上が起因となって国内市場（工業化の促進も含む）の拡大，雇用の増進・適正化，都市・地方間の格差是正および社会の安定化に貢献する。これら社会・経済開発に与える便益を定量的に評価することは，困難である。しかしながら，本プロジェ

クトの対象村落地域は，交通が不便とは言え，一応の道路整備が整っており，通信部門の整備の遅れが地域開発の最大のボトルネックとなっている状況下では，通信のもたらす間接便益効果はきわめて大きい。

以上に述べた国家の社会・経済開発に対する間接便益とMOC／PTCに対する直接便益（電話料金体系に関連する）は，独立・無縁なものではなく，相互に補完しあって増大する関係にある。北イエメンの社会・経済環境からみて，MOC／PTCの収入を増加させるための電話料金体系改定の余地は充分あると判断される。従って，将来適時・適切な改定によりMOC／PTCの直接便益はより確実に増大することが期待できる。

結論として，本プロジェクトのA案は，技術的・財務・経済的検討の結果，もっともフィージブルであると同時に，北イエメンの社会・経済に与える便益の点からも充分評価できるるものである。

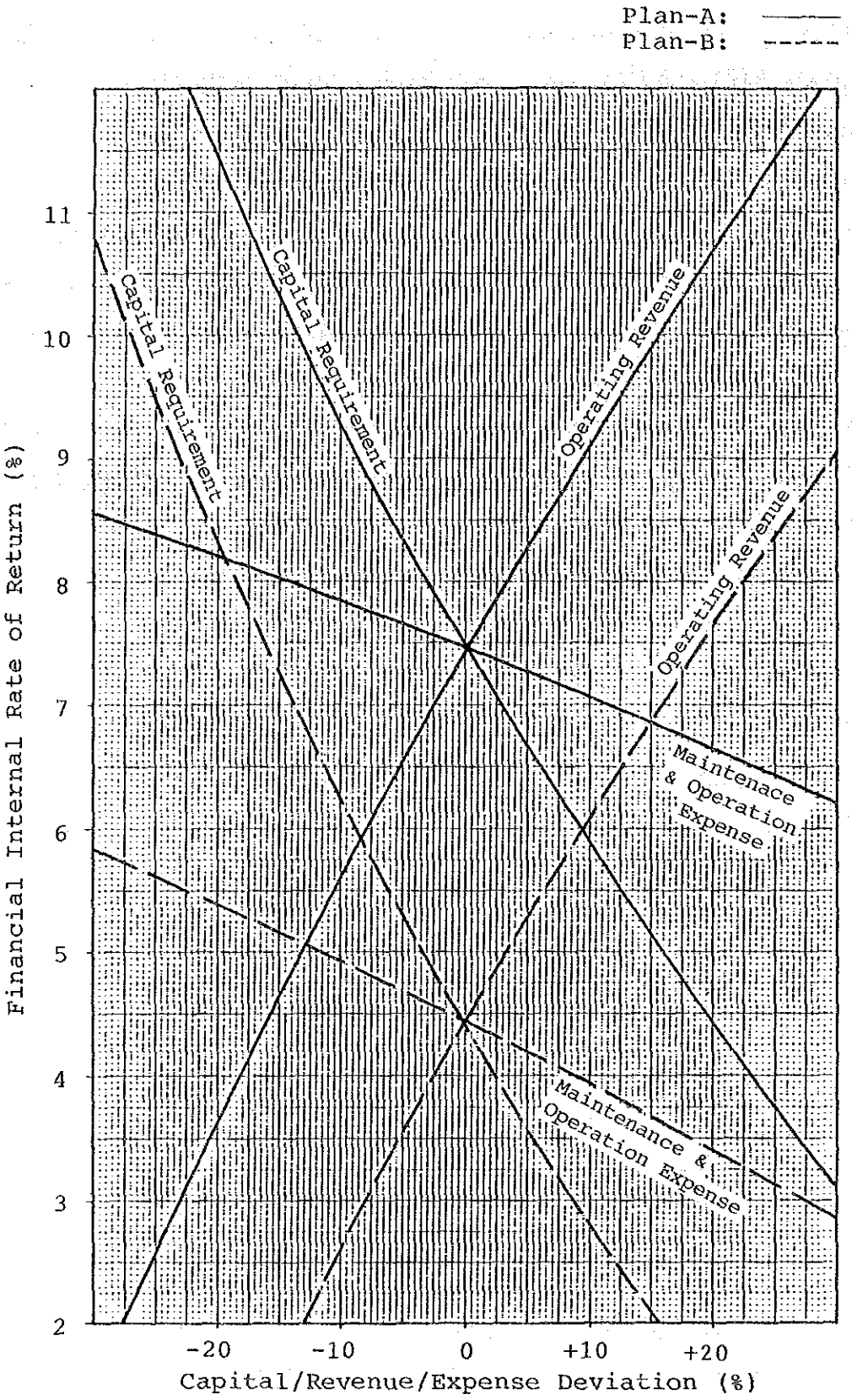

Plan-A:
Plan-B:
Financial Internal Rate of Return (%)
11
10
9
8
7
6
5
4
3
2
Capital Requirement
Capital Requirement
Operating Revenue
Operating Revenue
Maintenace & Operation Expense
Maintenance & Operation Expense
-20
-10
0
+10
+20
Capital/Revenue/Expense Deviation (%)

図6－1　感 度 分 析

表6－1　北イエメンの電話料金

Network	Subscriber Category	Installation Charge		Monthly Rent	Calling Charge			Remarks
		Normal	Extra		Charge per Pulse	Pulse Interval (Sec.)		
						Local	SLDD	
Urban	Ordinary	YR 2,500	Extra Dropwire: YR 7/100 m Extra Pole: YR 675/pole	YR 30*	YR 0.3	360	360, 180, 90 or 9	*Including first 30 pulses
	Government	YR 1,168	-					
Rural	-	(Nil)		YR 2,500*	YR 0.3	9	9	

表6－2　所要資金の見積り

(Unit: Million Yen)

Item	Plan-A			Plan-B		
	Foreign	Local	Total	Foreign	Local	Total
(1) Construction Cost	4,391	1,434	5,825	5,338	1,460	6,798
(2) Training and Maintenance Services	52	-	52	82	-	82
(3) Consulting Services	345	62	407	380	62	442
Base Project Cost (At 1984 Price)	4,788	1,496	6,284	5,800	1,522	7,322
(4) Price Contingency	755	236	991	914	240	1,154
(5) Initial Working Capital (At 1989 Price)						
- Case-1	-	332	332	-	332	332
- Case-2	-	50	50	-	50	50
- Case-3	-	108	108	-	108	108
(6) Interest During Construction						
- Case-1	498	119	617	604	120	724
- Case-2	498	103	601	604	104	708
- Case-3	498	106	604	604	108	712
Total Finance						
- Case-1	6,041	2,183	8,224	7,318	2,214	9,532
- Case-2	6,041	1,885	7,926	7,318	1,916	9,234
- Case-3	6,041	1,946	7,987	7,318	1,978	9,296

表 6 － 3　財務的内部収益率（A 案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
FINANCIAL RATE OF RETURN (IN CONSTANT PRICE)
CASE(A-2-3) - BASE CASE - (MILLION YEN)

YEAR	FIXED CAPITAL EXPEND.	CHANGE IN WORKING CAPITAL	(1) GROSS CAPITAL EXPENDTR	OPERATING PROFIT	DEPRECIATN	(2) GROSS CASH IN-FLOW	(3) INCOME TAX	(4) BFR-TAX NET IN-FLOW (2)-(1)	(5) AFT-TAX NET IN-FLOW (4)-(3)
1986	184.	0.	184.	0.	0.	0.	0.	-184.	-184.
1987	2416.	0.	2416.	0.	0.	0.	0.	-2416.	-2416.
1988	2400.	0.	2400.	0.	0.	0.	0.	-2400.	-2400.
1989	2275.	0.	2275.	0.	0.	0.	0.	-2275.	-2275.
1990	0.	108.	108.	527.	513.	1040.	0.	932.	932.
1991	0.	-14.	-14.	356.	513.	869.	0.	883.	883.
1992	0.	0.	0.	356.	513.	869.	0.	869.	869.
1993	0.	0.	0.	356.	513.	869.	0.	869.	869.
1994	0.	0.	0.	356.	513.	869.	0.	869.	869.
1995	0.	0.	0.	356.	513.	869.	0.	869.	869.
1996	0.	0.	0.	356.	513.	869.	0.	869.	869.
1997	0.	0.	0.	356.	513.	869.	0.	869.	869.
1998	0.	0.	0.	356.	513.	869.	0.	869.	869.
1999	0.	0.	0.	356.	513.	869.	0.	869.	869.
2000	0.	0.	0.	356.	513.	869.	0.	869.	869.
2001	0.	0.	0.	356.	513.	869.	0.	869.	869.
2002	0.	0.	0.	356.	513.	869.	0.	869.	869.
2003	0.	0.	0.	356.	513.	869.	0.	869.	869.
2004	-184.	-94.	-278.	356.	513.	869.	0.	1147.	1147.
	7091.	-0.	7091.	5511.	7695.	13206.	0.	6115.	6115.

INTERNAL RATE OF RETURN

ON (4) BFR-TAX NET IN-FLOW (2)-(1)　7.43 PER CENT

ON (5) AFT-TAX NET IN-FLOW (4)-(3)　7.43 PER CENT

表 6 － 4　財務的内部収益率（B 案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
FINANCIAL RATE OF RETURN (IN CONSTANT PRICE)
CASE(B-2-3) - BASE CASE - (MILLION YEN)

YEAR	FIXED CAPITAL EXPEND.	CHANGE IN WORKING CAPITAL	(1) GROSS CAPITAL EXPENDTR	OPERATING PROFIT	DEPRECIATN	(2) GROSS CASH IN-FLOW	(3) INCOME TAX	(4) BFR-TAX NET IN-FLOW (2)-(1)	(5) AFT-TAX NET IN-FLOW (4)-(3)
1986	184.	0.	184.	0.	0.	0.	0.	-184.	-184.
1987	2716.	0.	2716.	0.	0.	0.	0.	-2716.	-2716.
1988	2700.	0.	2700.	0.	0.	0.	0.	-2700.	-2700.
1989	2876.	0.	2876.	0.	0.	0.	0.	-2876.	-2876.
1990	0.	108.	108.	371.	600.	971.	0.	863.	863.
1991	0.	-14.	-14.	200.	600.	800.	0.	814.	814.
1992	0.	0.	0.	200.	600.	800.	0.	800.	800.
1993	0.	0.	0.	200.	600.	800.	0.	800.	800.
1994	0.	0.	0.	200.	600.	800.	0.	800.	800.
1995	0.	0.	0.	200.	600.	800.	0.	800.	800.
1996	0.	0.	0.	200.	600.	800.	0.	800.	800.
1997	0.	0.	0.	200.	600.	800.	0.	800.	800.
1998	0.	0.	0.	200.	600.	800.	0.	800.	800.
1999	0.	0.	0.	200.	600.	800.	0.	800.	800.
2000	0.	0.	0.	200.	600.	800.	0.	800.	800.
2001	0.	0.	0.	200.	600.	800.	0.	800.	800.
2002	0.	0.	0.	200.	600.	800.	0.	800.	800.
2003	0.	0.	0.	200.	600.	800.	0.	800.	800.
2004	-184.	-94.	-278.	200.	600.	800.	0.	1078.	1078.
	8292.	-0.	8292.	3167.	9004.	12171.	0.	3879.	3879.

INTERNAL RATE OF RETURN

ON (4) BFR-TAX NET IN-FLOW (2)-(1)　4.41 PER CENT

ON (5) AFT-TAX NET IN-FLOW (4)-(3)　4.41 PER CENT

表6－5（1／2） 損益計算書（A案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
INCOME STATEMENTS (FOR ENDING DECEMBER 31)
CASE(A-2-3) - BASE CASE - (MILLION YEN)

YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
OPERATING REVENUE	0.	0.	0.	0.	1294.	1123.	1123.	1123.	1123.	1123.
CALL CHARGE, RENT,INSTALL	0.	0.	0.	0.	1294.	1123.	1123.	1123.	1123.	1123.
OPERATING EXPENDITURE	0.	0.	0.	0.	767.	767.	767.	767.	767.	767.
MAINTENANCE & OPERATION	0.	0.	0.	0.	254.	254.	254.	254.	254.	254.
DEPRECIATION AND AMORTIZATION	0.	0.	0.	0.	513.	513.	513.	513.	513.	513.
OPERATING PROFIT	0.	0.	0.	0.	527.	356.	356.	356.	356.	356.
NON-OPERATING EXPENSES	0.	0.	0.	0.	380.	380.	380.	380.	380.	380.
INTEREST ON LONG TERM DEBT	0.	0.	0.	0.	380.	380.	380.	380.	380.	380.
INTEREST ON SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NET PROFIT OR (LOSS) BEFORE TAX	0.	0.	0.	0.	147.	-24.	-24.	-24.	-24.	-24.
INCOME TAX	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NET PROFIT OR (LOSS) AFTER TAX	0.	0.	0.	0.	147.	-24.	-24.	-24.	-24.	-24.
DIVIDENDS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
RETAINED EARNINGS	0.	0.	0.	0.	147.	-24.	-24.	-24.	-24.	-24.

表6－5（2／2） 損益計算書（A案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
INCOME STATEMENTS (FOR ENDING DECEMBER 31)

CASE(A-2-3) - BASE CASE - (MILLION YEN)

YEAR	1996	1997	1998	1999	2000	2001	2002	2003	2004
OPERATING REVENUE	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.
CALL CHARGE, RENT,INSTALL	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.
OPERATING EXPENDITURE	767.	767.	767.	767.	767.	767.	767.	767.	767.
MAINTENANCE & OPERATION	254.	254.	254.	254.	254.	254.	254.	254.	254.
DEPRECIATION AND AMORTIZATION	513.	513.	513.	513.	513.	513.	513.	513.	513.
OPERATING PROFIT	356.	356.	356.	356.	356.	356.	356.	356.	356.
NON-OPERATING EXPENSES	380.	361.	342.	323.	304.	285.	266.	247.	228.
INTEREST ON LONG TERM DEBT	380.	361.	342.	323.	304.	285.	266.	247.	228.
INTEREST ON SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
NET PROFIT OR (LOSS) BEFORE TAX	-24.	-5.	14.	33.	52.	71.	90.	109.	128.
INCOME TAX	0.	0.	0.	0.	0.	0.	0.	0.	0.
NET PROFIT OR (LOSS) AFTER TAX	-24.	-5.	14.	33.	52.	71.	90.	109.	128.
DIVIDENDS	0.	0.	0.	0.	0.	0.	0.	0.	0.
RETAINED EARNINGS	-24.	-5.	14.	33.	52.	71.	90.	109.	128.

表6－6（1／2） 損益計算書（B案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
INCOME STATEMENTS (FOR ENDING DECEMBER 31)

CASE(B-2-3) - BASE CASE - (MILLION YEN)

YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
OPERATING REVENUE	0.	0.	0.	0.	1294.	1123.	1123.	1123.	1123.	1123.
CALL CHARGE, RENT, INSTALL	0.	0.	0.	0.	1294.	1123.	1123.	1123.	1123.	1123.
OPERATING EXPENDITURE	0.	0.	0.	0.	923.	923.	923.	923.	923.	923.
MAINTENANCE & OPERATION	0.	0.	0.	0.	323.	323.	323.	323.	323.	323.
DEPRECIATION AND AMORTIZATION	0.	0.	0.	0.	600.	600.	600.	600.	600.	600.
OPERATING PROFIT	0.	0.	0.	0.	371.	200.	200.	200.	200.	200.
NON-OPERATING EXPENSES	0.	0.	0.	0.	445.	445.	445.	445.	445.	445.
INTEREST ON LONG TERM DEBT	0.	0.	0.	0.	445.	445.	445.	445.	445.	445.
INTEREST ON SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NET PROFIT OR (LOSS) BEFORE TAX	0.	0.	0.	0.	-74.	-245.	-245.	-245.	-245.	-245.
INCOME TAX	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NET PROFIT OR (LOSS) AFTER TAX	0.	0.	0.	0.	-74.	-245.	-245.	-245.	-245.	-245.
DIVIDENDS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
RETAINED EARNINGS	0.	0.	0.	0.	-74.	-245.	-245.	-245.	-245.	-245.

表6－6（2／2） 損益計算書（B案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
INCOME STATEMENTS (FOR ENDING DECEMBER 31)
CASE(B-2-3) - BASE CASE - (MILLION YEN)

YEAR	1996	1997	1998	1999	2000	2001	2002	2003	2004
OPERATING REVENUE	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.
CALL CHARGE, RENT, INSTALL	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.
OPERATING EXPENDITURE	923.	923.	923.	923.	923.	923.	923.	923.	923.
MAINTENANCE & OPERATION	323.	323.	323.	323.	323.	323.	323.	323.	323.
DEPRECIATION AND AMORTIZATION	600.	600.	600.	600.	600.	600.	600.	600.	600.
OPERATING PROFIT	200.	200.	200.	200.	200.	200.	200.	200.	200.
NON-OPERATING EXPENSES	445.	423.	401.	378.	356.	334.	312.	289.	267.
INTEREST ON LONG TERM DEBT	445.	423.	401.	378.	356.	334.	312.	289.	267.
INTEREST ON SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
NET PROFIT OR (LOSS) BEFORE TAX	-245.	-223.	-201.	-179.	-156.	-134.	-112.	-90.	-67.
INCOME TAX	0.	0.	0.	0.	0.	0.	0.	0.	0.
NET PROFIT OR (LOSS) AFTER TAX	-245.	-223.	-201.	-179.	-156.	-134.	-112.	-90.	-67.
DIVIDENDS	0.	0.	0.	0.	0.	0.	0.	0.	0.
RETAINED EARNINGS	-245.	-223.	-201.	-179.	-156.	-134.	-112.	-90.	-67.

表6－7（1／2） 貸借対照表（A案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
BALANCE SHEET (FOR ENDING DECEMBER 31)
CASE(A-2-3) - BASE CASE - (MILLION YEN)

YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
ASSETS	214.	2883.	5523.	7987.	8134.	8110.	8086.	8062.	8039.	8015.
CURRENT ASSETS	0.	0.	0.	0.	108.	94.	94.	94.	94.	94.
OPERATING CASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACCOUNT RECIVABLE	0.	0.	0.	0.	108.	94.	94.	94.	94.	94.
INVENTORIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACC. EXESS CASH	26.	206.	242.	108.	660.	1164.	1653.	2142.	2631.	3120.
NET FIXED ASSETS	188.	2678.	5281.	7879.	7366.	6853.	6340.	5827.	5314.	4801.
INVESTMENT	188.	2678.	5281.	7879.	7879.	7879.	7879.	7879.	7879.	7879.
NON-DEPR. ASSETS	184.	184.	184.	184.	184.	184.	184.	184.	184.	184.
DEPRECIABLE ASSETS	0.	2416.	4816.	7091.	7091.	7091.	7091.	7091.	7091.	7091.
INTEREST DRG CONSTR.	4.	78.	281.	604.	604.	604.	604.	604.	604.	604.
LESS: ACC. DEPRACIATION	0.	0.	0.	0.	513.	1026.	1539.	2052.	2565.	3078.
LIABILITIES	214.	2883.	5523.	7987.	7987.	7987.	7987.	7987.	7987.	7987.
CURRENT LIABILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	399.
ACCOUNT PAYABLE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
CURRENT PORTION OF L/T DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	399.
SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
FIXED LIABILITIES	214.	2883.	5523.	7987.	7987.	7987.	7987.	7987.	7987.	7588.
LONG TERM DEBT BALANCE	214.	2883.	5523.	7987.	7987.	7987.	7987.	7987.	7987.	7588.
OTHER FIXED LIABILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STOCK HOLDERS EQUITY	0.	0.	0.	0.	147.	123.	99.	75.	52.	28.
SHARE CAPITAL	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACC. RETAINED EARNINGS	0.	0.	0.	0.	147.	123.	99.	75.	52.	28.
LIABILITIES & S/H EQUITY	214.	2883.	5523.	7987.	8134.	8110.	8086.	8062.	8039.	8015.

表6－7（2／2） 貸借対照表（A案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN *** PAGE 2
BALANCE SHEET (FOR ENDING DECEMBER 31)
CASE(A-2-3) - BASE CASE - (MILLION YEN)

YEAR	1996	1997	1998	1999	2000	2001	2002	2003	2004
ASSETS	7591.	7187.	6802.	6436.	6088.	5760.	5451.	5161.	4889.
CURRENT ASSETS	94.	94.	94.	94.	94.	94.	94.	94.	94.
OPERATING CASH	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACCOUNT RECIVABLE	94.	94.	94.	94.	94.	94.	94.	94.	94.
INVENTORIES	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACC. EXESS CASH	3210.	3319.	3446.	3593.	3759.	3944.	4147.	4370.	4612.
NET FIXED ASSETS	4288.	3775.	3262.	2749.	2236.	1723.	1210.	697.	184.
INVESTMENT	7879.	7879.	7879.	7879.	7879.	7879.	7879.	7879.	7879.
NON-DEPR. ASSETS	184.	184.	184.	184.	184.	184.	184.	184.	184.
DEPRECIABLE ASSETS	7091.	7091.	7091.	7091.	7091.	7091.	7091.	7091.	7091.
INTEREST DRG CONSTR.	604.	604.	604.	604.	604.	604.	604.	604.	604.
LESS: ACC. DEPRACIATION	3591.	4104.	4617.	5130.	5643.	6156.	6669.	7182.	7695.
LIABILITIES	7588.	7188.	6789.	6390.	5990.	5591.	5192.	4792.	4393.
CURRENT LIABILITIES	399.	399.	399.	399.	399.	399.	399.	399.	399.
ACCOUNT PAYABLE	0.	0.	0.	0.	0.	0.	0.	0.	0.
CURRENT PORTION OF L/T DEBT	399.	399.	399.	399.	399.	399.	399.	399.	399.
SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
FIXED LIABILITIES	7188.	6789.	6390.	5990.	5591.	5192.	4792.	4393.	3994.
LONG TERM DEBT BALANCE	7188.	6789.	6390.	5990.	5591.	5192.	4792.	4393.	3994.
OTHER FIXED LIABILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.
STOCK HOLDERS EQUITY	4.	-1.	13.	46.	98.	169.	259.	368.	496.
SHARE CAPITAL	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACC. RETAINED EARNINGS	4.	-1.	13.	46.	98.	169.	259.	368.	496.
LIABILITIES & S/H EQUITY	7591.	7187.	6802.	6436.	6088.	5760.	5451.	5161.	4889.

表6－8（1／2） 貸借対照表（B案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
BALANCE SHEET (FOR ENDING DECEMBER 31)

CASE(B-2-3) - BASE CASE - (MILLION YEN)

YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
ASSETS	218.	3402.	6497.	9296.	9222.	8976.	8731.	8486.	8241.	7995.
CURRENT ASSETS	0.	0.	0.	0.	108.	94.	94.	94.	94.	94.
OPERATING CASH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACCOUNT RECIVABLE	0.	0.	0.	0.	108.	94.	94.	94.	94.	94.
INVENTORIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACC. EXESS CASH	30.	410.	566.	108.	526.	895.	1250.	1605.	1960.	2315.
NET FIXED ASSETS	188.	2992.	5932.	9188.	8588.	7987.	7387.	6787.	6187.	5586.
INVESTMENT	188.	2992.	5932.	9188.	9188.	9188.	9188.	9188.	9188.	9188.
NON-DEPR. ASSETS	184.	184.	184.	184.	184.	184.	184.	184.	184.	184.
DEPRECIABLE ASSETS	0.	2716.	5416.	8292.	8292.	8292.	8292.	8292.	8292.	8292.
INTEREST DRG CONSTR.	4.	92.	332.	712.	712.	712.	712.	712.	712.	712.
LESS: ACC. DEPRACIATION	0.	0.	0.	0.	600.	1201.	1801.	2401.	3001.	3602.
LIABILITIES	218.	3402.	6497.	9296.	9296.	9296.	9296.	9296.	9296.	9296.
CURRENT LIABILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	465.
ACCOUNT PAYABLE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
CURRENT PORTION OF L/T DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	465.
SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
FIXED LIABILITIES	218.	3402.	6497.	9296.	9296.	9296.	9296.	9296.	9296.	8831.
LONG TERM DEBT BALANCE	218.	3402.	6497.	9296.	9296.	9296.	9296.	9296.	9296.	8831.
OTHER FIXED LIABILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STOCK HOLDERS EQUITY	0.	0.	0.	0.	-74.	-320.	-565.	-810.	-1055.	-1301.
SHARE CAPITAL	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACC. RETAINED EARNINGS	0.	0.	0.	0.	-74.	-320.	-565.	-810.	-1055.	-1301.
LIABILITIES & S/H EQUITY	218.	3402.	6497.	9296.	9222.	8976.	8731.	8486.	8241.	7995.

表6－8（2/2） 貸借対照表（B案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN *** PAGE 2
BALANCE SHEET (FOR ENDING DECEMBER 31)
CASE(B-2-3) - BASE CASE - (MILLION YEN)

YEAR	1996	1997	1998	1999	2000	2001	2002	2003	2004
ASSETS	7285.	6597.	5932.	5288.	4667.	4069.	3492.	2938.	2406.
CURRENT ASSETS	94.	94.	94.	94.	94.	94.	94.	94.	94.
OPERATING CASH	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACCOUNT RECIVABLE	94.	94.	94.	94.	94.	94.	94.	94.	94.
INVENTORIES	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACC. EXESS CASH	2206.	2118.	2053.	2010.	1989.	1990.	2014.	2060.	2128.
NET FIXED ASSETS	4986.	4386.	3786.	3185.	2585.	1985.	1385.	784.	184.
INVESTMENT	9188.	9188.	9188.	9188.	9188.	9188.	9188.	9188.	9188.
NON-DEPR. ASSETS	184.	184.	184.	184.	184.	184.	184.	184.	184.
DEPRECIABLE ASSETS	8292.	8292.	8292.	8292.	8292.	8292.	8292.	8292.	8292.
INTEREST DRG CONSTR.	712.	712.	712.	712.	712.	712.	712.	712.	712.
LESS: ACC. DEPRACIATION	4202.	4802.	5402.	6003.	6603.	7203.	7803.	8404.	9004.
LIABILITIES	8831.	8366.	7902.	7437.	6972.	6507.	6042.	5578.	5113.
CURRENT LIABILITIES	465.	465.	465.	465.	465.	465.	465.	465.	465.
ACCOUNT PAYABLE	0.	0.	0.	0.	0.	0.	0.	0.	0.
CURRENT PORTION OF L/T DEBT	465.	465.	465.	465.	465.	465.	465.	465.	465.
SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
FIXED LIABILITIES	8366.	7902.	7437.	6972.	6507.	6042.	5578.	5113.	4648.
LONG TERM DEBT BALANCE	8366.	7902.	7437.	6972.	6507.	6042.	5578.	5113.	4648.
OTHER FIXED LIABILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.
STOCK HOLDERS EQUITY	-1546.	-1769.	-1970.	-2148.	-2305.	-2439.	-2550.	-2640.	-2707.
SHARE CAPITAL	0.	0.	0.	0.	0.	0.	0.	0.	0.
ACC. RETAINED EARNINGS	-1546.	-1769.	-1970.	-2148.	-2305.	-2439.	-2550.	-2640.	-2707.
LIABILITIES & S/H EQUITY	7285.	6597.	5932.	5288.	4667.	4069.	3492.	2938.	2406.

表6－9（1／2） 資金繰り表（A案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
FUNDS FLOW STATEMENTS (FOR ENDING DECEMBER 31)

CASE(A-2-3) - BASE CASE - (MILLION YEN)

YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
SOURCE OF FUNDS	214.	2669.	2640.	2464.	1040.	869.	869.	869.	869.	869.
CASH GENERATED	0.	0.	0.	0.	1040.	869.	869.	869.	869.	869.
PROFIT AFT. TAX, BFR INT.	0.	0.	0.	0.	527.	356.	356.	356.	356.	356.
DEPRECIATION AND AMORTIZATION	0.	0.	0.	0.	513.	513.	513.	513.	513.	513.
FINANCIAL RESOURCES	214.	2669.	2640.	2464.	0.	0.	0.	0.	0.	0.
SHARE CAPITAL	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
LONG TERM DEBT	214.	2669.	2640.	2464.	0.	0.	0.	0.	0.	0.
SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
USES OF FUNDS	188.	2490.	2603.	2598.	488.	366.	380.	380.	380.	380.
FIXED CAPITAL EXPENDITURE	188.	2490.	2603.	2598.	0.	0.	0.	0.	0.	0.
LAND ACQUISITION	184.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEPRECIABLE FIXED ASSETS	0.	2416.	2400.	2275.	0.	0.	0.	0.	0.	0.
INTEREST DURING CONSTRUCTION	4.	74.	203.	323.	0.	0.	0.	0.	0.	0.
CHANGE IN WORKING CAPITAL	0.	0.	0.	0.	108.	-14.	0.	0.	0.	0.
DEBT SERVICES	0.	0.	0.	0.	380.	380.	380.	380.	380.	380.
REPAYMENT OF LONG TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
REPAYMENT OF SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
INTEREST ON LONG TERM DEBT	0.	0.	0.	0.	380.	380.	380.	380.	380.	380.
INTEREST ON SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DIVIDENDS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
CASH INCREASE OR (DECREASE)	26.	180.	36.	-134.	552.	503.	489.	489.	489.	489.
BEGINNING CASH BALANCE	0.	26.	206.	242.	108.	660.	1164.	1653.	2142.	2631.
ENDING CASH BALANCE	26.	206.	242.	108.	660.	1164.	1653.	2142.	2631.	3120.

表6－9（2／2） 資金繰り表（A案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***

FUNDS FLOW STATEMENTS (FOR ENDING DECEMBER 31)

CASE(A-2-3) - BASE CASE - (MILLION YEN)

YEAR	1996	1997	1998	1999	2000	2001	2002	2003	2004
SOURCE OF FUNDS	869.	869.	869.	869.	869.	869.	869.	869.	869.
CASH GENERATED	869.	869.	869.	869.	869.	869.	869.	869.	869.
PROFIT AFT. TAX, BFR INT.	356.	356.	356.	356.	356.	356.	356.	356.	356.
DEPRECIATION AND AMORTIZATION	513.	513.	513.	513.	513.	513.	513.	513.	513.
FINANCIAL RESOURCES	0.	0.	0.	0.	0.	0.	0.	0.	0.
SHARE CAPITAL	0.	0.	0.	0.	0.	0.	0.	0.	0.
LONG TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
USES OF FUNDS	779.	760.	741.	722.	703.	684.	665.	646.	627.
FIXED CAPITAL EXPENDITURE	0.	0.	0.	0.	0.	0.	0.	0.	0.
LAND ACQUISITION	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEPRECIABLE FIXED ASSETS	0.	0.	0.	0.	0.	0.	0.	0.	0.
INTEREST DURING CONSTRUCTION	0.	0.	0.	0.	0.	0.	0.	0.	0.
CHANGE IN WORKING CAPITAL	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEBT SERVICES	779.	760.	741.	722.	703.	684.	665.	646.	627.
REPAYMENT OF LONG TERM DEBT	399.	399.	399.	399.	399.	399.	399.	399.	399.
REPAYMENT OF SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
INTEREST ON LONG TERM DEBT	380.	361.	342.	323.	304.	285.	266.	247.	228.
INTEREST ON SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
DIVIDENDS	0.	0.	0.	0.	0.	0.	0.	0.	0.
CASH INCREASE OR (DECREASE)	90.	109.	128.	147.	166.	185.	204.	223.	242.
BEGINNING CASH BALANCE	3120.	3210.	3319.	3446.	3593.	3759.	3944.	4147.	4370.
ENDING CASH BALANCE	3210.	3319.	3446.	3593.	3759.	3944.	4147.	4370.	4612.

表6－10（1／2） 資金繰り表（B案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***

FUNDS FLOW STATEMENTS (FOR ENDING DECEMBER 31)

CASE(B-2-3) - BASE CASE - (MILLION YEN)

YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
SOURCE OF FUNDS	218.	3184.	3095.	2799.	971.	800.	800.	800.	800.	800.
CASH GENERATED	0.	0.	0.	0.	971.	800.	800.	800.	800.	800.
PROFIT AFT. TAX, BFR INT.	0.	0.	0.	0.	371.	200.	200.	200.	200.	200.
DEPRECIATION AND AMORTIZATION	0.	0.	0.	0.	600.	600.	600.	600.	600.	600.
FINANCIAL RESOURCES	218.	3184.	3095.	2799.	0.	0.	0.	0.	0.	0.
SHARE CAPITAL	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
LONG TERM DEBT	218.	3184.	3095.	2799.	0.	0.	0.	0.	0.	0.
SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
USES OF FUNDS	188.	2804.	2940.	3256.	553.	431.	445.	445.	445.	445.
FIXED CAPITAL EXPENDITURE	188.	2804.	2940.	3256.	0.	0.	0.	0.	0.	0.
LAND ACQUISITION	184.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEPRECIABLE FIXED ASSETS	0.	2716.	2700.	2876.	0.	0.	0.	0.	0.	0.
INTEREST DURING CONSTRUCTION	4.	88.	240.	380.	0.	0.	0.	0.	0.	0.
CHANGE IN WORKING CAPITAL	0.	0.	0.	0.	108.	-14.	0.	0.	0.	0.
DEBT SERVICES	0.	0.	0.	0.	445.	445.	445.	445.	445.	445.
REPAYMENT OF LONG TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
REPAYMENT OF SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
INTEREST ON LONG TERM DEBT	0.	0.	0.	0.	445.	445.	445.	445.	445.	445.
INTEREST ON SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DIVIDENDS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
CASH INCREASE OR (DECREASE)	30.	381.	155.	-458.	418.	369.	355.	355.	355.	355.
BEGINNING CASH BALANCE	0.	30.	410.	566.	108.	526.	895.	1250.	1605.	1960.
ENDING CASH BALANCE	30.	410.	566.	108.	526.	895.	1250.	1605.	1960.	2315.

表6－10（2／2） 資金繰り表（B案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***

FUNDS FLOW STATEMENTS (FOR ENDING DECEMBER 31)

CASE(B-2-3) - BASE CASE - (MILLION YEN)

YEAR	1996	1997	1998	1999	2000	2001	2002	2003	2004
SOURCE OF FUNDS	800.	800.	800.	800.	800.	800.	800.	800.	800.
CASH GENERATED	800.	800.	800.	800.	800.	800.	800.	800.	800.
PROFIT AFT. TAX, BFR INT.	200.	200.	200.	200.	200.	200.	200.	200.	200.
DEPRECIATION AND AMORTIZATION	600.	600.	600.	600.	600.	600.	600.	600.	600.
FINANCIAL RESOURCES	0.	0.	0.	0.	0.	0.	0.	0.	0.
SHARE CAPITAL	0.	0.	0.	0.	0.	0.	0.	0.	0.
LONG TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
USES OF FUNDS	910.	888.	865.	843.	821.	799.	776.	754.	732.
FIXED CAPITAL EXPENDITURE	0.	0.	0.	0.	0.	0.	0.	0.	0.
LAND ACQUISITION	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEPRECIABLE FIXED ASSETS	0.	0.	0.	0.	0.	0.	0.	0.	0.
INTEREST DURING CONSTRUCTION	0.	0.	0.	0.	0.	0.	0.	0.	0.
CHANGE IN WORKING CAPITAL	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEBT SERVICES	910.	888.	865.	843.	821.	799.	776.	754.	732.
REPAYMENT OF LONG TERM DEBT	465.	465.	465.	465.	465.	465.	465.	465.	465.
REPAYMENT OF SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
INTEREST ON LONG TERM DEBT	445.	423.	401.	378.	356.	334.	312.	289.	267.
INTEREST ON SHORT TERM DEBT	0.	0.	0.	0.	0.	0.	0.	0.	0.
DIVIDENDS	0.	0.	0.	0.	0.	0.	0.	0.	0.
CASH INCREASE OR (DECREASE)	-110.	-88.	-65.	-43.	-21.	1.	24.	46.	68.
BEGINNING CASH BALANCE	2315.	2206.	2118.	2053.	2010.	1989.	1990.	2014.	2060.
ENDING CASH BALANCE	2206.	2118.	2053.	2010.	1989.	1990.	2014.	2060.	2128.

表6－11 経済的内部収益率（A案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
ECONOMIC RATE OF RETURN (IN CONSTANT PRICE)
CASE(A-2-3) - ECONOMIC CASE - (MILLION YEN)

YEAR	FIXED CAPITAL EXPEND.	CHANGE IN WORKING CAPITAL	(1) GROSS CAPITAL EXPENDTR	OPERATING PROFIT	DEPRECIATN	(2) GROSS CASH IN-FLOW	(3) INCOME TAX	(4) BFR-TAX NET IN-FLOW (2)-(1)	(5) AFT-TAX NET IN-FLOW (4)-(3)
1986	149.	0.	149.	0.	0.	0.	0.	-149.	-149.
1987	2316.	0.	2316.	0.	0.	0.	0.	-2316.	-2316.
1988	2301.	0.	2301.	0.	0.	0.	0.	-2301.	-2301.
1989	2180.	0.	2180.	0.	0.	0.	0.	-2180.	-2180.
1990	0.	128.	128.	842.	492.	1334.	0.	1206.	1206.
1991	0.	-17.	-17.	638.	492.	1130.	0.	1147.	1147.
1992	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
1993	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
1994	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
1995	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
1996	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
1997	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
1998	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
1999	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
2000	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
2001	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
2002	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
2003	0.	0.	0.	638.	492.	1130.	0.	1130.	1130.
2004	-149.	-111.	-260.	638.	492.	1130.	0.	1391.	1391.
	6797.	0.	6797.	9778.	7381.	17159.	0.	10362.	10362.

INTERNAL RATE OF RETURN

ON (4) BFR-TAX NET IN-FLOW (2)-(1) 11.91 PER CENT

ON (5) AFT-TAX NET IN-FLOW (4)-(3) 11.91 PER CENT

表6－12 経済的内部収益率（B案）

*** RURAL TELECOMMUNICATIONS NETWORK IN YEMEN ***
ECONOMIC RATE OF RETURN (IN CONSTANT PRICE)
CASE(B-2-3) - ECONOMIC CASE - (MILLION YEN)

YEAR	FIXED CAPITAL EXPEND.	CHANGE IN WORKING CAPITAL	(1) GROSS CAPITAL EXPENDTR	OPERATING PROFIT	DEPRECIATN	(2) GROSS CASH IN-FLOW	(3) INCOME TAX	(4) BFR-TAX NET IN-FLOW (2)-(1)	(5) AFT-TAX NET IN-FLOW (4)-(3)
1986	149.	0.	149.	0.	0.	0.	0.	-149.	-149.
1987	2617.	0.	2617.	0.	0.	0.	0.	-2617.	-2617.
1988	2602.	0.	2602.	0.	0.	0.	0.	-2602.	-2602.
1989	2772.	0.	2772.	0.	0.	0.	0.	-2772.	-2772.
1990	0.	128.	128.	699.	579.	1278.	0.	1150.	1150.
1991	0.	-17.	-17.	496.	579.	1074.	0.	1091.	1091.
1992	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
1993	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
1994	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
1995	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
1996	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
1997	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
1998	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
1999	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
2000	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
2001	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
2002	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
2003	0.	0.	0.	496.	579.	1074.	0.	1074.	1074.
2004	-149.	-111.	-260.	496.	579.	1074.	0.	1335.	1335.
	7992.	0.	7992.	7636.	8683.	16319.	0.	8327.	8327.

INTERNAL RATE OF RETURN

ON (4) BFR-TAX NET IN-FLOW (2)-(1) 8.84 PER CENT

ON (5) AFT-TAX NET IN-FLOW (4)-(3) 8.84 PER CENT

付 属 資 料

付属資料Ⅰ　調査団日程

調査団日程表

September	11 (Tue.)	Leaving Tokyo for SANA'A
	12 (Wed.)	Arrival at SANA'A
	13 (Thu.)	Greeting and explanation on Inception Report to Japanese Embassy
	14 (Fri.)	General site observation around SANA'A City and WADI DHAR
	15 (Sat.)	Greeting and explanation on Inception Report for Minister of MOC and PTC
	16 (Sun.)	Meeting with MOC/PTC on Inception Report
	17 (Mon.)	ditto
	18 (Tue.)	Preparation of Minutes of Meeting and signing
	19 (Wed.)	JICA Advisors leaving SANA'A for Tokyo Study team visits to SANA'A D exchange office
	20 (Thu.)	Preparation of list for prospective towns/villages
	21 (Fri.)	Map Study
	22 (Sat.)	ditto
	23 (Sun.)	ditto
	24 (Mon.)	ditto
	25 (Tue.)	ditto
	26 (Wed.)	ditto
	27 (Thu.)	ditto
	28 (Fri.)	ditto
	29 (Sat.)	ditto
	30 (Sun.)	Preparation of site survey and meeting on field survey schedule with MOC/PTC counterparts

October	1	(Mon.)	Site survey, Team A: TAIZZ area Team B: HAJJAH area
	2	(Tue.)	ditto
	3	(Wed.)	ditto
	4	(Thu.)	ditto
	5	(Fri.)	Site survey and data arrangements
	6	(Sat.)	Site survey, A: IBB area, B: HAJJAH area
	7	(Sun.)	A: TAIZZ area, B: HAJJAH
	8	(Mon.)	A: TAIZZ area, B: SANA'A area
	9	(Tue.)	ditto
	10	(Wed.)	A: IBB area, B: SANA'A area
	11	(Thu.)	A: DHAMAR area, B: SANA'A area
	12	(Fri.)	Data arrangements
	13	(Sat.)	Study on survey results and re-arrangements of site locations
	14	(Sun.)	ditto
	15	(Mon.)	ditto
	16	(Tue.)	A: Map study, B: Site survey for SANA'A area
	17	(Wed.)	ditto
	18	(Thu.)	ditto
	19	(Fri.)	Data arrangements
	20	(Sat.)	Internal meeting for survey results
	21	(Sun.)	A: Study on re-location of station sites B: Site survey for SANA'A area
	22	(Mon.)	ditto
	23	(Tue.)	A: Re-arrangements for a list of projected towns/villages B: Site survey for SANA'A area
	24	(Wed.)	A: Meeting with MOC/PTC B: Site survey for DHAMAR area

October	25 (Thu.)	A: Study on demand forecast and system configuration B: Site survey for DHAMAR area
	26 (Fri.)	Data arrangements
	27 (Sat.)	A: Study on demand forecast and system make-up B: Site survey for DHAMAR area
	28 (Sun.)	A: Study on basic concept of project B: Site survey for DHAMAR area
	29 (Mon.)	A: Study on basic concept of project B: Site survey for TAIZZ area
	30 (Tue.)	ditto
	31 (Wed.)	A: Meeting with MOC for radio frequency assignment B: Site survey for TAIZZ area
November	1 (Thu.)	Arrival of JICA Advisors at SANA'A Meeting with Japanese Embassy
	2 (Fri.)	Data arrangements
	3 (Sat.)	JICA Advisors and Team Leader having meeting with Minister of MOC A and B: Internal discussion and map study
	4 (Sun.)	A: Meeting with MOC/PTC B: Map study
	5 (Mon.)	Mr. Washizu, JICA Advisor leaving SANA'A for Tokyo A and B: System configuration and cost estimate
	6 (Tue.)	A: ditto B: Site survey for HUDAYDAH area
	7 (Wed.)	Mr. Akabori, JICA Advisor leaving SANA'A for Tokyo A: Cost estimate and financial analysis B: Site survey for HUDAYDAH area
	8 (Thu.)	A: Cost estimate and financial analysis B: Site survey for HUDAYDAH area
	9 (Fri.)	ditto

November	10 (Sat.)	A: Meeting with MOC/PTC for finalization of objective towns/villages and number of subscribers to be covered B: Site survey for HAJJAH area
	11 (Sun.)	A: Study on project implementation program B: Site survey for HUDAYDAH area
	12 (Mon.)	A: Drawing figures and tables B: Site survey for HUDAYDAH area
	13 (Tue.)	ditto
	14 (Wed.)	A: Study on contents of F/S report B: Site survey for HUDAYDAH area
	15 (Thu.)	A: Preparation of Draft Progress Report B: Site survey for SANA'A area
	16 (Fri.)	Data arrangements
	17 (Sat.)	Preparation of Progress Report
	18 (Sun.)	ditto
	19 (Mon.)	ditto
	20 (Tue.)	ditto
	21 (Wed.)	ditto
	22 (Thu.)	ditto
	23 (Fri.)	Draft Progress Report making
	24 (Sat.)	ditto
	25 (Sun.)	Meeting with MOC/PTC on Draft Progress Report
	26 (Mon.)	ditto
	27 (Tue.)	A: Draft Progress Report making B: Site survey for DHAMAR area
	28 (Wed.)	A: Draft Progress Report making B: Site survey for IBB area
	29 (Thu.)	A: Draft Progress Report making B: Site survey for SANA'A and MARIB area
	30 (Fri.)	Progress Report making

December	1 (Sat.)	Chairman of JICA Advisory Committee arriving at SANA'A JICA team internal meeting
	2 (Sun.)	Explanation of Progress Report to Japanese Embassy
	3 (Mon.)	Meeting with MOC/PTC on Progress Report
	4 (Tue.)	Modification and submission of Progress Report
	5 (Wed.)	General observation for HAJJAH area
	6 (Thu.)	Reporting of study results in Yemen A.R. to Japanese Embassy and Minister of MOC and signing of Minutes of Meeting between JICA and MOC
	7 (Fri.)	Preparation for leave
	8 (Sat.)	Greeting for Minister of MOC, Deputy Minister of MOC and MOC/PTC personnel concerned, greeting for Japanese Embassy and collection of remaining data/information and purchase of maps
	9 (Sun.)	Leaving SANA'A for Tokyo
	10 (Mon.)	Arrival at Tokyo

付属資料II　対象村落リスト

表A－Ⅱ（1／34）　対象村落リスト

Governorate: SANA'A
Subprovince: SANA'A

District	Town/Village	Pop.	Map No.	Alt. (m)
SANHAN	AL MAHAQIRAH	780	1544 C4	2,400
	BAYT AL AHMAR		"	2,560
	HIZYAZ	1,109	"	2,340
	MAQWALAH	773	"	2,520
	NU'D	940	"	2,720
	SAYYAN	909	"	2,460
	SHASAN	862	"	2,420
	AL JAYRIF	785	"	2,460
	AL JAHSHI	758	"	2,460
	MASUD	860	"	2,540
	BAYT ASH SHATIBI	524	"	2,380
	BAYT HADIR	1,044	1544 C2	2,400
BANI BAHLUL	AL HAMAMI	763	1544 C2	2,480
	BAYT UQAB	844	"	2,520
	KHAYRAN	572	"	2,600
	GHAYMAN	581	"	2,440
KHAWRAN	AL MARBAK	1,047	1544 C2	2,680
	AL JA'ARAH		"	2,640
	BAYT AL BUKAYR		"	2,360
	JIHANAH	1,553	1544 C4	2,250
	AL KIBS	1,087	"	2,320
	AL ASNAF	1,401	"	2,320
	AL HISN AL ABYAD	889	"	2,320

表A－Ⅱ (2／34)　対象村落リスト

Governorate: SANA'A
Subprovince: SANA'A

District	Town/Village	Pop.	Map No.	Alt. (m)
KHAWRAN	SUDUM		1544 C4	2,220
	JAWB	832	"	2,500
	BAYT WITR	845	"	2,500
	AL HARURAH	970	1444 A2	2,440
BILAD AR RUS	AD DULA	834	1544 C4	2,720
	SHA'BAN	1,141	"	2,560
	AL QUSAYR	765	"	2,460
	WADI AL JAR	654	1444 A1	1,620
	DHISAN	766	1444 A2	2,600
BANI MATAR	BAYT NAJI	750	1543 D2	3,000
	BAYT SAD	824	"	2,750
	AZ ZAFIR	1,322	"	2,600
	AL ARUS	942	"	2,600
	MASYAB	732	"	2,880
	AL MASAJID	705	1544 C1	2,580
	RUHM AL ULYA		1544 C3	2,440
	BAYT RIJAL	807	"	2,760
	HADRAN	1,466	"	2,920
	YAZIL	837	"	2,760
AL HAYMAT AL KHALIJAYAH	AL KHAMIS	641	1543 D4	2,280
	BAYT AS SUWAYDI	824	"	2,400

表A－Ⅱ（3／34）　対象村落リスト

Governorate: SANA'A
Subprovince: SANA'A

District	Town/Village	Pop.	Map No.	Alt. (m)
AL HAYMAT AD DAKHILIYAH	DAR AL MANAMAH	700	1543 D2	2,800
	AL URR	847	1543 D4	2,000
	BAYT UBAYD	767	"	1,720
	BAYT MAHMUD	982	"	1,700
	AL YAAR	727	"	2,120
HAMDAN	KHALAQAH	1,632	1543 D2	2,560
	DHARHAN	896	"	2,680
	HAJAR SA'ID	726	"	2,560
	AL HATTAB	708	1544 A3	2,360
	AL HAWIRI	1,146	"	2,230
	AL MA'MAR	1,077	"	2,260
	AL URRAH	1,024	"	2,180
	BAYT GHUFR	1,203	"	2,660
	BAYT AR RAQI	933	"	2,560
	HAZ	1,521	"	2,580
	DARWAN	954	"	2,440
	JIRBAN	734	"	2,600
	AL JAIF AL ASFAL	702	"	2,520
	BAYT BISHR	802	"	2,170
	MADAM	730	1544 C1	2,280
	LULUWA	948	"	2,480
	AL MUNAQQAB	1,020	"	2,720
	TUZAN	844	"	2,200
BANI AL HARITH	THUMAH		1544 A4	2,200
	BAYT DAHRAH		"	2,200

表A－Ⅱ(4／34)　対象村落リスト

Governorate: SANA'A
Subprovince: SANA'A

District	Town/Village	Pop.	Map No.	Alt. (m)
BANI HUSHAYSH	AL KHIRBAH	768	1544 C2	2,340
	AR RAWNAH	1,511	"	2,420
	BAYT AS SAYYID	1,125	"	2,280
	GHADRAN	1,170	"	2,220
	ASH SHARYAH	868	"	2,220
	AL HAYUF	759	"	2,340
	BAYT AN NUKHAYF	708	"	2,240
	AL FURS	804	"	2,220
	QARADAH	610	"	2,340
THILA	THILA	3,343	1543 B4	2,780
	HABABAH	2,944	"	2,660
IYAL SURAYH	AMAD		1543 B4	2,500
	BAYT AMIR	756	"	2,500
	BANI QADIM	1,019	1543 B4	2,460
	BANI MAYMUN	1,128	1544 A3	2,640
	SUMAYN	704	"	2,600
	BANI AZ ZUBAYR	1,510	"	2,620
ARHAB	AR RAJAW	999	1544 A1	2,700
	MADAR	839	"	2,540
	HIZAM	2,231	1544 A3	2,420
	SALM	796	"	2,430
	BAYT SA'DAN	730	"	2,480
	BAYT AL JALID	863	"	2,500
	ISSAM	861	"	2,520

表A－Ⅱ（5／34）　対象村落リスト

Governorate: SANA'A
Subprovince: SANA'A

District	Town/Village	Pop.	Map No.	Alt. (m)
ARHAB	AL BALAD		1544 A3	2,180
	AL MAKARIB	2,108	"	2,230
	BAYT MARRAN		"	2,440
	DARB HIZAM	7,012	"	2,280
	BAWSAN	1,084	1544 A4	2,160

表A－Ⅱ（6／34）　対象村落リスト

Governorate: SANA'A
Subprovince: HARAZ

District	Town/Village	Pop.	Map No.	Alt. (m)
MANAKHAH WA BANI ISMAIL	AL HAJARAH	1,578	1543 D3	2,400
SA'FAN	ZALA	771	1543 D3	1,840

表A－Ⅱ (7／34)　対象村落リスト

Governorate: SANA'A
Subprovince: RAYMAH

District	Town/Village	Pop.	Map No.	Alt. (m)
BILAD AT TAAM	MARKAZ BILAD AT TAAM		1443 B1	1,640
AL JABIN	AL JABIN		1443 B3	2,400
KUSMAH	KUSMAH	585	1443 B3	2,680

表A－Ⅱ(8／34)　対象村落リスト

Governorate: SANA'A
Subprovince: AMRAN

District	Town/Village	Pop.	Map No.	Alt. (m)
AMRAN	QUHAL	829	1544 A3	2,280
AS SUDAH	AS SUDAH	1,743	1543 B2	2,040
JABAL IYAL YAZID	JAWB AL ALA	1,408	1543 B2	2,220
	AS SAWADAYN	880	"	2,220
	AL LUMI	861	"	2,580
	BAYT DHANIB	1,172	"	2,300
	AL ABRAQ	1,168	"	2,600
	DA'AN	1,389	"	2,700
	AL KHADARAH	2,268	1543 B4	2,720
	AL MADLA'AH	1,113	"	2,580
	AT TAMARI	871	"	2,560
	BAYT BADI	712	"	2,340
	AL JANNAT	2,221	"	2,220
	AL QAST	896	"	2,260
RAYDAH	RAYDAH	3,682	1544 A1	2,200
	AL MANJIDAH	1,165	"	2,280
	NA'IT	978	"	2,880
	AL HA'IT	1,046	1544 A3	2,240
	GHAWLAT DHAYFAN	1,014	"	2,460
	DHAYFAN	1,994	"	2,600
DHI BIN	DHI BIN		1544 A1	1,820

表A－Ⅱ（9／34）　対象村落リスト

Governorate: SANA'A
Subprovince: KHAMIR

District	Town/Village	Pop.	Map No.	Alt. (m)
KHAMIR	KHAMIR		1543 B2	2,400
	GHAYL MAGHDAF	1,126	"	2,500
	YASHI	916	"	2,600
	AL UQAYLI	823	"	2,520
	AL QASR	739	1544 A1	2,500

表A－Ⅱ（10／34）　対象村落リスト

Governorate: TAIZZ
Subprovince: TAIZZ

District	Town/Village	Pop.	Map No.	Alt. (m)
TAIZZIYAH	AR RAMADAH	917	1343 B4	1,080
	AL HUSAYN	836	"	1,120
	AL AMAKIR	715	1344 A1	1,480
	AL MANZIL	725	1344 A3	1,480
	QARAMAH	897	"	1,440
	AL AMAQI	1,144	"	1,480
	ARABAH	1,093	"	1,420
	AS SAMKAR	848	"	1,440
	AD DUMAYNAH	795	"	1,280
SABIR	DHI UNQUB		1343 B4	2,200
	HADNAN	1,101	1344 A3	2,440
	DAR AN NASR		"	1,840
	SHIB AL MAWADIM		"	2,520
	DHI MURAYN		"	2,520
	AS SARARI		1344 C1	2,200
AL MISRAKH	AL MISRAKH		1344 C1	1,400
	AL JUNNAYD		"	
	HASBAN		"	1,800
SHARAB	JUBBI BANI SHAB		1343 B2	1,480
	AL MIHDADAH		"	1,520
	AR RUBU		"	1,440

表A－Ⅱ（11／34）　対象村落リスト

Governorate: TAIZZ
Subprovince: AL HUJARIYAH

District	Town/Village	Pop.	Map No.	Alt. (m)
TURBAT ASHAL SHAMAITAYN	AL MUDAYHIS	744	1343 D4	1,040
	AT TURBAH	1,076	1344 C3	1,880
	SHAWHAT	736	"	1,480
	AD DIMNAH		"	2,080
	MASAJID ADIM		"	1,820
	DHA AL QIYAN		"	1,840
TURBAT AL MAWASIT	NAJD AN NASHAMAH		1343 D2	1,280
	ASH SHIB		"	1,480
	KUWWAT ASH SHUUBAH		1344 C1	1,440
	BANI AHMAD		"	2,080
	MILAB AS SINNAH		"	1,400
	AKHMUR		"	1,120
	BANI HAMMAD		"	2,000
	RADA		"	2,000
	AL HAYYAR		1344 C3	1,500
JABAL HABASHI	YUFRUS	1,306	1343 D2	1,240
	AL MANUM		"	2,000
	BANI JAFAR		"	1,480
	AL KURABIYAH		"	1,720
	AL ASALI		"	2,000
	DHARJI		"	2,000
	AL AKHRAF		"	2,280
	AL MINSAMAH		"	2,120

表A－Ⅱ（12／34）　対象村落リスト

Governorate: TAIZZ
Subprovince: AL HUJARIYAH

District	Town/Village	Pop.	Map No.	Alt. (m)
AS SALU	ASH SHARAF		1344 C1	1,850
	AS SAID		"	2,280
QABAYTAH	HAYFAN		1344 C2	1,680
	QARYAT UKAHBAH		"	1,400

表A－Ⅱ（13／34）　対象村落リスト

Governorate: TAIZZ
Subprovince: MAWIYAH

District	Town/Village	Pop.	Map No.	Alt. (m)
MAWIYAH	QARYAT JARANI	1,103	1344 A4	1,520
	BAYT UBAYDAN	804	"	1,370
	AR RUMAYDI	928	"	1,380
	AZ ZAHRAH	847	1344 A3	1,420
	QURRAF		"	1,220
	ASH SHIBAH		"	1,200
DIMNAT KHADIR	AD DIMNAH	1,664	1344 C1	1,260
	AR RAHIDAH	1,067	1344 C2	1,040

表A－Ⅱ（14／34）　対象村落リスト

Governorate: TAIZZ
Subprovince: AL MUKHA

District	Town/Village	Pop.	Map No.	Alt. (m)
AL MUKHA	AL KUDAYHAH	713	1343 C2	120
	YAKHTUL	2,007	"	5
	AL GHURAFI	1,238	"	150
	ATH THAWBANI	812	"	140
MAQBANAH	MAQBANAH	1,571	1343 B3	960
	BARH MAQBANAH		"	1,000
	U. AL ASHUB		"	1,160
	AL MUWAYJIR		"	920
	HAJDAH		1343 B4	960
	AL BARH		1343 D1	520
MAWZA	MAWZA	2,901	1343 D1	200
	J. WADI BISYAN	868	"	240
	AL URAYSH		"	400
DHUBAB	BAB AL MANDAB	708	1243 A2/A4	20
	DHUBAB	1,446	"	5

表A－Ⅱ（15／34）　対象村落リスト

Governorate: HUDAYDAH
Subprovince: HUDAYDAH

District	Town/Village	Pop.	Map No.	Alt. (m)
AL MARAWIAH	AL QUTAY	1,759	1443 A1	110
	DAYR AL MUDAWWAR	843	"	130
	ASH SHARA	884	"	100
	AZ ZUBAYRIYAH	838	"	90
	DAYR AD DUBAYSH		"	80
	AL MAHAD AL AWSAT		"	90
	AD DAWM	1,509	1443 A2	100
	KHALIFAH		"	140

表A－Ⅱ（16／34）　対象村落リスト

Governorate: HUDAYDAH
Subprovince: AL LUHAYYAH

District	Town/Village	Pop.	Map No.	Alt. (m)
AL LUHAYYAH	AL LUHAYYAH	2,029	1542 B3	5
	AL KHAWBAH	3,699	"	5
	MAWR	1,577	1542 B4	60
	AL QANAMAH	1,811	"	50
	DAYR MUDOYA	831	"	50
	AL HUMASIYAH	1,607	"	40
	DAYR MAKHRASH		"	60
	GUMA		"	20
	AL JUBAYRIYAH	812	1543 A3	70
AZ ZUHRAH	AZ ZUHRAH	3,695	1542 B4	60
	AL GHURZAH	792	1543 A3	80
	AL MASH		"	190
	AR RAFII	892	"	80
	AL LEJAM	979	"	90
	AL MUTARID	1,989	"	80
	BUJAYLAH	935	"	110
	DAYR AL HAYYAH	821	"	110
	DAYR ASH SHAYKH	786	"	70
	DAYR DUKHNAH	1,312	"	100

表A－Ⅱ（17／34）　対象村落リスト

Governorate: HUDAYDAH
Subprovince: AZ ZAYDIYAH

District	Town/Village	Pop.	Map No.	Alt. (m)
AZ ZAYDIYAH	AZ ZAYDIYAH	1,126	1543 C1	60
	AL HARASHAH		"	120
	AL MARUFIYAH	730	"	70
	DAYR AL QURAYTI	881	"	90
	BAYT ATA	873	"	70
	DAYR AL WALI	1,123	"	100
	DAYR AYYASH	910	"	60
	DAYR AL WAJIYAH		"	90
	DAYR AL MAHADI	1,168	"	80
	DAYR AL HARAD		1542 D2	40
	AL HASHABIRAH	1,240	"	55
AL QANAWIS	AL QANAWIS	1,384	1543 C1	90
	DAYR AZ ZAYN	843	"	80
	DAWGHAN	925	"	130
	DAUDIYAH	1,007	"	80
	DAYR INWASH	775	"	60
	DAYR KUZABAH	1,206	1543 A3	80
	DAYR ABDALLAH	1,450	"	70
AL MIGHLAF	AL MIGHLAF	824	1543 C1	130
	AL MINWAB	782	"	130
	AL HADDADIYAH	782	"	100
	DAYR AL MUQAZILAH	781	"	90

表A－Ⅱ（18／34）　対象村落リスト

Governorate: HUDAYDAH
Subprovince: AZ ZAYDIYAH

District	Town/Village	Pop.	Map No.	Alt. (m)
AD DAHI	AD DAHI	893	1543 C3	75
	AL MUHAYSIM	744	"	100
	MAHALL AS SAYYID SULAYMAN	811	"	150
	AS SARH	914	"	170
	AL KADAN	2,880	1543 C4	170
AL MUNIRAH	AL MUNIRAH	3,872	1542 D2	40
	AL MUGHAYDIFIYAH	1,074	"	40
	KHAWFAN	749	"	40
IBN ABBAS	IBN ABBAS	756	1542 D2	5
	AL JAALIYAH	816	"	15
	AL HARUNIYAH	1,116	"	10
AS SALIF	AS SALIF	1,668	1542 D1	5
KAMARAN	KAMARAN	1,219	1542 D1	5

表A－Ⅱ（19／34）　対象村落リスト

Governorate: HUDAYDAH
Subprovince: BAJIL

District	Town/Village	Pop.	Map No.	Alt. (m)
BAJIL	DAYR AL KHADAMAH		1543 C3	150
	DAYR AL MUHADIBAH	1,217	"	100
	KIDF	943	"	140
	HISS AS SARMAYN	712	1543 C4	220
	AD DIMAN	822	"	190
	IZZAN		"	270

表A－Ⅱ (20／34)　対象村落リスト

Governorate: HUDAYDAH
Subprovince: BAYT AL FAQIH

District	Town/Village	Pop.	Map No.	Alt. (m)
BAYT AL FAQIH	AL JANBAIYAH	793	1443 A4	230
	AL ABBASI	1,069	"	60
	MAJAHISHA	3,191	"	150
	AS SAID	790	"	210
	KIDF KHUDAYR	744	"	140
	AD DABARATAYN AL MAHASIM		"	120
	AL MUSAYWINIYAH		1443 C2	190
	AL MAFSAL		"	310
	AL HUSAYNIYAH ASH SHUMAH	777	"	120
	AL MANDAB	738	"	250
	AS SAWLAH	1,012	"	100
	YABIS	733	"	260
	AL JARUBAH AD DAR	1,276	"	230
	NAFHAN		"	260
AD DURAYHIMI	AD DURAYHIMI	1,735	1443 A3	20
	AL LAWIYAH		"	50
	DAYR KHAMSIN		"	10
AL MANSURIYAH	AL MANSURIYAH	6,227	1443 A4	120
	AL KAYBANIYAH	1,188	"	100
	AL LIJAM	1,203	"	170
	AL MAHWA	1,146	"	170
	AL HAJB	768	"	180

表A－Ⅱ (21／34)　対象村落リスト

Governorate: HUDAYDAH
Subprovince: BAYT AL FAQIH

District	Town/Village	Pop.	Map No.	Alt. (m)
AS SUKHNAH	AS SUKHNAH	775	1443 A2	240
	DAYR AL MUZABBAL	1,115	"	190
	SHUJAYNAH	1,911	"	140
	DAYR AL QAMMAD	1,345	"	160
	AL MAHALL AT TAYN		"	170
	AL MIDMAN	1,099	1443 A4	160
	DAYR DAWID	1,069	"	150
	DAYR AL HUDAYSH		"	160

表A－Ⅱ（22／34）　対象村落リスト

Governorate: HUDAYDAH
Subprovince: ZABID

District	Town/Village	Pop.	Map No.	Alt. (m)
ZABID	AD DUMAYNAH	856	1443 C2	280
	AL MADAN	1,114	"	220
	AL HAWTAH	863	"	130
	BASAT	1,154	"	150
	ASH SHURUKH	817	"	260
	AT TUHAYTAH	5,273	1443 C3	60
	SHIB AD DALI	719	1443 C4	210
	MAHWA AL KHULAYF	845	"	100
	MURSHIDIYAH	781	"	220
	MAHALL ASH SHAYKH	1,016	"	190
	AL MAWQAR	1,482	"	220
	AT TURAYBAH	1,359	"	140
	AZ ZARIBAH	1,979	"	160
	ASH SHURAYJ		"	110
HAYS	DAR AL QUHAYM		1343 A2	180
	AL FASHSH AN NAKHLAH		1343 B1	290
AL KHAWKHAH	AL KHAWKHAH	6,891	1343 A1	5
	QATABAH	1,121	"	5
	ABU ZAHR	725	"	10

表A－Ⅱ（23／34）　対象村落リスト

Governorate: HAJJAH
Subprovince: HAJJAH

District	Town/Village	Pop.	Map No.	Alt. (m)
MASWAR	BAYT ADHAQAH		1543 B3	2,560
NAJRAH	QUDAM	723	1543 B3	1,600
ASH SHAGHADIRAH	AL AMASHAH	727	1543 B3	1,360

表A－Ⅱ（24／34）　対象村落リスト

Governorate: HAJJAH
Subprovince: MIDI

District	Town/Village	Pop.	Map No.	Alt. (m)
MIDI	MIDI	2,169	1642 D2	5
HARAD	HARAD	930	1643 C1	100
	ASH SHARIFIYAH	4,930	"	100
	SULAYMAN	851	"	100
ABS	ABS	2,784	1643 C3	180
	SHAFAR	878	1543 A1	180

表A－Ⅱ（25／34）　対象村落リスト

Governorate: HAJIAH
Subprovince: ASH SHARAFAYN

District	Town/Village	Pop.	Map No.	Alt. (m)
AL MAHABISHAH	AL MAHABISHAH		1543 A2	1,560
	BANI ASAD	799	"	1,600
	AL JUBAYL		"	2,040
QUFL SHAMR	KA AYDINAH	1,095	1543 A2	880

表A－Ⅱ（26／34）　対象村落リスト

Governorate: HAJIAH
Subprovince: SHAHARAH

District	Town/Village	Pop.	Map No.	Alt. (m)
SHAHARAH	SHAHARAH	2,455	1643 D3	2,480
	AL JAWWAH	1,232	"	2,440
AL MADAN	AL MADAN	1,698	1643 D3	2,080

表A－Ⅱ（27／34）　対象村落リスト

Governorate: DHAMAR
Subprovince: DHAMAR

District	Town/Village	Pop.	Map No.	Alt. (m)
DHAMAR	HAMMAT SULAYMAN	1,135	1444 B3	2,500
	AL QAHIR		"	2,500
	HAYD ISBIL		"	2,640
	AMID	1,296	1444 C2	2,540
	ASH SHAQB	799	"	2,540
	BAYT JUBARI		"	2,420
	HUSAYN UMRAN		"	2,320
	ASH SHAMAHI		"	2,320
	AD DARAH	1,782	1444 D1	2,420
	ABASIR	1,110	"	2,500
	HAKIR	1,005	"	2,420
	MAWIR		"	2,260
	SANABAN SUQ	1,602	"	2,350
	AL JAMIMAH	878	"	2,350
	QARYAT AFIQ	1,884	"	2,400
	KHIRBAT ABU YABIS		1444 C1	1,800
	MARIYAH		1444 A4	2,360
	HANSAR		1444 A3	2,200
	MALIS		"	2,240
	DHAHLAH		1444 C2	2,280
AL HADA	BANI QAWS		1444 A2	2,320
	BUSAN	1,060	"	2,300
	NUNAH	733	"	2,330
	AL AMARIYAH		"	2,280
	AL MALHA		"	2,360
	BANI JAMIL	789	1444 A4	2,560

表A－Ⅱ（28／34）　対象村落リスト

Governorate: DHAMAR
Subprovince: DHAMAR

District	Town/Village	Pop.	Map No.	Alt. (m)
MAGHRIB ANS	HARF AS SADAH		1444 A3	2,680
	DUBAH		1444 C1	2,240
	AN NAHIDI		"	2,040
	BANI MUWALLAD		"	1,920
	AL MILYANAH		"	2,160
	WATHAN		"	1,800
	ZABIR		"	1,560
	AL ASAD		"	1,880
UTMAH	AR RIYAMAH		1444 C1	2,000
WASAB AL ALI	AD DANN		1443 D2	2,480

表A－Ⅱ（29／34）　対象村落リスト

Governorate: DHAMAR
Subprovince: DHAMAR

District	Town/Village	Pop.	Map No.	Alt. (m)
	AFDA			
	MAKHDORAH			
	RAYMA KUSNAH			
	KAWHA			
	ARRAWDAH			
	UTMAH			
	BANEE MUSLEM			
	SHAIGAB			
	J. KHAYOOR			
	KABOOD			
	AS SALAL			
	AL MISBAH			
	BANI ALI			
	AL AHAD			
	AT HALOOTH			
	KORQIF			
	KHADRAN			
	MABA'AR			
	MULSS			
	AL MUHALEIN			
	THAILAH			
	AL HAIMAH			
	HAJJAAH			
	AT TURBAH			
	KABOOD			
	SAMAH			
	HASMAN			
	KHADARS			

表A－Ⅱ（30／34）　対象村落リスト

Governorate: DHAMAR
Subprovince: ANIS

District	Town/Village	Pop.	Map No.	Alt. (m)
DAWRAN	DAWRAN		1444 A3	2,400
	HAMMAM ALI		"	1,640
	HIJRAT ADH DHARI	750	"	2,000
	AL AHSAM	716	1444 A1	2,420
	AITHAYN	2,529	"	2,440
	NUWAYD	799	"	2,360
	AHLAL	1,248	"	2,240
	AL KHARABAH	1,010	"	2,200
	AL HARF	1,142	"	2,180
JABAL ASH SHIRQ	MADINAT AL ABID	649	1443 B4	1,260
MA'BAR	ASAM	1,196	1444 A2	2,330
	AL MADARAH	772	"	2,340
	AS SANAM	1,143	1444 A4	2,360
	SANAH	991	"	2,420
	RISABAH	2,191	"	2,310
	AFK	941	"	2,360

表A－Ⅱ（31／34）　対象村落リスト

Governorate: IBB
Subprovince: IBB

District	Town/Village	Pop.	Map No.	Alt. (m)
IBB	AL MABAR	730	1344 A1	2,600
	AL HAMMAMI	821	"	2,000
	MUAYIN AL GHAYTHI		"	1,960
	MASHWARAH		"	2,280
	JAWBALAH		"	2,000
BA'DAN	AR RABAI	730	1344 A2	2,400
	UZLAT AD DAIS		"	2,480
	QARYAT AS SANAHI	1,484	"	2,320
	AL JAHSHI	744	1344 A1	2,440
JIBLAH	AL KADAHI		1344 A1	2,320
	AL WAQASH	1,218	"	2,240
	AKAMAT AS SAFANI	765	"	2,000
	AD DUHRAH	704	"	2,360
	MABARI	807	"	2,380
	WADI UBAR		"	2,680
	AYQARAH		"	2,120
	AL MANZIL		"	2,160

表A－8 (32／34)　対象村落リスト

Governorate: IBB
Subprovince: DHI SUFAL

District	Town/Village	Pop.	Map No.	Alt. (m)
DHI SUFAL	HABLAH		1344 A1	2,360
	ASKAR		"	2,680
	ERIAB		"	2,400
	AL UQAYRAH		"	2,240
AS SAYYANI	ADAN AL ASHLUH	818	1344 A1	2,080
	DHIL MAHASIN	772	"	2,640
	DHI SHIRAQ	1,279	"	1,800
	DIMNAT NAKHLAN	1,447	"	1,800
	AS SAYYANI	1,163	"	1,880
	DIRAS AS SUFLA	1,678	"	1,900

表A－Ⅱ（33／34）　対象村落リスト

Governorate: IBB
Subprovince: AL UDAYN

District	Town/Village	Pop.	Map No.	Alt. (m)
AL UDAYN	AL UDAYN	1,776	1343 B2	1,320
	AL MARAKIB	803	1344 A1	1,600
	HADABAH AS SUFLA		"	1,540
	AR RIKKAH		"	2,040
MUDHAYKHIRAH	AL HAMADI	1,213	1343 B2	2,160

表A－Ⅱ（34／34）　対象村落リスト

Governorate: IBB
Subprovince: YARIM

District	Town/Village	Pop.	Map No.	Alt. (m)
YARIM	MAWIR	1,068	1444 C2	2,660
	DAKHLAT UWAYDAYN	847	"	2,640
	DHUMRAN		"	2,580
	DHI SARIF	842	1444 C4	2,560
	J. MUTAYR	852	"	2,760
	HADDAT ULAYS	1,008	"	2,620
AS SADDAH	AL MAQALIH	1,301	1444 C4	2,360
	AL MISQAH	884	"	2,380
	BAYT AL ASHWAL	904	"	2,700
	AS SIRAH	1,404	"	2,720
	AL KARABAH	883	"	2,680

付属資料III　取り消し対象村落リスト

表A－Ⅱ（1／6）　取消し村落リスト

Governorate: SANA'A

District	Town/Village	Pop.	Map No.	Alt. (m)
KHAWRAN	AL BAYAD		1544 D3	
	ASAL		"	
	BAYT ASH SHANBALI	809	1444 A2	
AL HAYMAT AL KHALIJAYAH	AL BADIYAH		1543 D4	

表A－Ⅱ（2／6）　取消し村落リスト

Governorate: TAIZZ

District	Town/Village	Pop.	Map No.	Alt. (m)
MAQBANAH	RUKAB		1343 B3	
	SUAYDAH	708	"	

表A－Ⅱ（3／6）　取消し村落リスト

Governorate: HUDAYDAH

District	Town/Village	Pop.	Map No.	Alt. (m)
AL MARAWIAH	AL MARAWIAH	1,264	1443 A1	
HAYS	HAYS		1343 A2	

表A－Ⅱ（4／6）　取消し村落リスト

Governorate: DHAMAR

District	Town/Village	Pop.	Map No.	Alt. (m)
DHAMAR	DHI ATA	839	1444 D1	
	AT TALABI	1,401	"	
	ARAM	1,341	"	
AL HADA	BAYHAN	1,050	1444 B1	
	AL MUGHADIYAH	743	1444 B3	
MA'BAR	AL ULAYB	791	1444 A2	

表A－Ⅱ（5／6）　取消し村落リスト

Governorate: IBB

District	Town/Village	Pop.	Map No.	Alt. (m)
IBB	AL QARYATAYN	1,014	1344 A2	
	BUYUT AL ADAN	769	1344 A1	
BA'DAN	AL ADHARIB	1,268	1344 A2	
JIBRAH	AS SARAIM	1,355	1344 A1	
AN NADIRAH	AD DAHRA	1,020	1444 C4	
	AN NADIRAH		"	
ASH SHIR	AR RADAI	1,030	1444 C4	
AS SAYYANI	MAHTAB	1,070	1344 A1	
AS SABRAH	NAJD AL JUMAI		1344 A2	
YARIM	KHAW	2,330	1444 C2	
	SANAFAN	1,602	"	
	MARIS	1,046	"	
	BAYT HALBUB	992	1444 C4	

表A－Ⅲ（6／6）　取消し村落リスト

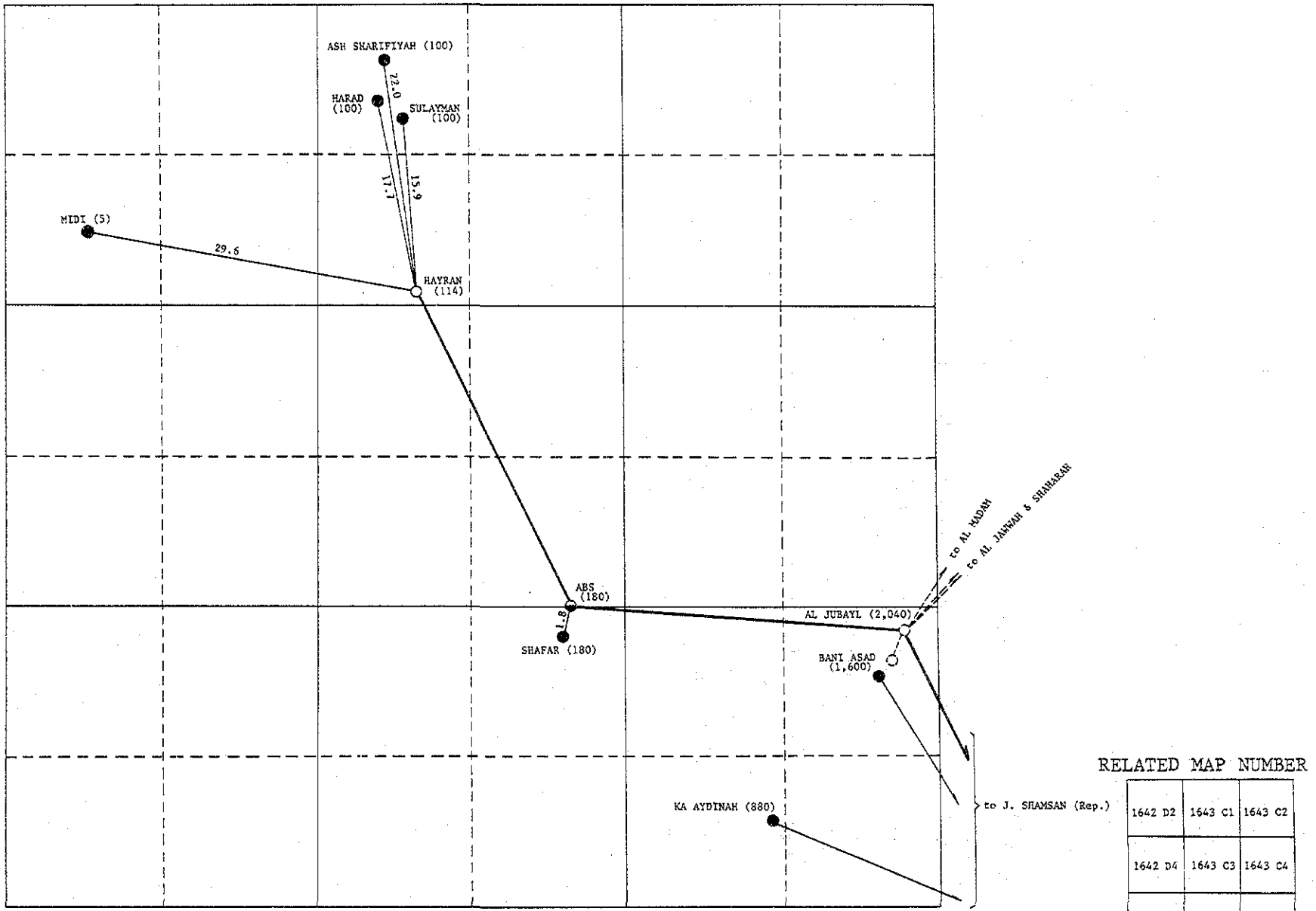
Governorate: IBB

District	Town/Village	Pop.	Map No.	Alt. (m)
	AL MAGMA'AH			
	RAZAH			
	DALMAH			
	ADDANWAH			
	AKAD			
	AL MASHEBAH			
	NAKIL ALOKAB			

付属資料Ⅳ　加入者収容計画図

(LEGEND)

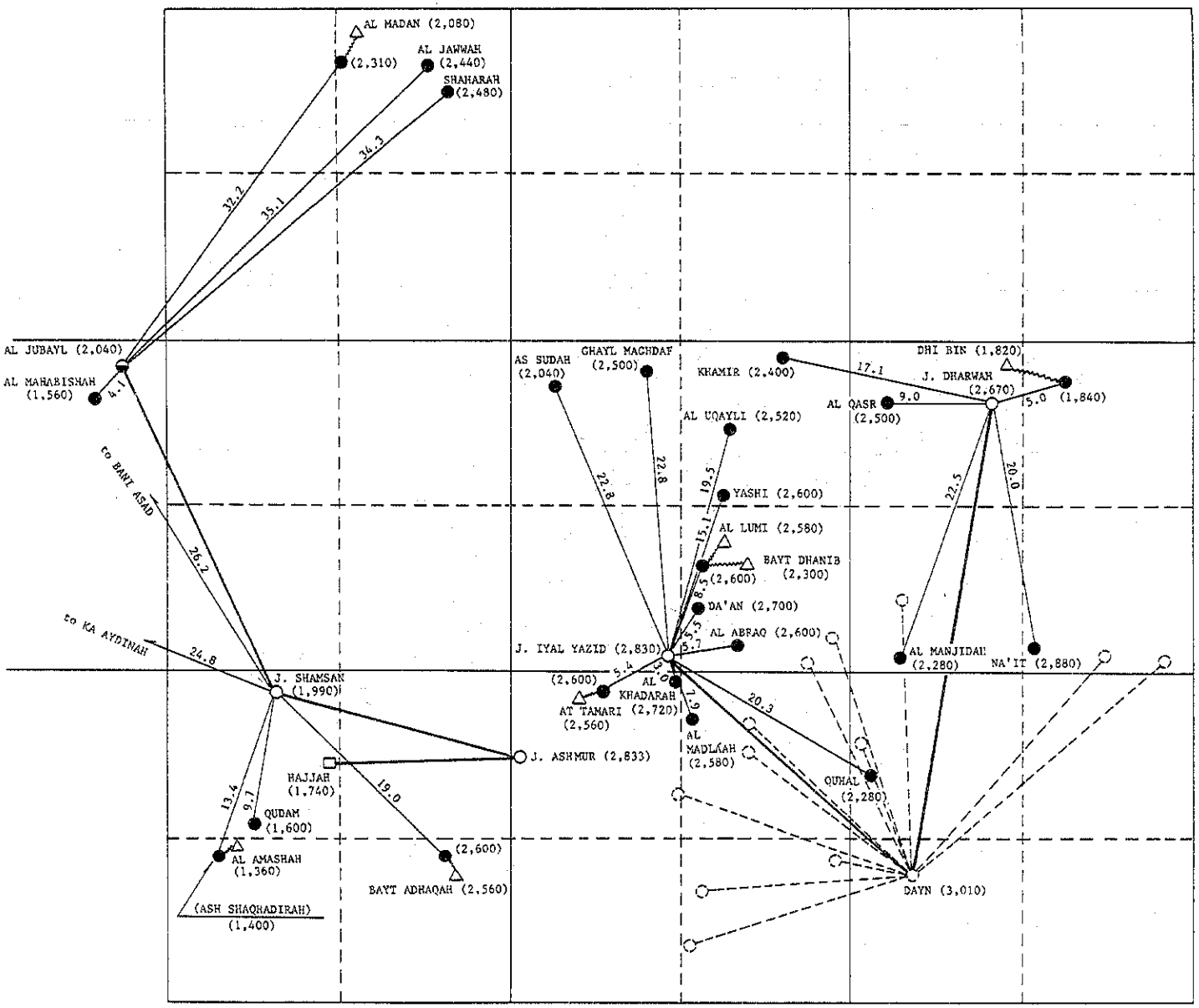
□	:	Base Station
○	:	Repeater Station without Subscriber Station
◒	:	Repeater Station Combined with Subscriber Station and Subscriber's Telephone Instrument with Dropwire
●	:	Subscriber Station and Subscriber's Telephone Instrument with Dropwire
∿∿∿△	:	Subscriber's Telephone Instrument and Cable
10.1 ———	:	Distance of Radio Path; 10.1 Km
(1,040)	:	Altitude of Station; 1,040 m



RELATED MAP NUMBER

1642 D2	1643 C1	1643 C2
1642 D4	1643 C3	1643 C4
1542 B2	1543 A1	1543 A2

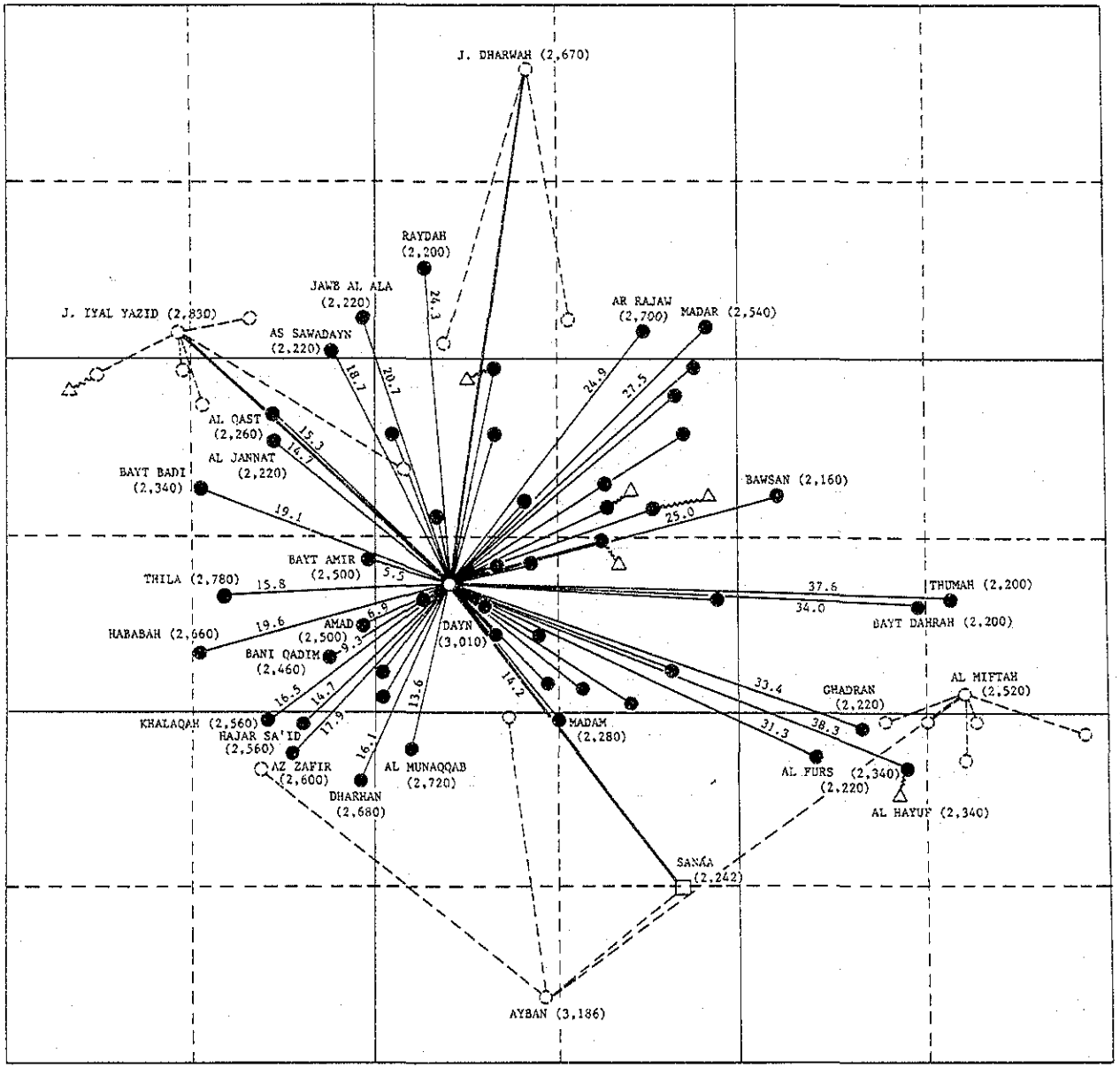
図A－Ⅳ（1／15）　加入者収容計画図



図A－Ⅳ（2／15）　加入者収容計画図

RELATED MAP NUMBER

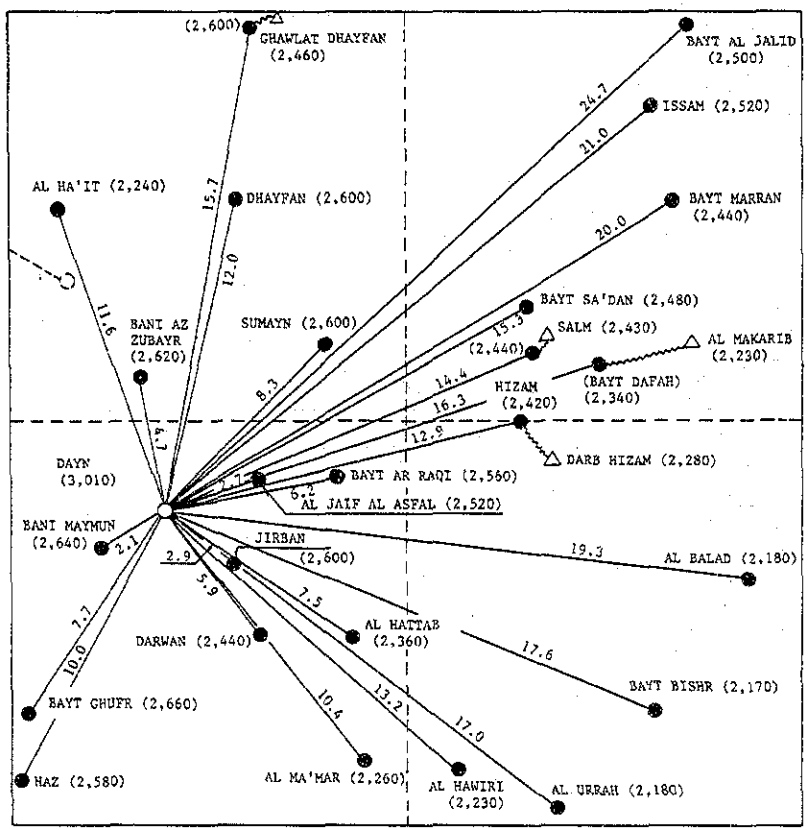
	1643 D3	1643 D4	1644 C3
1543 A2	1543 B1	1543 B2	1544 A1
	1543 B3	1543 B4	1544 A3



図A－Ⅳ（3／15）　加入者収容計画図

RELATED MAP NUMBER

1543 B2	1544 A1	1544 A2
1543 B4	1544 A3	1544 A4
1543 D2	1544 C1	1544 C2

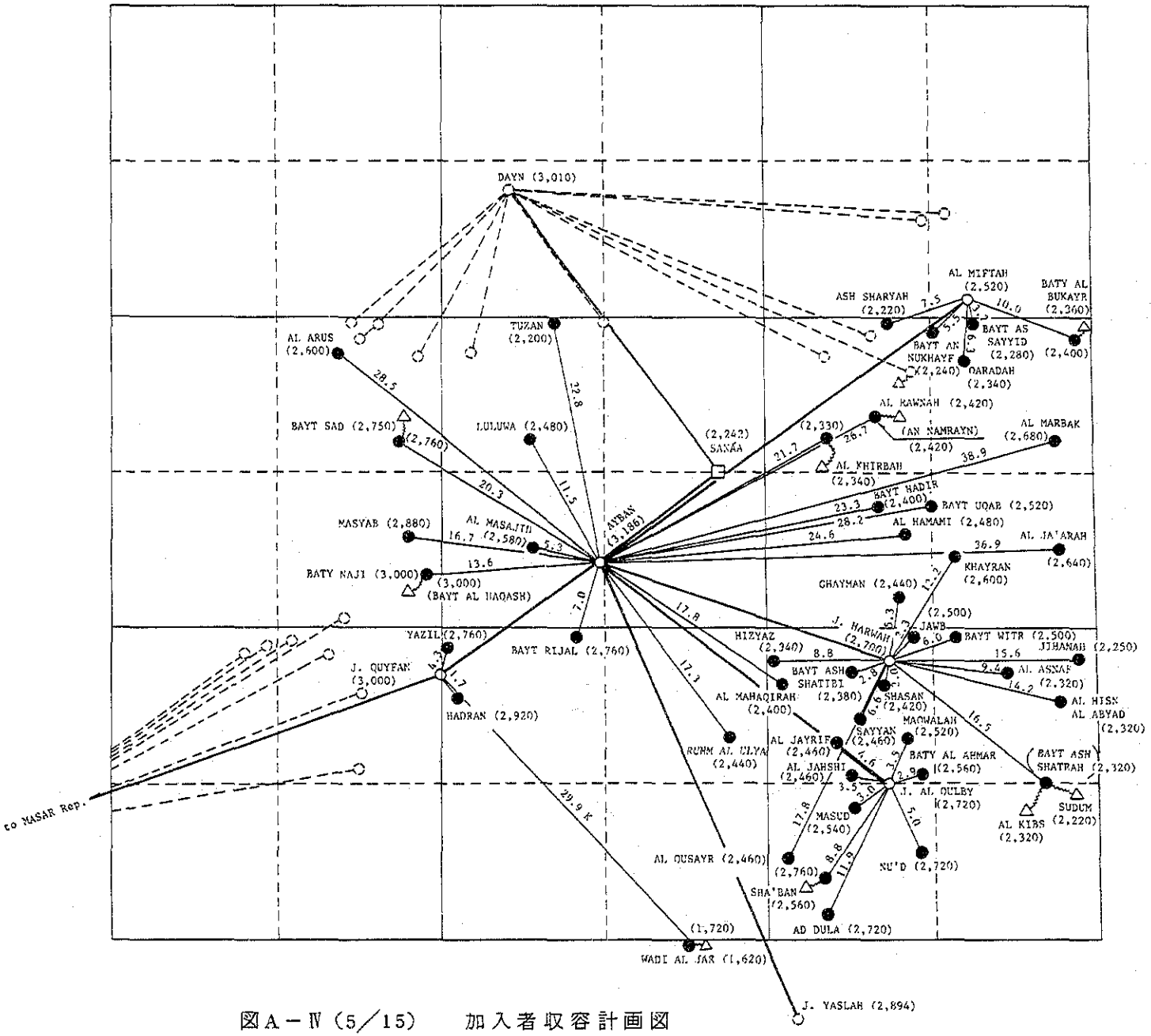


* This Map is enlargement for 1544 A3.

RELATED MAP NUMBER

	1544 A3	

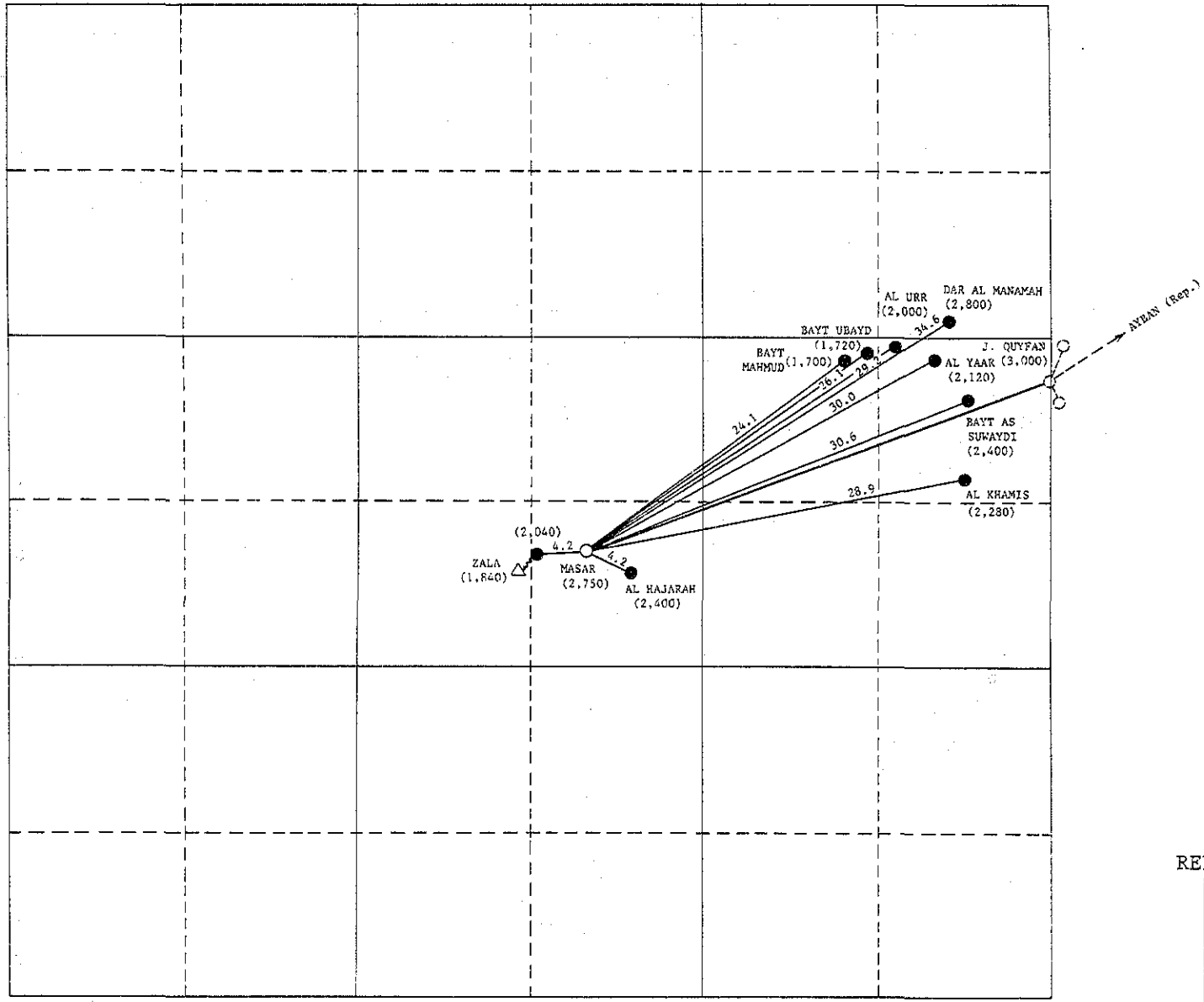
図A－Ⅳ（4／15）　加入者収容計画図



図A－Ⅳ（5／15）　加入者収容計画図

RELATED MAP NUMBER

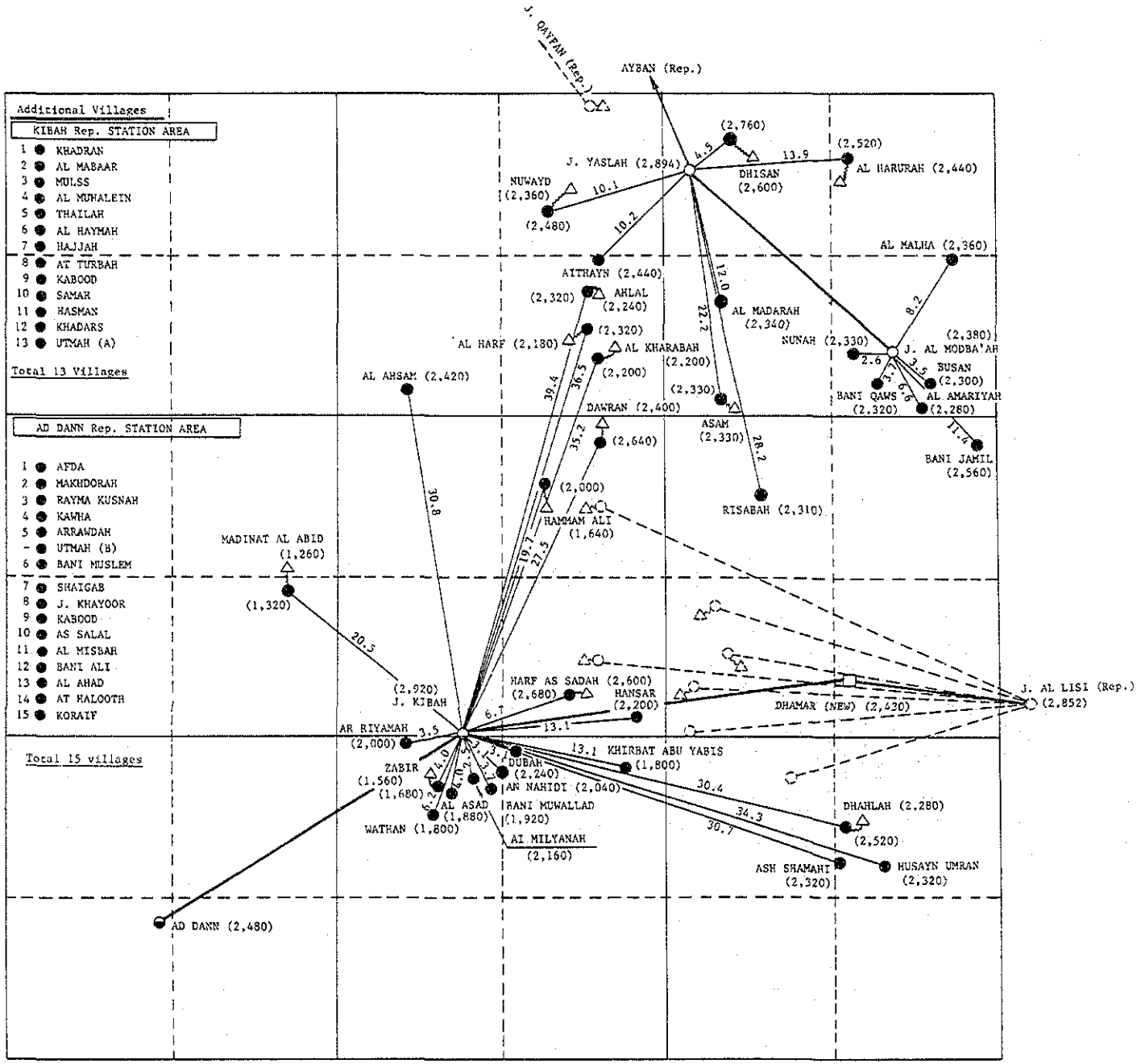
1543 B4	1544 A3	1544 A4
1543 D2	1544 C1	1544 C2
1543 D4	1544 C3	1544 C4



図A－Ⅳ（6／15）　加入者収容計画図

RELATED MAP NUMBER

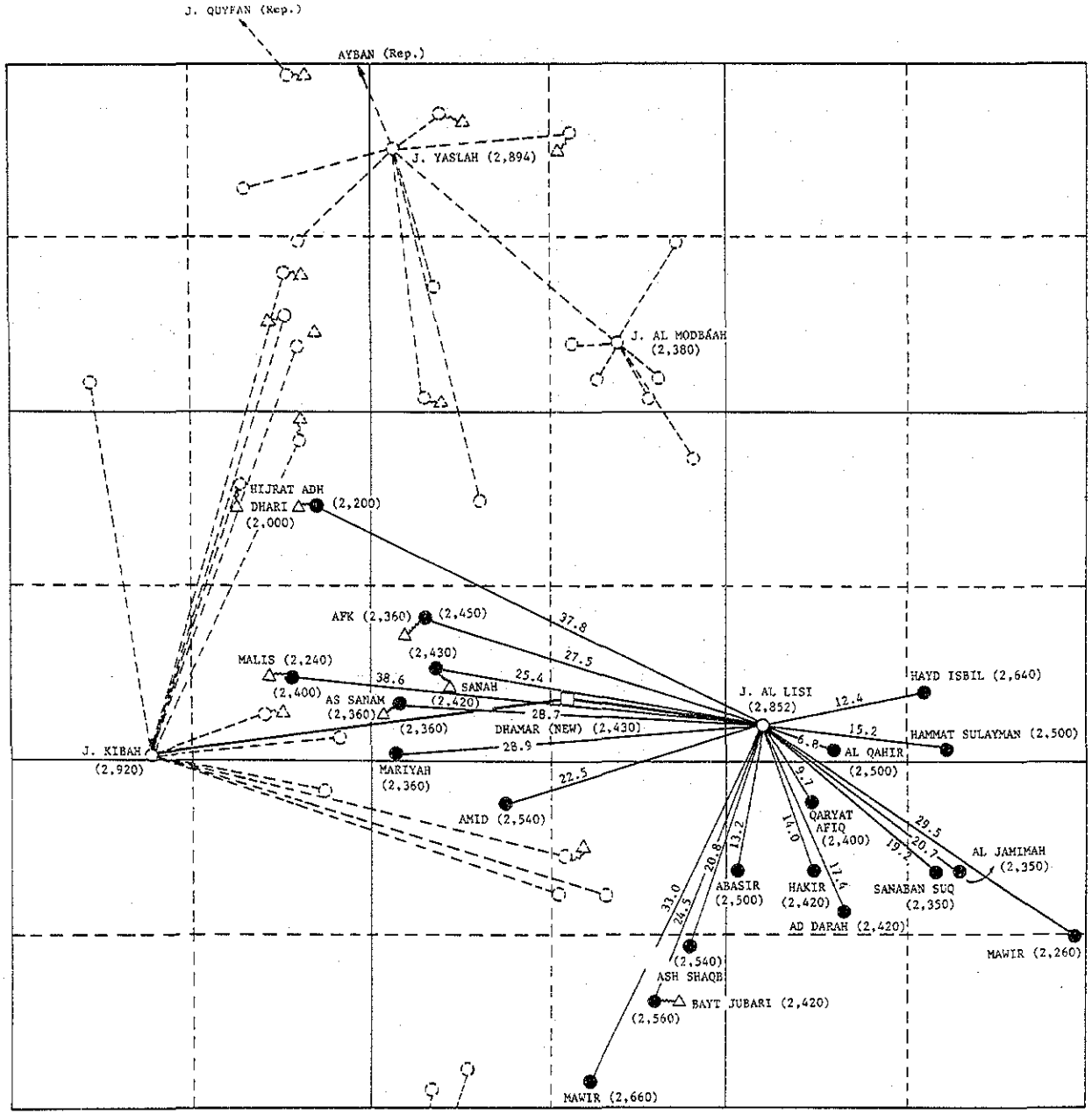
1543 C2	1543 D1	1543 D2
1543 C4	1543 D3	1543 D4
1443 A2	1443 B1	1443 B2



図A－Ⅳ（7／15）　加入者収容計画図

RELATED MAP NUMBER

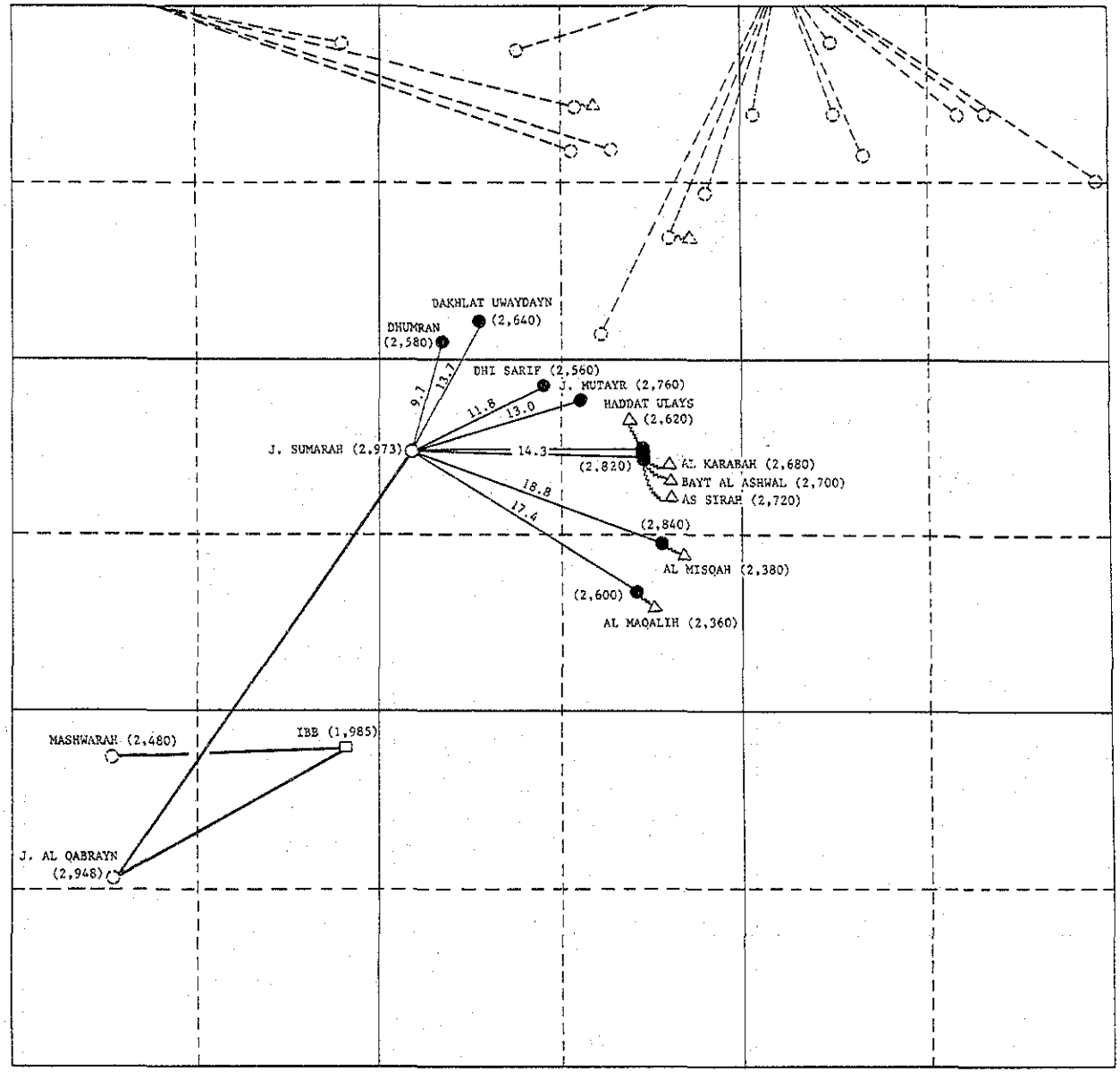
1443 B2	1444 A1	1444 A2
1443 B4	1444 A3	1444 A4
1443 D2	1444 C1	1444 C2



図A－Ⅳ（8／15）　加入者収容計画図

RELATED MAP NUMBER

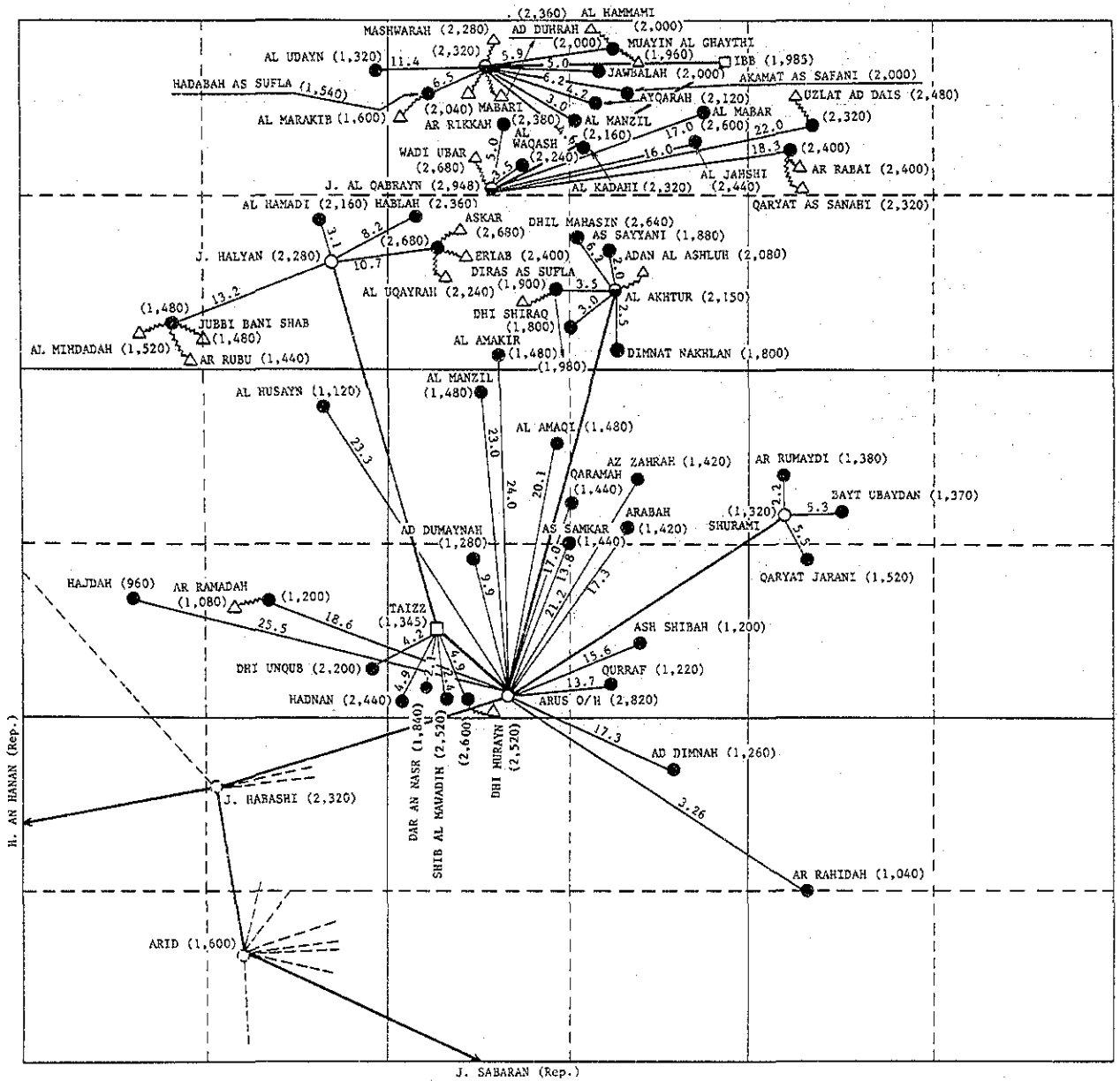
1444 A1	1444 A2	1444 B1
1444 A3	1444 A4	1444 B3
1444 C1	1444 C2	1444 D1



図A－Ⅳ（9／15）　加入者収容計画図

RELATED MAP NUMBER

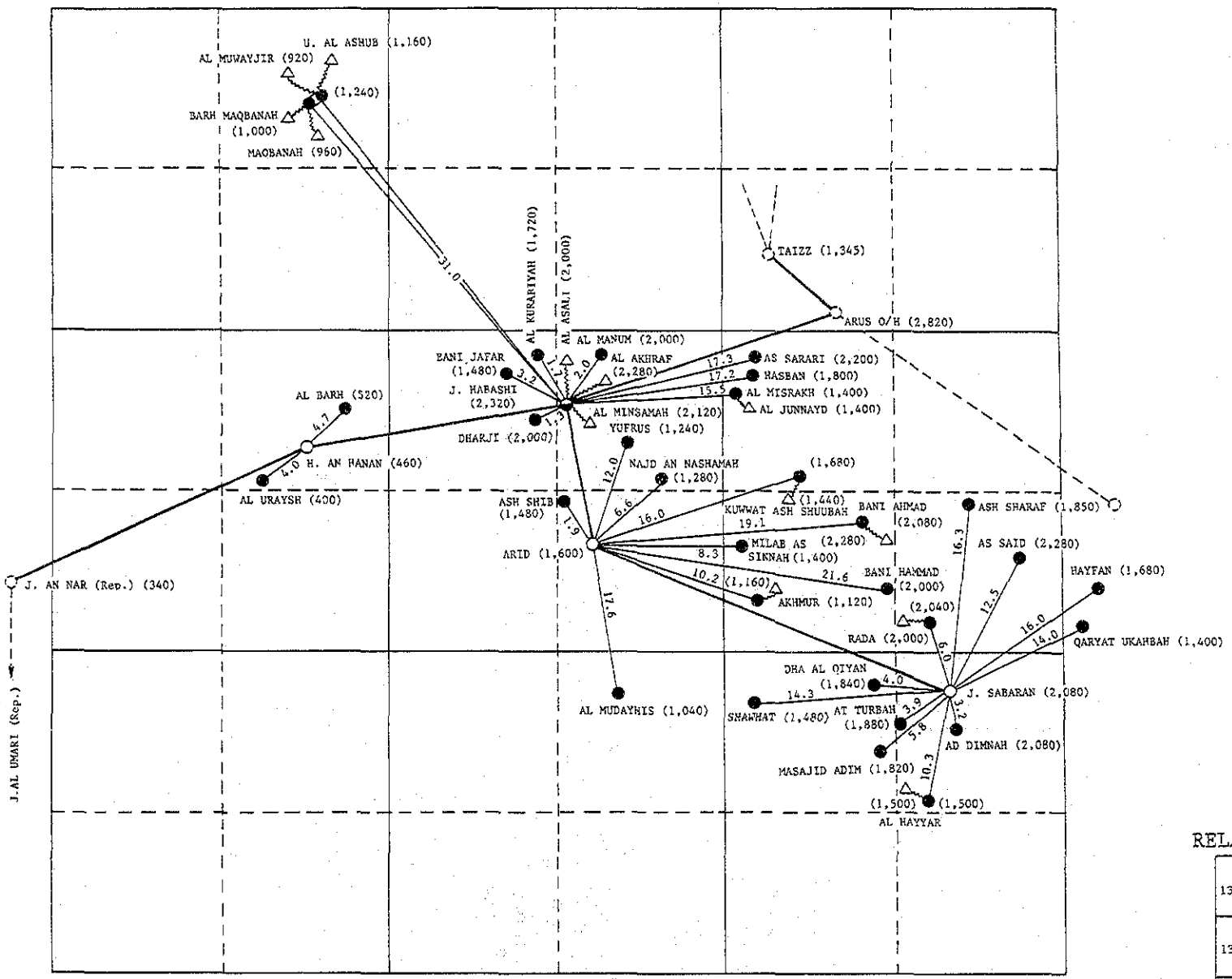
1444 C1	1444 C2	1444 D1
1444 C3	1444 C4	1444 D3
1344 A1	1344 A2	1344 B1



図A－Ⅳ（10／15）　加入者収容計画図

RELATED MAP NUMBER

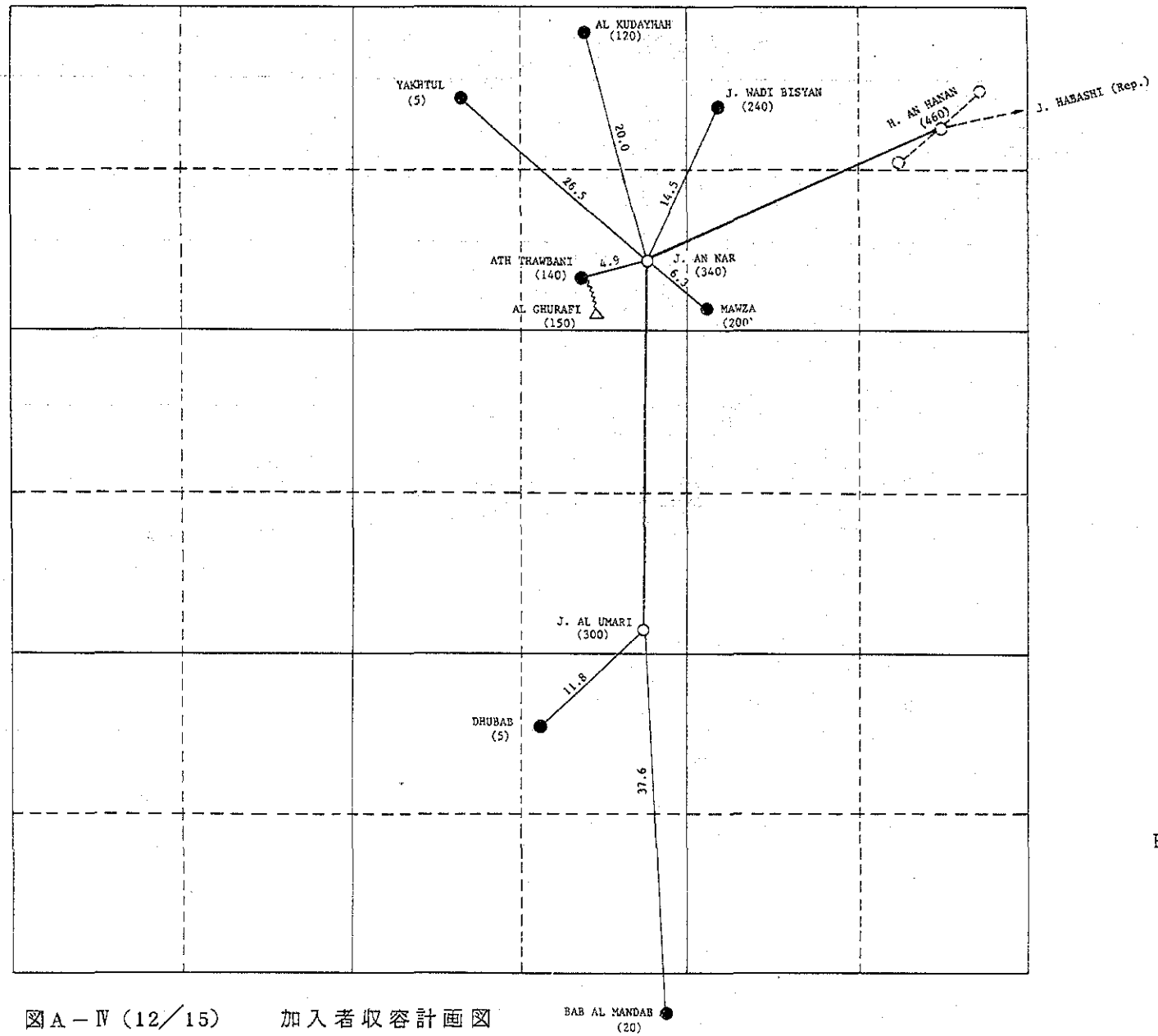
1343 B2	1344 A1	1344 A2
1343 B4	1344 A3	1344 A4
1343 D2	1344 C1	1344 C2



図A－Ⅳ（11／15）　加入者収容計画図

RELATED MAP NUMBER

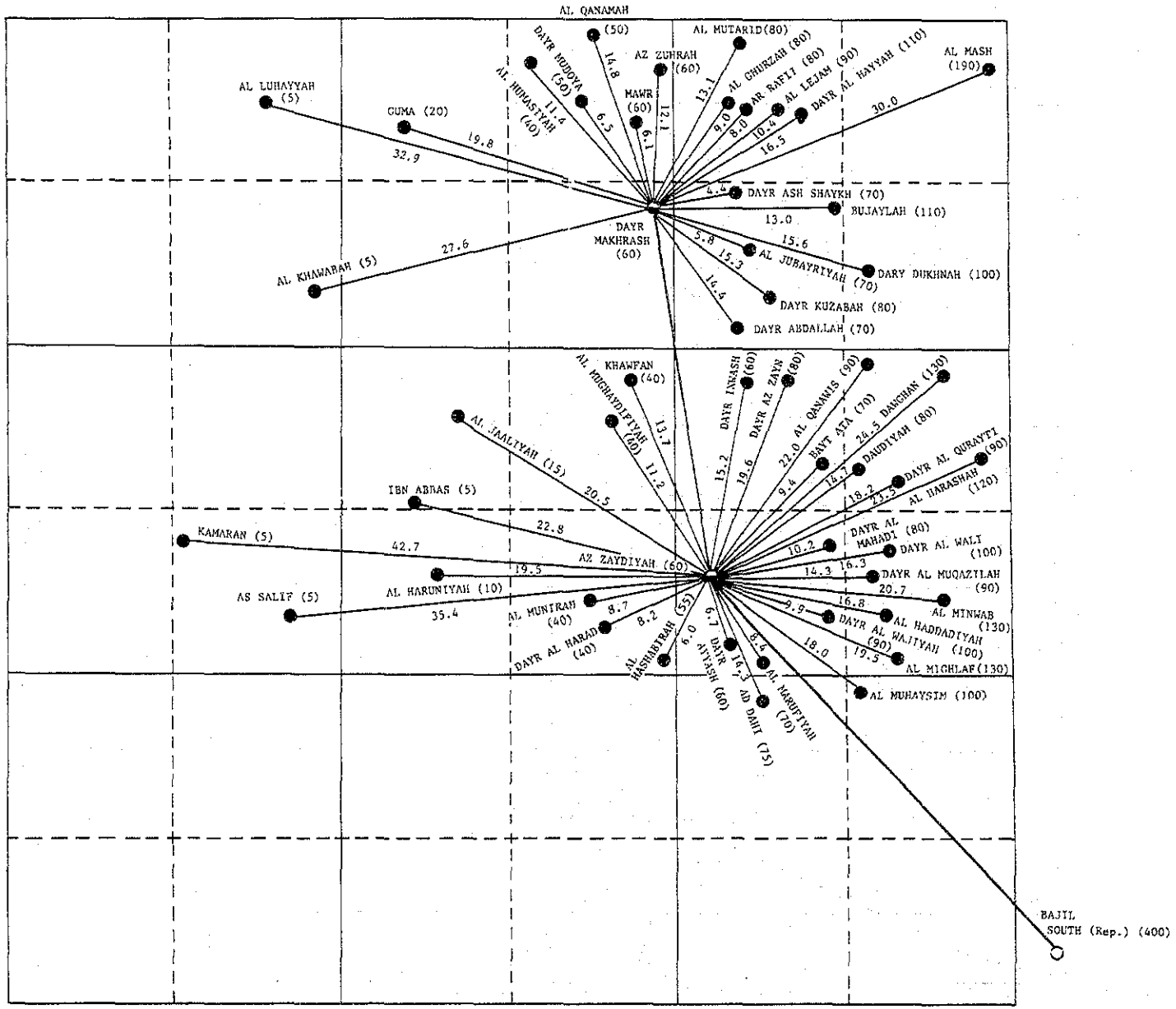
1343 B3	1343 B4	1344 A3
1343 D1	1343 D2	1344 C1
1343 D3	1343 D4	1344 C3



図A－Ⅳ（12／15）　加入者収容計画図

RELATED MAP NUMBER

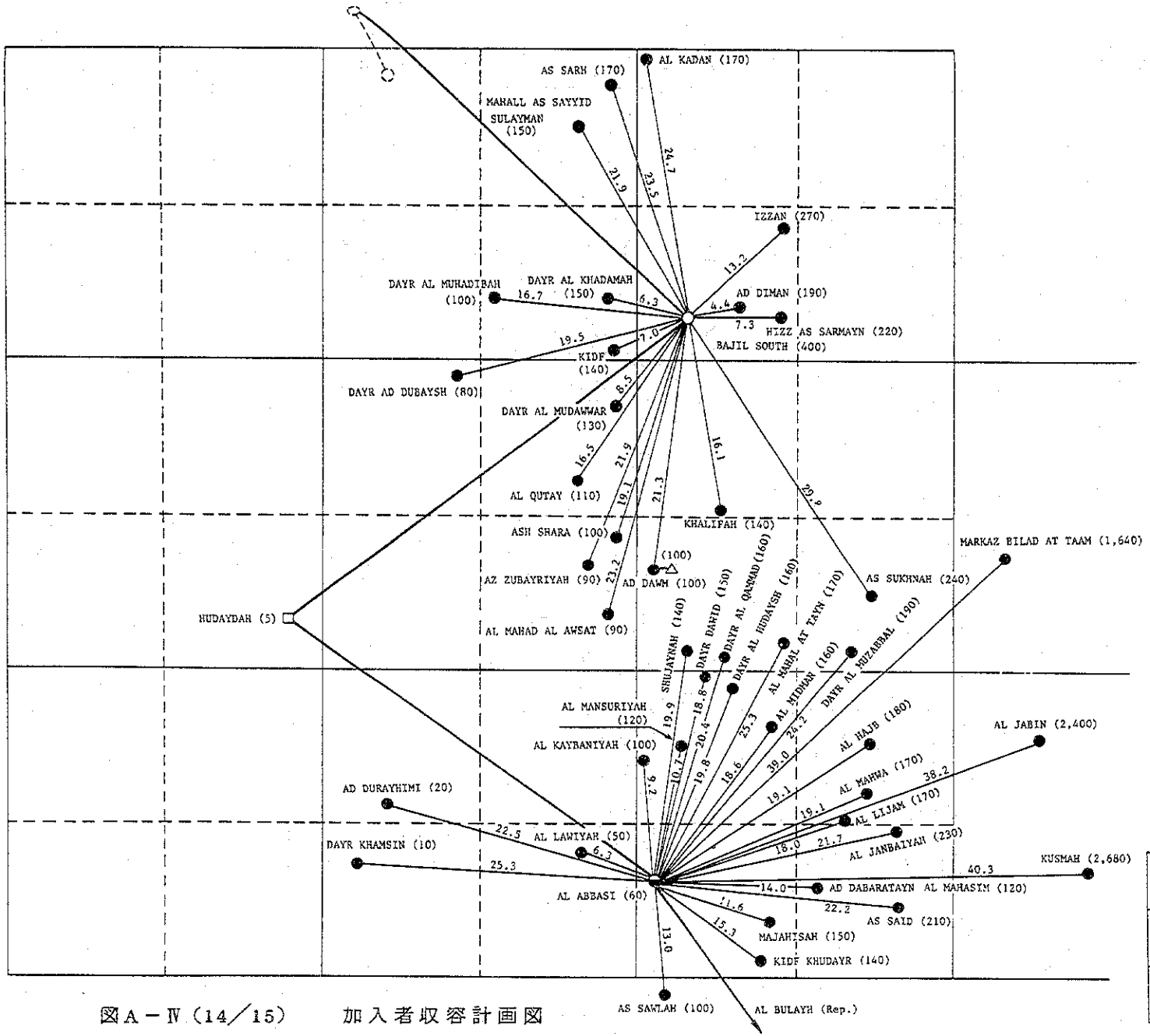
1343 C1	1343 C2	1343 D1
1343 C3	1343 C4	1343 D3
1243 A1	1243 A2	1243 B1
	1243 A4	



図A－Ⅳ（13／15）　加入者収容計画図

RELATED MAP NUMBER

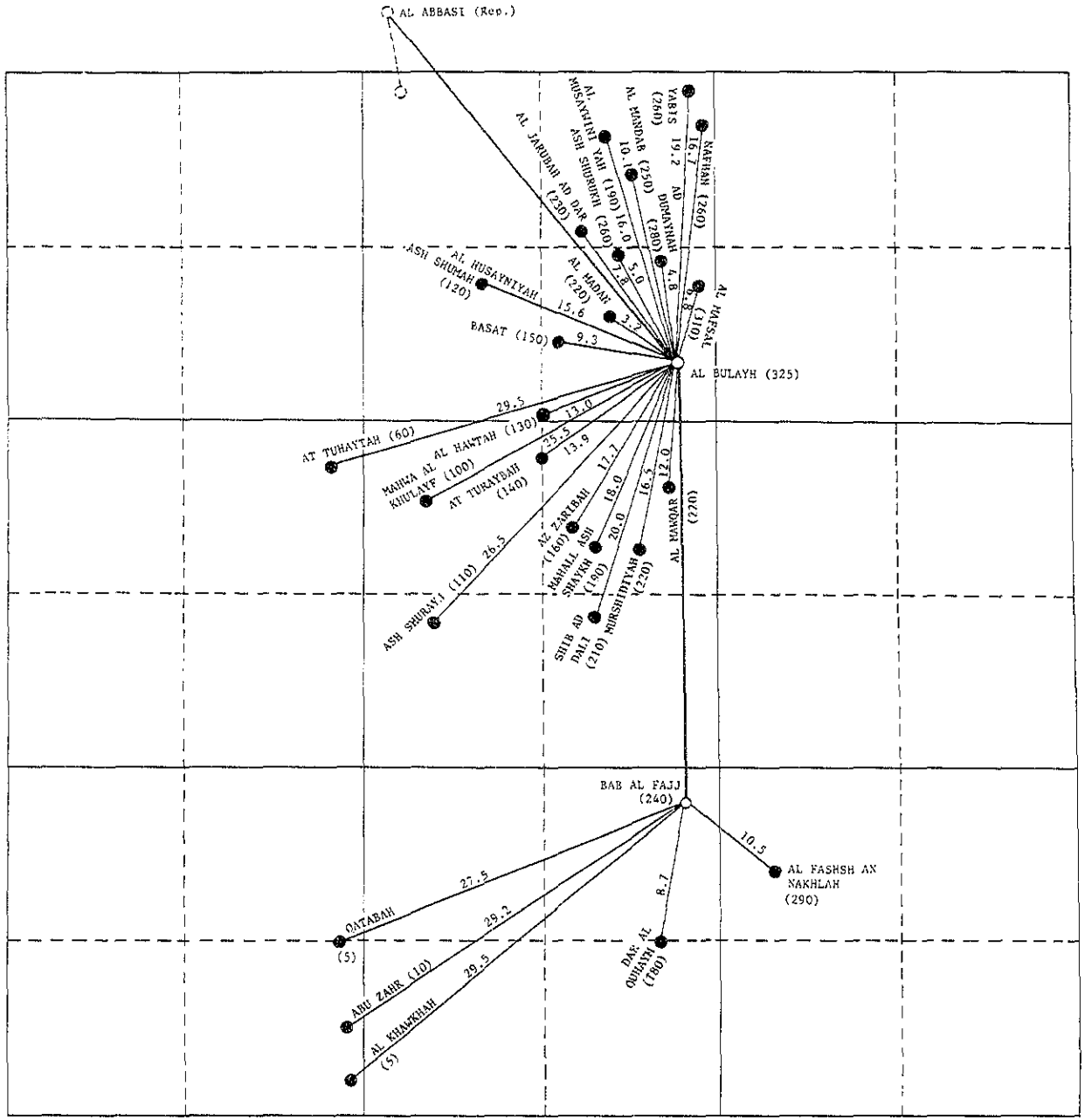
1542 B3	1542 B4	1543 A3
1542 D1	1542 D2	1543 C1
1542 D3	1542 D4	1543 C3



図A－Ⅳ（14／15）　加入者収容計画図

RELATED MAP NUMBER

1542 D4	1543 C3	1543 C4	
1442 B2	1443 A1	1443 A2	1443 B1
1442 B4	1443 A3	1443 A4	1443 B3



図A－Ⅳ（15／15）　加入者収容計画図

RELATED MAP NUMBER

1443 C1	1443 C2	1443 D1
1443 C3	1443 C4	1443 D3
1343 A1	1343 A2	1343 B1

付属資料Ⅴ　サイトの緯度・経度および標高

表A－V（1／2）　サイトの緯度・経度および標高

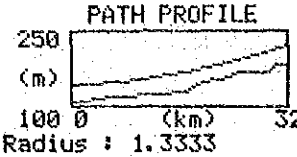
Base/Repeater Station	Coordinates		Ground Elevation (m)
	Longitude	Latitude	
HAYRAN	43°05'08"	16°16'01"	114
ABS	43°11'55"	15°59'54"	180
AL JUBAYL	43°27'43"	15°58'29"	2,040
J. SHAMSAN	43°34'15"	15°43'54"	1,990
J. ASHMUR	43°45'14"	15°41'46"	2,833
HAJJAH (BS)	43°36'18"	15°41'30"	1,740
J. IYAL YAZID	43°51'32"	15°45'57"	2,830
J. DHARWAH	44°06'42"	15°57'38"	2,670
DAYN	44°02'46"	15°35'49"	3,010
SANA'A (BS)	44°12'34"	15°22'07"	2,242
AYBAN	44°07'23"	15°17'45"	3,186
AL MIFTAH	44°24'32"	15°31'33"	2,520
J. HARWAH	44°20'09"	15°13'37"	2,700
J. AL QULBY	44°20'23"	15°07'12"	2,720
J. QUYFAN	43°59'58"	15°11'47"	3,000
MASAR	43°40'39"	15°04'40"	2,750
J. YASLAH	44°16'41"	14°56'54"	2,894
J. AL MODBA'AH	44°25'48"	14°48'43"	2,380
J. AL LISI	44°32'03"	14°32'38"	2,852
DHAMAR (BS)	44°23'16"	14°33'40"	2,430
J. KIBAH	44°06'19"	14°30'09"	2,920
AD DANN	43°51'11"	14°21'04"	2,480
J. SUMARAH	44°16'30"	14°11'01"	2,793
J. AL QABRAYN	44°06'09"	13°53'27"	2,948
IBB (BS)	44°11'08"	13°58'37"	1,985
MASHWARAH	44°06'06"	13°58'29"	2,300
AL AKHTUR	44°10'52"	13°49'48"	2,150
SHURAMI	44°17'40"	13°39'02"	1,320
J. HALYAN	43°58'11"	13°50'09"	2,280
TAIZZ (BS)	44°01'06"	13°34'34"	1,340

表A－V（2／2）　サイトの緯度・経度および標高

Base/Repeater Station	Coordinates		Ground Elevation (m)
	Longitude	Latitude	
ARUS (O/H)	44°02'53"	13°32'20"	2,820
J. HABASHI	43°52'37"	13°27'43"	2,320
ARID	43°55'33"	13°20'47"	1,600
J. SABARAN	44°08'58"	13°14'01"	2,080
H. AN HANAN	43°40'47"	13°24'27"	460
J. AN NAR	43°28'44"	13°19'10"	340
J. AL UMARI	43°28'52"	13°10'22"	300
DAYR MAKHRASH	42°59'16"	15°36'52"	60
AZ ZAYDIYAH	43°00'35"	15°19'58"	60
BAJIL SOUTH	43°17'30"	15°01'34"	400
HUDAYDAH (BS)	42°57'02"	14°48'04"	6
AL ABBASI	43°15'37"	14°35'50"	60
AL BULAYH	43°27'40"	14°19'29"	325
BAB AL FAJJ	43°28'30"	13°57'40"	240

付属資料Ⅵ　パス・プロファイル

PATH PROFILE



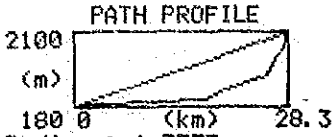
Radius : 1.3333

HAYRAN--ABS

Ground Hght 1:	114.0 m
Ground Hght 2:	180.0 m
Path Distance:	32.1 km
Frequency:	850 MHz
Ant Height 1:	29.0 m
Ant Height 2:	40.0 m
Critc Point:	19.8 km
Ridge Height:	150.0 m
Tree Height:	3.0 m
Fresnel Dip:	51.7 m
Clearance:	23.2 m
Clearance Fact:	0.4
Free Spc Loss:	121.2 dB
Ridge Loss:	0.9 dB
Total Loss:	122.1 dB

File Name:HAJ-1 (READ)
Counter: 0 -- 76

PATH PROFILE



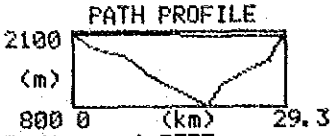
Radius : 1.3333

ABS--AL JUBAYL

Ground Hght 1:	180.0 m
Ground Hght 2:	2040.0 m
Path Distance:	28.3 km
Frequency:	850 MHz
Ant Height 1:	39.0 m
Ant Height 2:	15.0 m
Critc Point:	1.2 km
Ridge Height:	260.0 m
Tree Height:	3.0 m
Fresnel Dip:	20.1 m
Clearance:	31.9 m
Clearance Fact:	1.6
Free Spc Loss:	120.1 dB
Ridge Loss:	0.0 dB
Total Loss:	120.1 dB

File Name:HAJ-2 (READ)
Counter: 77 -- 180

PATH PROFILE



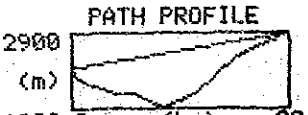
Radius : 1.3333

AL JUBAYL--J.SHAMSAN

Ground Hght 1:	2040.0 m
Ground Hght 2:	1990.0 m
Path Distance:	29.3 km
Frequency:	850 MHz
Ant Height 1:	14.0 m
Ant Height 2:	20.0 m
Critc Point:	0.8 km
Ridge Height:	1980.0 m
Tree Height:	3.0 m
Fresnel Dip:	16.6 m
Clearance:	68.5 m
Clearance Fact:	4.1
Free Spc Loss:	120.4 dB
Ridge Loss:	0.0 dB
Total Loss:	120.4 dB

File Name:HAJ-3 (READ)
Counter: 180 -- 281

PATH PROFILE



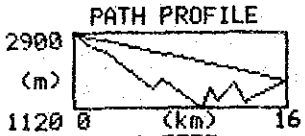
Radius : 1.3333

J.SHAMSAN--ASHMUR

Ground Hght 1:	1990.0 m
Ground Hght 2:	2833.0 m
Path Distance:	20.0 km
Frequency:	850 MHz
Ant Height 1:	19.0 m
Ant Height 2:	19.0 m
Critc Point:	19.6 km
Ridge Height:	2800.0 m
Tree Height:	3.0 m
Fresnel Dip:	11.8 m
Clearance:	31.7 m
Clearance Fact:	2.7
Free Spc Loss:	117.1 dB
Ridge Loss:	0.0 dB
Total Loss:	117.1 dB

File Name:HAJ-4 (READ)
Counter: 281 -- 380

PATH PROFILE



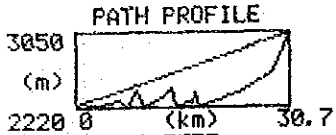
Radius : 1.3333

ASHMUR--HAJJAH

Ground Hght 1:	2833.0 m
Ground Hght 2:	1740.0 m
Path Distance:	16.0 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	20.0 m
Critc Point:	0.4 km
Ridge Height:	2800.0 m
Tree Height:	3.0 m
Fresnel Dip:	11.7 m
Clearance:	22.3 m
Clearance Fact:	1.9
Free Spc Loss:	115.1 dB
Ridge Loss:	0.0 dB
Total Loss:	115.1 dB

File Name:HAJ-5 (READ)
Counter: 380 -- 477

PATH PROFILE



Radius : 1.3333

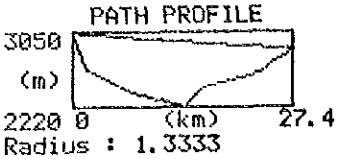
SANA'A--DAYN

Ground Hght 1:	2242.0 m
Ground Hght 2:	3010.0 m
Path Distance:	30.7 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	18.0 m
Critc Point:	9.0 km
Ridge Height:	2425.0 m
Tree Height:	3.0 m
Fresnel Dip:	47.4 m
Clearance:	47.1 m
Clearance Fact:	1.0
Free Spc Loss:	120.8 dB
Ridge Loss:	0.0 dB
Total Loss:	120.8 dB

File Name:SAN-1 (READ)
Counter: 477 -- 576

図A－Ⅵ(1／7)　パス・プロファイル

PATH PROFILE



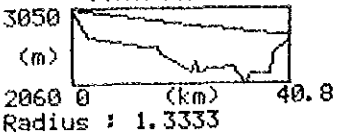
Radius : 1.3333

DAYN--J. IYAL YAZID

Ground Hght 1:	3010.0 m
Ground Hght 2:	2830.0 m
Path Distance:	27.4 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	18.0 m
Critc Point:	26.8 km
Ridge Height:	2800.0 m
Tree Height:	3.0 m
Fresnel Dip:	14.4 m
Clearance:	48.0 m
Clearance Fact:	3.3
Free Spc Loss:	119.8 dB
Ridge Loss:	0.0 dB
Total Loss:	119.8 dB

File Name:SAN-2 (READ)
Counter: 576 -- 669

PATH PROFILE



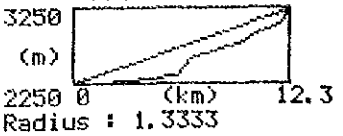
Radius : 1.3333

DAYN--J. DHARWAH

Ground Hght 1:	3010.0 m
Ground Hght 2:	2670.0 m
Path Distance:	40.8 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	14.0 m
Critc Point:	15.0 km
Ridge Height:	2540.0 m
Tree Height:	3.0 m
Fresnel Dip:	58.5 m
Clearance:	329.8 m
Clearance Fact:	5.6
Free Spc Loss:	123.3 dB
Ridge Loss:	0.0 dB
Total Loss:	123.3 dB

File Name:SAN-3 (READ)
Counter: 669 -- 785

PATH PROFILE



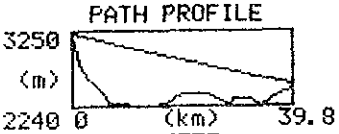
Radius : 1.3333

SANA'A--AYBAN

Ground Hght 1:	2242.0 m
Ground Hght 2:	3186.0 m
Path Distance:	12.3 km
Frequency:	850 MHz
Ant Height 1:	22.0 m
Ant Height 2:	18.0 m
Critc Point:	6.7 km
Ridge Height:	2580.0 m
Tree Height:	3.0 m
Fresnel Dip:	32.8 m
Clearance:	190.8 m
Clearance Fact:	5.8
Free Spc Loss:	112.8 dB
Ridge Loss:	0.0 dB
Total Loss:	112.8 dB

File Name:SAN-4 (READ)
Counter: 785 -- 875

PATH PROFILE



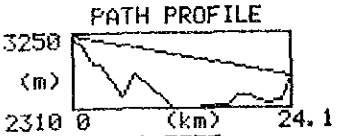
Radius : 1.3333

AYBAN--AL MIFTAH

Ground Hght 1:	3186.0 m
Ground Hght 2:	2520.0 m
Path Distance:	39.8 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	18.0 m
Critc Point:	37.5 km
Ridge Height:	2400.0 m
Tree Height:	3.0 m
Fresnel Dip:	27.7 m
Clearance:	168.5 m
Clearance Fact:	6.1
Free Spc Loss:	123.0 dB
Ridge Loss:	0.0 dB
Total Loss:	123.0 dB

File Name:SAN-5 (READ)
Counter: 875 -- 961

PATH PROFILE



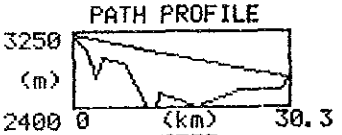
Radius : 1.3333

AYBAN--J. HARWAH

Ground Hght 1:	3186.0 m
Ground Hght 2:	2700.0 m
Path Distance:	24.1 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	10.0 m
Critc Point:	1.2 km
Ridge Height:	3080.0 m
Tree Height:	3.0 m
Fresnel Dip:	20.1 m
Clearance:	96.7 m
Clearance Fact:	4.8
Free Spc Loss:	118.7 dB
Ridge Loss:	0.0 dB
Total Loss:	118.7 dB

File Name:SAN-6 (READ)
Counter: 961 -- 1046

PATH PROFILE



Radius : 1.3333

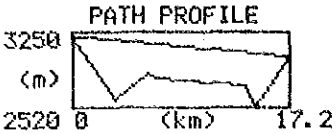
AYBAN--J. AL QULBY

Ground Hght 1:	3186.0 m
Ground Hght 2:	2720.0 m
Path Distance:	30.3 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	10.0 m
Critc Point:	7.2 km
Ridge Height:	2900.0 m
Tree Height:	3.0 m
Fresnel Dip:	44.0 m
Clearance:	180.1 m
Clearance Fact:	4.1
Free Spc Loss:	120.7 dB
Ridge Loss:	0.0 dB
Total Loss:	120.7 dB

File Name:SAN-7 (READ)
Counter: 1046 -- 1132

図A－Ⅵ(2／7)　パス・プロファイル

PATH PROFILE



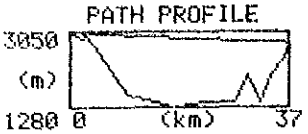
Radius : 1.3333

AYBAN--J. QUYFAN

Ground Hght 1:	3186.0 m
Ground Hght 2:	3000.0 m
Path Distance:	17.2 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	10.0 m
Critc Point:	6.2 km
Ridge Height:	2860.0 m
Tree Height:	3.0 m
Fresnel Dip:	37.4 m
Clearance:	268.3 m
Clearance Fact:	7.2
Free Spc Loss:	115.8 dB
Ridge Loss:	0.0 dB
Total Loss:	115.8 dB

File Name:SAN-8 (READ)
Counter: 1132 -- 1215

PATH PROFILE



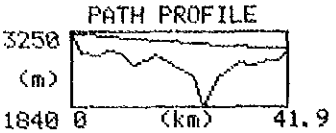
Radius : 1.3333

J. QUYFAN--MASAR

Ground Hght 1:	3000.0 m
Ground Hght 2:	2750.0 m
Path Distance:	37.0 km
Frequency:	850 MHz
Ant Height 1:	15.0 m
Ant Height 2:	20.0 m
Critc Point:	3.0 km
Ridge Height:	2920.0 m
Tree Height:	3.0 m
Fresnel Dip:	31.2 m
Clearance:	66.1 m
Clearance Fact:	2.1
Free Spc Loss:	122.4 dB
Ridge Loss:	0.0 dB
Total Loss:	122.4 dB

File Name:SAN-9 (READ)
Counter: 1215 -- 1297

PATH PROFILE



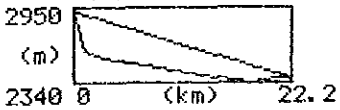
Radius : 1.3333

AYBAN--J. YASLAH

Ground Hght 1:	3186.0 m
Ground Hght 2:	2894.0 m
Path Distance:	41.9 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	8.0 m
Critc Point:	16.7 km
Ridge Height:	2800.0 m
Tree Height:	3.0 m
Fresnel Dip:	59.5 m
Clearance:	257.1 m
Clearance Fact:	4.3
Free Spc Loss:	123.5 dB
Ridge Loss:	0.0 dB
Total Loss:	123.5 dB

File Name:SAN-10 (READ)
Counter: 1297 -- 1377

PATH PROFILE



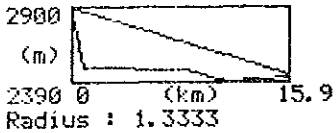
Radius : 1.3333

J. YASLAH--J. AL MODBA'AH

Ground Hght 1:	2894.0 m
Ground Hght 2:	2380.0 m
Path Distance:	22.2 km
Frequency:	850 MHz
Ant Height 1:	22.0 m
Ant Height 2:	10.0 m
Critc Point:	20.8 km
Ridge Height:	2380.0 m
Tree Height:	3.0 m
Fresnel Dip:	21.5 m
Clearance:	38.5 m
Clearance Fact:	1.8
Free Spc Loss:	118.0 dB
Ridge Loss:	0.0 dB
Total Loss:	118.0 dB

File Name:SAN-11 (READ)
Counter: 1377 -- 1455

PATH PROFILE



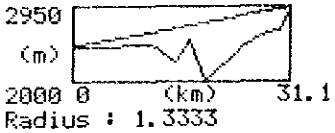
Radius : 1.3333

J. AL LISI--DAMAR

Ground Hght 1:	2852.0 m
Ground Hght 2:	2430.0 m
Path Distance:	15.9 km
Frequency:	850 MHz
Ant Height 1:	36.0 m
Ant Height 2:	18.0 m
Critc Point:	8.5 km
Ridge Height:	2480.0 m
Tree Height:	3.0 m
Fresnel Dip:	37.4 m
Clearance:	166.1 m
Clearance Fact:	4.4
Free Spc Loss:	115.1 dB
Ridge Loss:	0.0 dB
Total Loss:	115.1 dB

File Name:DAM-1 (READ)
Counter: 1455 -- 1557

PATH PROFILE



Radius : 1.3333

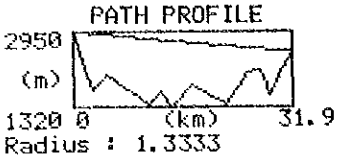
DAMAR--J. KIBAH

Ground Hght 1:	2430.0 m
Ground Hght 2:	2920.0 m
Path Distance:	31.1 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	12.0 m
Critc Point:	3.0 km
Ridge Height:	2440.0 m
Tree Height:	3.0 m
Fresnel Dip:	30.9 m
Clearance:	48.5 m
Clearance Fact:	1.6
Free Spc Loss:	120.9 dB
Ridge Loss:	0.0 dB
Total Loss:	120.9 dB

File Name:DAM-2 (READ)
Counter: 1557 -- 1633

図A－Ⅵ(3／7)　パス・プロファイル

PATH PROFILE



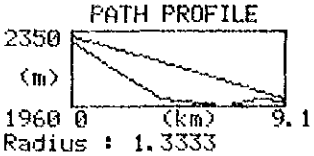
Radius : 1.3333

J.KIBAH--AD DANN

Ground Hght 1:	2920.0 m
Ground Hght 2:	2480.0 m
Path Distance:	31.9 km
Frequency:	850 MHz
Ant Height 1:	15.0 m
Ant Height 2:	12.0 m
Critc Point:	25.3 km
Ridge Height:	2080.0 m
Tree Height:	3.0 m
Fresnel Dip:	43.0 m
Clearance:	490.8 m
Clearance Fact:	11.4
Free Spc Loss:	121.1 dB
Ridge Loss:	0.0 dB
Total Loss:	121.1 dB

File Name:DAM-3 (READ)
Counter: 1633 -- 1709

PATH PROFILE



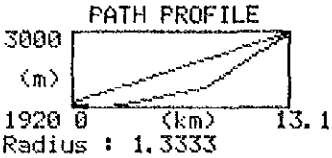
Radius : 1.3333

MASHWARAH--IBB

Ground Hght 1:	2300.0 m
Ground Hght 2:	1985.0 m
Path Distance:	9.1 km
Frequency:	850 MHz
Ant Height 1:	18.0 m
Ant Height 2:	18.0 m
Critc Point:	8.0 km
Ridge Height:	2000.0 m
Tree Height:	3.0 m
Fresnel Dip:	18.5 m
Clearance:	37.6 m
Clearance Fact:	2.0
Free Spc Loss:	110.2 dB
Ridge Loss:	0.0 dB
Total Loss:	110.2 dB

File Name:IBB-1 (READ)
Counter: 1709 -- 1784

PATH PROFILE



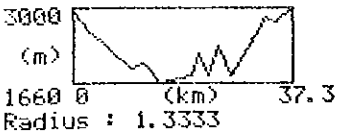
Radius : 1.3333

IBB--J.AL QABRAYN

Ground Hght 1:	1985.0 m
Ground Hght 2:	2948.0 m
Path Distance:	13.1 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	20.0 m
Critc Point:	10.8 km
Ridge Height:	2600.0 m
Tree Height:	3.0 m
Fresnel Dip:	25.9 m
Clearance:	194.5 m
Clearance Fact:	7.5
Free Spc Loss:	113.4 dB
Ridge Loss:	0.0 dB
Total Loss:	113.4 dB

File Name:IBB-2 (READ)
Counter: 1784 -- 1859

PATH PROFILE



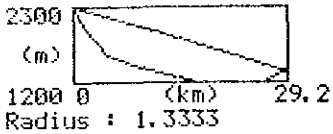
Radius : 1.3333

J.AL QABRAYN--J.SUMARAH

Ground Hght 1:	2948.0 m
Ground Hght 2:	2973.0 m
Path Distance:	37.3 km
Frequency:	850 MHz
Ant Height 1:	30.0 m
Ant Height 2:	15.0 m
Critc Point:	33.0 km
Ridge Height:	2800.0 m
Tree Height:	3.0 m
Fresnel Dip:	36.6 m
Clearance:	175.5 m
Clearance Fact:	4.8
Free Spc Loss:	122.5 dB
Ridge Loss:	0.0 dB
Total Loss:	122.5 dB

File Name:IBB-3 (READ)
Counter: 1859 -- 1932

PATH PROFILE



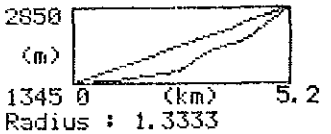
Radius : 1.3333

J.HALYAN--TAIZZ

Ground Hght 1:	2280.0 m
Ground Hght 2:	1345.0 m
Path Distance:	29.2 km
Frequency:	850 MHz
Ant Height 1:	10.0 m
Ant Height 2:	20.0 m
Critc Point:	28.8 km
Ridge Height:	1360.0 m
Tree Height:	3.0 m
Fresnel Dip:	11.8 m
Clearance:	14.0 m
Clearance Fact:	1.2
Free Spc Loss:	120.4 dB
Ridge Loss:	0.0 dB
Total Loss:	120.4 dB

File Name:TAI-1 (READ)
Counter: 1932 -- 2010

PATH PROFILE



Radius : 1.3333

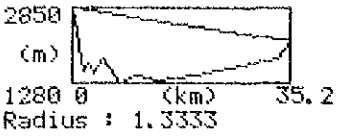
TAIZZ--ARUS OH

Ground Hght 1:	1345.0 m
Ground Hght 2:	2820.0 m
Path Distance:	5.2 km
Frequency:	850 MHz
Ant Height 1:	15.0 m
Ant Height 2:	10.0 m
Critc Point:	3.3 km
Ridge Height:	2000.0 m
Tree Height:	3.0 m
Fresnel Dip:	20.6 m
Clearance:	289.5 m
Clearance Fact:	14.0
Free Spc Loss:	105.4 dB
Ridge Loss:	0.0 dB
Total Loss:	105.4 dB

File Name:TAI-2 (READ)
Counter: 2010 -- 2081

図A－Ⅵ(4／7)　パス・プロファイル

PATH PROFILE



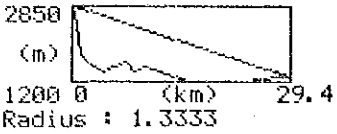
Radius : 1.3333

ARUS OH--AL AKHTUR

Ground Hght 1:	2820.0 m
Ground Hght 2:	2150.0 m
Path Distance:	35.2 km
Frequency:	850 MHz
Ant Height 1:	15.0 m
Ant Height 2:	10.0 m
Critc Point:	25.8 km
Ridge Height:	1600.0 m
Tree Height:	3.0 m
Fresnel Dir:	49.3 m
Clearance:	723.0 m
Clearance Fact:	14.7
Free Spc Loss:	122.0 dB
Ridge Loss:	0.0 dB
Total Loss:	122.0 dB

File Name:TAI-3 (READ)
Counter: 2081 -- 2151

PATH PROFILE



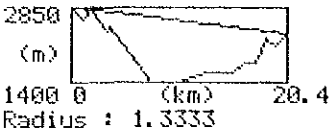
Radius : 1.3333

ARUS OH--SHURAMI

Ground Hght 1:	2820.0 m
Ground Hght 2:	1320.0 m
Path Distance:	29.4 km
Frequency:	850 MHz
Ant Height 1:	15.0 m
Ant Height 2:	10.0 m
Critc Point:	28.0 km
Ridge Height:	1320.0 m
Tree Height:	3.0 m
Fresnel Dir:	21.7 m
Clearance:	76.4 m
Clearance Fact:	3.5
Free Spc Loss:	120.4 dB
Ridge Loss:	0.0 dB
Total Loss:	120.4 dB

File Name:TAI-4 (READ)
Counter: 2151 -- 2219

PATH PROFILE



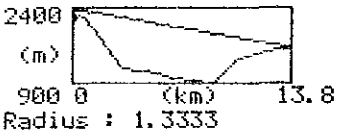
Radius : 1.3333

ARUS OH--J.HABASHI

Ground Hght 1:	2820.0 m
Ground Hght 2:	2320.0 m
Path Distance:	20.4 km
Frequency:	850 MHz
Ant Height 1:	15.0 m
Ant Height 2:	15.0 m
Critc Point:	1.8 km
Ridge Height:	2760.0 m
Tree Height:	3.0 m
Fresnel Dir:	24.1 m
Clearance:	25.9 m
Clearance Fact:	1.1
Free Spc Loss:	117.2 dB
Ridge Loss:	0.0 dB
Total Loss:	117.2 dB

File Name:TAI-5 (READ)
Counter: 2219 -- 2271

PATH PROFILE



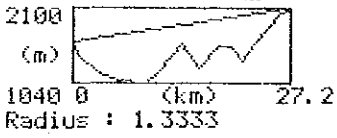
Radius : 1.3333

J.HABASHI--ARID

Ground Hght 1:	2320.0 m
Ground Hght 2:	1600.0 m
Path Distance:	13.8 km
Frequency:	850 MHz
Ant Height 1:	40.0 m
Ant Height 2:	15.0 m
Critc Point:	13.1 km
Ridge Height:	1600.0 m
Tree Height:	3.0 m
Fresnel Dir:	15.3 m
Clearance:	49.3 m
Clearance Fact:	3.2
Free Spc Loss:	113.8 dB
Ridge Loss:	0.0 dB
Total Loss:	113.8 dB

File Name:TAI-6 (READ)
Counter: 2271 -- 2338

PATH PROFILE



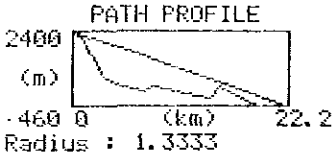
Radius : 1.3333

ARID--J.SABARAN

Ground Hght 1:	1600.0 m
Ground Hght 2:	2080.0 m
Path Distance:	27.2 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	10.0 m
Critc Point:	26.0 km
Ridge Height:	2000.0 m
Tree Height:	3.0 m
Fresnel Dir:	20.1 m
Clearance:	64.4 m
Clearance Fact:	3.2
Free Spc Loss:	119.7 dB
Ridge Loss:	0.0 dB
Total Loss:	119.7 dB

File Name:TAI-7 (READ)
Counter: 2338 -- 2405

PATH PROFILE



Radius : 1.3333

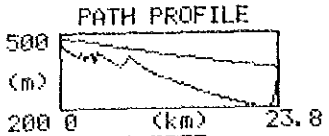
J.HABASHI--H.AN HANAN

Ground Hght 1:	2320.0 m
Ground Hght 2:	460.0 m
Path Distance:	22.2 km
Frequency:	850 MHz
Ant Height 1:	40.0 m
Ant Height 2:	18.0 m
Critc Point:	0.4 km
Ridge Height:	2320.0 m
Tree Height:	3.0 m
Fresnel Dir:	11.8 m
Clearance:	2.6 m
Clearance Fact:	0.2
Free Spc Loss:	118.0 dB
Ridge Loss:	3.4 dB
Total Loss:	121.3 dB

File Name:TAI-8 (READ)
Counter: 2405 -- 2472

図A－Ⅵ(5／7)　パス・プロファイル

PATH PROFILE



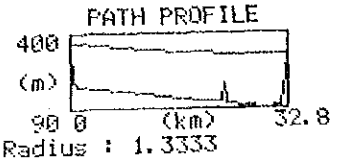
Radius : 1.3333

H.AN HANAN--J.AN NAR

Ground Hght 1:	460.0 m
Ground Hght 2:	340.0 m
Path Distance:	23.8 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	18.0 m
Critc Point:	7.7 km
Ridge Height:	400.0 m
Tree Height:	3.0 m
Fresnel Dir:	42.9 m
Clearance:	30.2 m
Clearance Fact:	0.7
Free Spc Loss:	118.6 dB
Ridge Loss:	0.0 dB
Total Loss:	118.6 dB

File Name:TAI-9 (READ)
Counter: 2472 -- 2548

PATH PROFILE



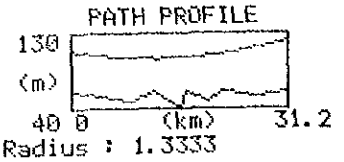
Radius : 1.3333

J.AN NAR--J.AL UMARI

Ground Hght 1:	340.0 m
Ground Hght 2:	300.0 m
Path Distance:	32.8 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	10.0 m
Critc Point:	23.4 km
Ridge Height:	189.0 m
Tree Height:	3.0 m
Fresnel Dir:	48.7 m
Clearance:	119.4 m
Clearance Fact:	2.5
Free Spc Loss:	121.4 dB
Ridge Loss:	0.0 dB
Total Loss:	121.4 dB

File Name:TAI-10 (READ)
Counter: 2548 -- 2612

PATH PROFILE



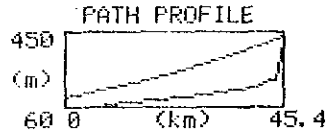
Radius : 1.3333

DAYR MAKHRASH--
AZ ZAYDIYAH

Ground Hght 1:	60.0 m
Ground Hght 2:	60.0 m
Path Distance:	31.2 km
Frequency:	850 MHz
Ant Height 1:	48.0 m
Ant Height 2:	60.0 m
Critc Point:	12.0 km
Ridge Height:	60.0 m
Tree Height:	3.0 m
Fresnel Dir:	51.1 m
Clearance:	36.1 m
Clearance Fact:	0.7
Free Spc Loss:	120.9 dB
Ridge Loss:	0.0 dB
Total Loss:	120.9 dB

File Name:HUD-1 (READ)
Counter: 2612 -- 2679

PATH PROFILE



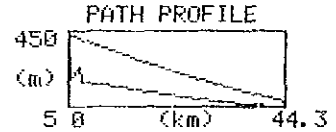
Radius : 1.3333

AZ ZAYDIYAH--BAJIL SOUTH

Ground Hght 1:	60.0 m
Ground Hght 2:	400.0 m
Path Distance:	45.4 km
Frequency:	850 MHz
Ant Height 1:	58.0 m
Ant Height 2:	20.0 m
Critc Point:	13.0 km
Ridge Height:	90.0 m
Tree Height:	3.0 m
Fresnel Dir:	57.2 m
Clearance:	86.7 m
Clearance Fact:	1.5
Free Spc Loss:	124.2 dB
Ridge Loss:	0.0 dB
Total Loss:	124.2 dB

File Name:HUD-2 (READ)
Counter: 2679 -- 2744

PATH PROFILE



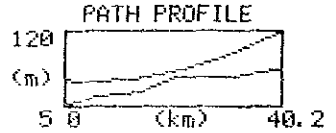
Radius : 1.3333

BAJIL SOUTH--HUDAYDAH

Ground Hght 1:	400.0 m
Ground Hght 2:	5.0 m
Path Distance:	44.3 km
Frequency:	850 MHz
Ant Height 1:	25.0 m
Ant Height 2:	38.0 m
Critc Point:	37.5 km
Ridge Height:	20.0 m
Tree Height:	3.0 m
Fresnel Dir:	45.1 m
Clearance:	63.6 m
Clearance Fact:	1.4
Free Spc Loss:	124.0 dB
Ridge Loss:	0.0 dB
Total Loss:	124.0 dB

File Name:HUD-3 (READ)
Counter: 2744 -- 2809

PATH PROFILE



Radius : 1.3333

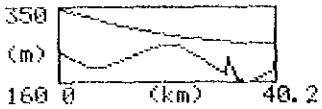
HUDAYDAH--AL ABBASI

Ground Hght 1:	5.0 m
Ground Hght 2:	60.0 m
Path Distance:	40.2 km
Frequency:	850 MHz
Ant Height 1:	40.0 m
Ant Height 2:	58.0 m
Critc Point:	21.2 km
Ridge Height:	50.0 m
Tree Height:	3.0 m
Fresnel Dir:	59.5 m
Clearance:	6.8 m
Clearance Fact:	0.1
Free Spc Loss:	123.1 dB
Ridge Loss:	4.6 dB
Total Loss:	127.8 dB

File Name:HUD-4 (READ)
Counter: 2809 -- 2872

図A－Ⅵ(6／7)　パス・プロファイル

PATH PROFILE



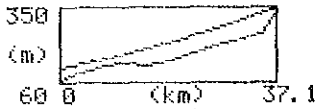
Radius : 1.3333

AL BULAYH--BAB AL FAJJ

Ground Haht 1:	325.0 m
Ground Haht 2:	240.0 m
Path Distance:	40.2 km
Frequency:	850 MHz
Ant Height 1:	20.0 m
Ant Height 2:	19.0 m
Critc Point:	22.8 km
Ridge Height:	250.0 m
Tree Height:	3.0 m
Fresnel Dip:	59.0 m
Clearance:	19.9 m
Clearance Fact:	0.3
Free Spc Loss:	123.1 dB
Ridge Loss:	2.0 dB
Total Loss:	125.2 dB

File Name:HUD-6 (READ)
Counter: 2934 -- 2995

PATH PROFILE



Radius : 1.3333

AL ABBASI--AL BULAYH

Ground Haht 1:	60.0 m
Ground Haht 2:	325.0 m
Path Distance:	37.1 km
Frequency:	850 MHz
Ant Height 1:	60.0 m
Ant Height 2:	19.0 m
Critc Point:	8.1 km
Ridge Height:	130.0 m
Tree Height:	3.0 m
Fresnel Dip:	47.3 m
Clearance:	22.1 m
Clearance Fact:	0.5
Free Spc Loss:	122.4 dB
Ridge Loss:	0.7 dB
Total Loss:	123.1 dB

File Name:HUD-5 (READ)
Counter: 2872 -- 2934

図A－Ⅵ(7／7)　パス・プロファイル

付属資料Ⅶ　気象データ

—日射量、日照時間、風速、気温、相対湿度、降水量—

図 A－Ⅶ (1／18)　　気 象 デ ー タ

Unit: Cal/cm^2/day

Station: SANA'A　　Element: Solar Radiation (1/3)

Month	Year	1979	1980	1981	1982	1982
Jan.	Max.	478	-	524	539	
	Min.	115	-	328	239	
	Av.	255	-	454	447	
Feb.	Max.	589	-	588	583	
	Min.	321	-	413	239	
	Av.	511	-	501	472	
Mar.	Max.	569	646	597	688	
	Min.	348	370	248	150	
	Av.	492	545	449	480	
Apr.	Max.	657	685	718	703	
	Min.	439	373	374	329	
	Av.	589	565	560	510	
May	Max.	669	717	733	696	
	Min.	322	425	299	299	
	Av.	536	600	554	591	
Jun.	Max.	685	684	718	688	
	Min.	419	437	524	404	
	Av.	575	578	629	585	
Jul.	Max.	581	634	658	628	
	Min.	319	359	284	314	
	Av.	448	485	493	480	
Aug.	Max.	629	625	658	658	
	Min.	293	299	329	209	
	Av.	428	468	502	492	
Sep.	Max.	649	645	643	628	
	Min.	231	363	419	509	
	Av.	533	570	580	590	
Oct.	Max.	615	588	673	-	
	Min.	400	340	404	-	
	Av.	506	527	557	-	
Nov.	Max.	-	512	583	-	
	Min.	-	346	419	-	
	Av.	-	463	502	-	
Dec.	Max.	-	519	583	-	
	Min.	-	407	394	-	
	Av.	-	456	486	-	

Date of issue: 31 Oct. 1984

YEMEN ARAB REPUBLIC
CIVIL AVIATION AND METEOROLOGICAL AUTHORITY
CLIMATOLOGICAL SECTION

図 A－Ⅶ (2／18)　　気 象 デ ー タ

Unit: $Cal/cm^2/day$

Station: TAIZZ　　Element: Solar Radiation (2/3)

Month	Year	1979	1980	1981	1982	1982
Jan.	Max.	-	490	494	509	509
	Min.	-	308	337	73	145
	Av.	-	425	455	362	391
Feb.	Max.	-	521	560	538	-
	Min.	-	384	211	204	-
	Av.	-	485	450	389	-
Mar.	Max.	-	563	596	625	-
	Min.	-	363	247	131	-
	Av.	-	508	432	492	-
Apr.	Max.	-	599	625	596	-
	Min.	-	295	301	334	-
	Av.	-	498	474	507	-
May	Max.	-	596	644	611	640
	Min.	-	349	378	189	291
	Av.	-	499	536	475	514
Jun.	Max.	506	552	596	567	581
	Min.	353	320	477	320	261
	Av.	440	468	543	477	476
Jul.	Max.	486	545	538	-	540
	Min.	207	182	189	-	292
	Av.	297	404	405	-	423
Aug.	Max.	519	487	553	509	509
	Min.	317	291	320	118	204
	Av.	428	417	454	389	390
Sep.	Max.	544	523	582	552	509
	Min.	258	240	305	283	261
	Av.	431	443	465	415	393
Oct.	Max.	577	531	538	582	-
	Min.	297	327	371	364	-
	Av.	431	478	481	493	-
Nov.	Max.	491	494	509	509	465
	Min.	372	283	298	232	320
	Av.	458	420	445	384	-
Dec.	Max.	491	473	462	-	-
	Min.	275	320	223	-	-
	Av.	362	407	368	-	-

Date of issue: 31 Oct. 1984

図A－Ⅶ(3／18)　　気 象 デ ー タ

Unit: Cal/cm^2/day

Station: HUDAYDAH　　Element: Solar Radiation (3/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.		537	563	-	
	Min.		303	190	-	
	Av.		418	400	427	
Feb.	Max.		583	571		
	Min.		256	317		
	Av.		446	423		
Mar.	Max.		719	516		
	Min.		393	376		
	Av.		571	478		
Apr.	Max.		722	521		
	Min.	-	462	197		
	Av.	-	588	420		
May	Max.	-	712	611		
	Min.	-	439	338		
	Av.	-	587	440		
Jun.	Max.		628	506		
	Min.		272	197		
	Av.		510	364		
Jul.	Max.		659	408		
	Min.		368	151		
	Av.		536	255		
Aug.	Max.		628	422		
	Min.		313	197		
	Av.		508	281		
Sep.	Max.		572	394		
	Min.		257	127		
	Av.		465	301		
Oct.	Max.		590	394	515	
	Min.		409	253	378	
	Av.		518	324	421	
Nov.	Max.		568	492	-	
	Min.		406	295	-	
	Av.		485	422	-	
Dec.	Max.		568	530	454	
	Min.		310	363	257	
	Av.		414	452	384	

Date of issue: 31 Oct. 1984

図A－Ⅶ(4／18)　　気 象 デ ー タ

Unit: Hour

Station: SANA'A　　Element: Sunshine Duration (1/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	10.9	11.5	10.6	-	
	Min.	1.5	4.8	7.4	-	
	Av.	8.1	9.4	10.0	-	
Feb.	Max.	11.6	10.7	10.8	10.9	
	Min.	6.6	4.0	8.0	2.5	
	Av.	10.4	8.9	10.5	9.2	
Mar.	Max.	10.8	11.4	10.7	11.2	
	Min.	4.5	6.6	2.9	0.6	
	Av.	8.9	9.5	7.3	8.1	
Apr.	Max.	11.9	10.7	11.0	11.5	
	Min.	5.9	4.0	4.5	4.4	
	Av.	10.0	9.2	7.8	7.9	
May	Max.	12.9	11.9	-	11.6	
	Min.	3.9	4.0	-	3.0	
	Av.	9.3	9.8	-	9.6	
Jun.	Max.	11.9	11.7	11.6	11.1	
	Min.	6.0	5.3	5.5	6.1	
	Av.	9.7	9.4	10.8	9.5	
Jul.	Max.	11.0	11.4	11.0	11.0	
	Min.	0.6	4.2	4.3	2.2	
	Av.	7.4	7.8	7.9	8.0	
Aug.	Max.	11.3	11.5	11.5	11.0	
	Min.	1.0	2.5	5.0	1.5	
	Av.	6.6	7.7	8.3	6.5	
Sep.	Max.	11.1	11.1	11.2	11.4	
	Min.	1.2	5.3	7.9	0.8	
	Av.	8.9	10.0	10.3	9.3	
Oct.	Max.	-	11.2	11.1	10.8	
	Min.	-	1.8	8.5	0.7	
	Av.	-	10.0	10.3	8.7	
Nov.	Max.	10.8	10.8	10.7	10.5	
	Min.	8.5	6.7	9.9	1.9	
	Av.	10.3	10.2	10.5	8.7	
Dec.	Max.	-	10.5	10.8	10.5	
	Min.	-	8.6	8.0	2.2	
	Av.	-	10.0	10.1	7.2	

Date of issue: 31 Oct. 1984

図 A－Ⅶ (5／18)　　気 象 デ ー タ

Unit: Hour

Station: TAIZZ　　Element: Sunshine Duration (2/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	10.8	10.6	11.0	10.8	
	Min.	0.5	3.5	5.8	0.0	
	Av.	6.6	8.1	9.7	7.1	
Feb.	Max.	11.8	11.0	11.1	10.7	
	Min.	6.8	6.3	3.1	2.8	
	Av.	9.5	9.4	8.8	7.9	
Mar.	Max.	10.9	10.6	10.9	11.7	
	Min.	0.0	5.8	2.0	0.0	
	Av.	8.0	9.3	7.7	8.6	
Apr.	Max.	11.4	11.7	11.1	11.6	
	Min.	6.3	3.4	3.3	5.5	
	Av.	9.7	8.7	8.3	9.0	
May	Max.	11.6	11.8	11.7	11.7	
	Min.	2.1	6.5	6.2	1.4	
	Av.	8.6	9.6	8.9	8.5	
Jun.	Max.	11.9	11.9	11.5	10.7	
	Min.	2.2	6.1	6.4	4.0	
	Av.	8.2	8.1	9.2	9.0	
Jul.	Max.	11.1	9.7	9.6	-	
	Min.	1.7	2.8	3.2	-	
	Av.	6.5	6.7	7.0	-	
Aug.	Max.	11.1	9.2	10.5	-	
	Min.	2.3	4.3	4.8	-	
	Av.	7.3	7.1	9.7	-	
Sep.	Max.	11.5	10.7	11.6	10.8	
	Min.	3.5	3.6	5.4	3.3	
	Av.	7.3	8.1	8.0	7.4	
Oct.	Max.	11.6	11.1	-	10.7	
	Min.	7.3	4.9	-	5.6	
	Av.	9.7	9.5	9.7	9.5	
Nov.	Max.	11.7	11.0	-	10.4	
	Min.	6.1	6.9	-	2.6	
	Av.	9.8	9.8	-	7.2	
Dec.	Max.	11.6	10.8	-	10.4	
	Min.	1.3	5.7	-	5.9	
	Av.	8.0	8.8	9.4	8.0	

Date of issue: 31 Oct. 1984

図A－Ⅶ(6／18)　　気 象 デ ー タ

Unit: Hour

Station: HUDAYDAH　　Element: Sunshine Duration (3/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	-	10.3	10.4	10.0	
	Min.	-	3.9	6.6	4.2	
	Av.	-	9.1	9.4	8.4	
Feb.	Max.	-	10.7	10.2	11.9	
	Min.	-	4.5	4.2	7.1	
	Av.	-	7.8	9.2	9.7	
Mar.	Max.	-	10.6	10.8	10.9	
	Min.	-	4.5	2.4	3.5	
	Av.	-	8.8	8.3	9.3	
Apr.	Max.	11.1	10.6	11.6	10.1	
	Min.	7.8	5.9	0.6	4.1	
	Av.	10.2	9.0	8.8	8.1	
May	Max.	11.4	11.4	11.4	10.7	
	Min.	0.0	7.7	6.1	1.3	
	Av.	9.5	10.0	9.1	6.7	
Jun.	Max.	11.7	10.8	11.3	10.3	
	Min.	0.5	3.9	6.2	3.4	
	Av.	7.9	7.2	9.4	8.0	
Jul.	Max.	10.1	10.4	9.1	11.6	
	Min.	1.6	2.3	4.6	4.6	
	Av.	7.8	6.5	6.8	9.2	
Aug.	Max.	10.9	9.2	10.4	-	
	Min.	1.9	0.0	0.0	-	
	Av.	7.4	6.6	6.9	-	
Sep.	Max.	10.5	8.9	10.0	10.3	
	Min.	0.2	3.5	4.4	3.4	
	Av.	7.0	6.3	8.0	8.0	
Oct.	Max.	11.1	-	11.2	11.6	
	Min.	5.7	-	8.7	4.6	
	Av.	9.3	-	9.8	9.2	
Nov.	Max.	10.3	10.6	10.8	-	
	Min.	6.4	7.2	8.5	-	
	Av.	8.9	9.5	9.9	-	
Dec.	Max.	10.0	10.1	10.0	-	
	Min.	5.0	1.8	8.4	-	
	Av.	7.6	9.1	9.4	-	

Date of issue: 31 Oct. 1984

図 A－Ⅶ (7／18)　　気 象 デ ー タ

Unit: Knots at 10 m height

Station: SANA'A

Element: Wind Speed (1/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	20	22	20	16	22
	Min.	-	-	-	-	-
	Av.	3	3	7	7	3
Feb.	Max.	26	26	22	26	22
	Min.	-	-	-	-	-
	Av.	4	4	3	4	4
Mar.	Max.	20	28	20	35	20
	Min.	-	-	-	-	-
	Av.	4	4	4	3	3
Apr.	Max.	30	20	20	22	45
	Min.	-	-	-	-	-
	Av.	4	4	4	2	3
May	Max.	32	24	20	18	13
	Min.	-	-	-	-	-
	Av.	4	5	7	3	3
Jun.	Max.	32	20	20	22	22
	Min.	-	-	-	-	-
	Av.	6	4	3	4	4
Jul.	Max.	40	32	28	18	20
	Min.	-	-	-	-	-
	Av.	5	8	4	3	4
Aug.	Max.	32	22	34	28	26
	Min.	-	-	-	-	-
	Av.	4	4	5	3	8
Sep.	Max.	22	20	20	22	22
	Min.	-	-	-	-	-
	Av.	5	7	7	4	3
Oct.	Max.	20	21	16	22	16
	Min.	-	-	-	-	-
	Av.	4	9	3	4	4
Nov.	Max.	20	20	18	20	20
	Min.	-	-	-	-	-
	Av.	3	7	3	3	3
Dec.	Max.	24	18	10	18	20
	Min.	-	-	-	-	-
	Av.	3	10	8	3	3

Date of issue: 31 Oct. 1984

図A－Ⅶ(8／18)　　気　象　デ　ー　タ

Unit: Knots at 10 m height

Station: TAIZZ　　Element: Wind Speed (2/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	-	24	28	15	14
	Min.	-	-	-	-	-
	Av.	-	7	9	6	3
Feb.	Max.	20	18	18	22	13
	Min.	-	-	-	-	-
	Av.	9	7	9	7	3
Mar.	Max.	24	24	20	18	15
	Min.	-	-	-	-	-
	Av.	9	8	7	7	8
Apr.	Max.	30	24	25	22	35
	Min.	-	-	-	-	-
	Av.	8	9	9	7	6
May	Max.	22	45	20	22	28
	Min.	-	-	-	-	-
	Av.	6	13	8	6	7
Jun.	Max.	32	50	24	35	30
	Min.	-	-	-	-	-
	Av.	9	8	6	7	5
Jul.	Max.	40	34	25	12	28
	Min.	-	-	-	-	-
	Av.	10	12	12	8	8
Aug.	Max.	26	30	40	10	20
	Min.	-	-	-	-	-
	Av.	10	8	8	6	11
Sep.	Max.	24	23	24	25	30
	Min.	-	-	-	-	-
	Av.	10	8	6	5	16
Oct.	Max.	20	22	20	22	16
	Min.	-	-	-	-	-
	Av.	9	8	7	6	4
Nov.	Max.	20	20	22	26	16
	Min.	-	-	-	-	-
	Av.	10	10	6	5	5
Dec.	Max.	20	18	20	25	20
	Min.	-	-	-	-	-
	Av.	7	11	9	4	5

Date of issue: 31 Oct. 1984

図A－Ⅶ(9／18)　　気 象 デ ー タ

Unit: Knots at 10 m height

Station: HUDAYDAH

Element: Wind Speed (3/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	18	28	32	26	28
	Min.	-	-	-	-	-
	Av.	5	13	13	13	7
Feb.	Max.	-	30	28	30	22
	Min.	-	-	-	-	-
	Av.	-	12	9	11	6
Mar.	Max.	27	30	26	34	26
	Min.	-	-	-	-	-
	Av.	10	14	12	14	8
Apr.	Max.	25	30	24	30	22
	Min.	-	-	-	-	-
	Av.	10	12	12	12	6
May	Max.	40	24	22	24	20
	Min.	-	-	-	-	-
	Av.	8	7	11	9	6
Jun.	Max.	30	18	20	22	18
	Min.	-	-	-	-	-
	Av.	7	7	10	10	5
Jul.	Max.	19	26	22	32	26
	Min.	-	-	-	-	-
	Av.	6	7	8	8	6
Aug.	Max.	22	28	20	22	27
	Min.	-	-	-	-	-
	Av.	7	9	8	8	6
Sep.	Max.	20	20	24	30	24
	Min.	-	-	-	-	-
	Av.	7	6	7	7	-
Oct.	Max.	20	30	32	22	22
	Min.	-	-	-	-	-
	Av.	10	11	7	6	10
Nov.	Max.	28	26	24	24	24
	Min.	-	-	-	-	-
	Av.	6	12	11	6	17
Dec.	Max.	26	30	24	-	26
	Min.	-	-	-	-	-
	Av.	9	14	17	-	7

Date of issue: 31 Oct. 1984

図A－Ⅶ(10／18)　　気 象 デ ー タ

Unit: °C

Station: SANA'A　　Element: Temperatures (1/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	22.7	25.1	24.4	22.5	22.8
	Min.	5.0	6.4	6.3	7.0	5.7
	Av.	13.9	15.8	15.4	15.1	13.7
Feb.	Max.	25.4	26.4	25.3	23.5	-
	Min.	4.9	8.6	7.2	10.4	-
	Av.	15.2	17.5	16.5	17.3	-
Mar.	Max.	26.6	26.0	23.2	21.8	25.3
	Min.	10.4	11.3	11.1	12.0	11.0
	Av.	18.5	18.7	17.2	16.1	17.0
Apr.	Max.	27.2	26.9	24.8	25.0	25.6
	Min.	9.8	12.3	13.2	12.0	12.1
	Av.	18.5	19.6	19.0	18.5	18.5
May	Max.	27.3	27.9	27.3	27.0	29.6
	Min.	12.0	14.0	14.2	13.0	13.9
	Av.	19.7	21.0	20.8	20.0	21.1
Jun.	Max.	29.4	29.6	29.9	29.1	29.2
	Min.	13.9	15.3	14.6	14.9	15.2
	Av.	21.7	22.5	22.5	22.0	22.8
Jul.	Max.	29.5	29.3	29.2	29.0	31.2
	Min.	13.6	16.1	16.1	16.0	15.7
	Av.	21.6	22.7	22.7	22.4	20.9
Aug.	Max.	27.5	28.1	28.5	28.0	28.0
	Min.	14.7	15.2	15.2	15.0	16.2
	Av.	21.1	21.7	21.9	22.0	22.0
Sep.	Max.	27.2	29.9	26.9	26.5	26.0
	Min.	12.6	13.0	12.9	12.1	9.4
	Av.	19.9	21.0	19.9	19.0	19.9
Oct.	Max.	25.1	24.6	24.5	24.4	24.2
	Min.	8.0	9.2	8.6	10.3	3.0
	Av.	16.6	16.9	16.6	17.5	13.3
Nov.	Max.	22.9	22.8	23.6	23.0	21.8
	Min.	4.3	7.2	4.8	9.0	1.4
	Av.	13.6	15.0	14.2	16.0	12.0
Dec.	Max.	24.9	20.9	22.7	23.1	18.9
	Min.	6.0	4.2	2.5	7.2	0.6
	Av.	15.5	12.5	12.5	14.4	11.0

図A－Ⅶ(11／18)　　気 象 デ ー タ

Unit: °C

Station: TAIZZ　　Element: Temperatures (2/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	-	24.7	25.6	24.0	24.3
	Min.	-	11.4	10.5	16.5	13.3
	Av.	-	19.6	18.0	19.4	18.8
Feb.	Max.	27.2	26.4	27.0	25.7	23.8
	Min.	16.8	10.9	11.1	14.3	14.9
	Av.	22.0	20.9	19.5	20.5	16.3
Mar.	Max.	29.0	28.8	27.0	24.8	26.8
	Min.	16.6	12.2	12.7	17.2	15.0
	Av.	22.8	22.8	19.9	21.5	20.7
Apr.	Max.	30.4	28.9	28.8	28.5	27.1
	Min.	18.2	15.0	15.4	12.2	17.0
	Av.	24.3	22.9	22.1	22.1	21.9
May	Max.	31.4	31.3	31.1	31.0	30.5
	Min.	18.8	17.5	17.6	18.0	18.6
	Av.	25.1	25.8	24.4	26.2	24.6
Jun.	Max.	33.1	23.4	33.0	32.7	32.3
	Min.	19.6	20.6	18.8	19.2	19.4
	Av.	26.4	22.0	25.8	26.0	25.8
Jul.	Max.	31.8	23.2	31.1	31.0	32.1
	Min.	19.9	18.2	20.8	20.4	19.2
	Av.	25.6	20.8	26.0	26.2	26.5
Aug.	Max.	30.8	29.6	31.4	30.4	30.8
	Min.	18.3	18.3	20.1	19.3	19.9
	Av.	24.6	24.2	25.8	25.0	26.1
Sep.	Max.	29.5	29.6	29.0	30.0	33.4
	Min.	16.0	16.3	17.0	18.0	18.0
	Av.	22.8	26.5	23.0	24.0	25.7
Oct.	Max.	28.2	29.4	28.8	28.0	28.8
	Min.	14.5	12.5	14.3	16.0	13.0
	Av.	21.4	20.3	21.6	21.3	20.3
Nov.	Max.	26.3	26.9	26.4	25.2	26.7
	Min.	11.2	11.5	20.5	15.0	10.2
	Av.	18.8	18.8	23.5	21.0	18.5
Dec.	Max.	25.1	24.8	25.0	25.6	24.7
	Min.	13.3	10.0	12.0	8.7	11.3
	Av.	19.2	18.1	18.3	16.4	17.8

図 A－Ⅶ (12／18)　　気 象 デ ー タ

Unit: °C

Station: HUDAYDAH　　Element: Temperatures (3/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	28.2	31.0	31.5	28.4	28.9
	Min.	17.8	23.0	27.0	22.5	21.0
	Av.	23.0	27.0	27.9	25.5	27.0
Feb.	Max.	29.7	30.1	30.0	29.5	29.4
	Min.	20.2	24.0	25.0	23.2	24.0
	Av.	25.0	27.1	28.0	27.7	26.1
Mar.	Max.	31.7	32.6	34.0	29.0	31.0
	Min.	23.8	25.4	26.0	24.8	24.7
	Av.	27.8	29.0	30.0	28.0	27.9
Apr.	Max.	34.3	32.2	35.0	32.1	32.7
	Min.	24.5	26.8	28.5	26.5	26.8
	Av.	29.5	25.5	32.3	29.4	30.2
May	Max.	37.4	34.4	36.0	34.3	38.9
	Min.	27.6	27.1	33.5	28.2	27.9
	Av.	32.5	30.7	35.7	32.0	32.5
Jun.	Max.	-	36.0	36.5	35.2	38.8
	Min.	-	30.0	32.0	28.3	27.8
	Av.	-	33.0	34.0	31.5	32.2
Jul.	Max.	-	36.2	38.0	36.0	39.1
	Min.	-	30.6	35.0	30.0	28.9
	Av.	-	33.4	37.0	33.1	33.7
Aug.	Max.	39.0	36.2	37.0	36.0	35.9
	Min.	31.2	29.2	32.0	30.0	29.4
	Av.	35.1	32.7	36.3	33.0	32.5
Sep.	Max.	37.9	38.4	38.5	36.0	38.2
	Min.	29.8	28.2	30.0	29.0	26.7
	Av.	33.9	33.3	34.3	33.0	32.5
Oct.	Max.	35.3	36.5	36.4	33.8	35.8
	Min.	27.1	26.7	30.5	26.0	25.3
	Av.	31.2	31.6	33.9	30.2	30.4
Nov.	Max.	31.6	33.5	32.6	31.4	31.4
	Min.	26.2	24.2	25.0	25.5	18.9
	Av.	28.9	28.9	29.6	27.5	25.4
Dec.	Max.	29.5	31.0	30.6	-	28.7
	Min.	27.7	20.8	22.5	-	19.8
	Av.	26.1	26.9	27.2	-	24.3

図A－Ⅶ(13／18)　　気 象 デ ー タ

Unit: %

Station: SANA'A　　Element: Relative Humidity (1/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	79	69	60	75	78
	Min.	29	18	11	30	26
	Av.	54	44	36	53	50
Feb.	Max.	65	71	63	78	84
	Min.	17	17	14	29	32
	Av.	41	44	39	54	60
Mar.	Max.	73	75	84	82	80
	Min.	21	19	31	44	31
	Av.	47	47	58	64	55
Apr.	Max.	50	66	71	86	93
	Min.	14	19	23	33	42
	Av.	32	43	47	59	70
May	Max.	65	69	61	68	87
	Min.	20	14	18	18	36
	Av.	43	42	40	43	58
Jun.	Max.	44	63	48	49	67
	Min.	11	11	9	11	27
	Av.	44	37	29	30	42
Jul.	Max.	61	73	63	60	68
	Min.	12	26	16	18	24
	Av.	37	50	40	43	42
Aug.	Max.	72	89	75	79	81
	Min.	21	33	20	23	33
	Av.	47	61	48	51	57
Sep.	Max.	59	51	48	66	51
	Min.	16	15	13	23	15
	Av.	38	33	31	44	33
Oct.	Max.	53	58	44	76	51
	Min.	23	17	14	31	15
	Av.	38	38	29	53	33
Nov.	Max.	72	57	53	84	50
	Min.	25	18	13	37	20
	Av.	49	38	33	61	35
Dec.	Max.	71	63	59	82	54
	Min.	21	15	11	30	14
	Av.	46	39	35	56	34

図A－Ⅶ(14／18)　気象データ

Unit: %

Station: TAIZZ　　Element: Relative Humidity (2/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	-	89	84	75	94
	Min.	-	42	28	52	46
	Av.	-	62	56	63	70
Feb.	Max.	81	81	91	75	90
	Min.	45	32	33	38	56
	Av.	63	53	62	56	74
Mar.	Max.	93	76	86	79	84
	Min.	50	31	41	44	48
	Av.	72	50	64	61	68
Apr.	Max.	86	73	85	81	91
	Min.	32	28	38	39	45
	Av.	59	51	61	60	79
May	Max.	71	69	78	79	77
	Min.	25	23	26	38	38
	Av.	48	46	51	59	58
Jun.	Max.	75	67	71	72	77
	Min.	27	26	26	30	34
	Av.	51	48	48	51	56
Jul.	Max.	76	69	73	72	74
	Min.	32	34	36	33	36
	Av.	54	55	55	53	57
Aug.	Max.	77	84	71	80	82
	Min.	36	40	31	39	37
	Av.	57	62	51	61	60
Sep.	Max.	74	76	78	79	75
	Min.	36	35	31	33	27
	Av.	55	56	55	57	51
Oct.	Max.	77	83	80	80	80
	Min.	28	26	27	32	27
	Av.	53	52	54	56	54
Nov.	Max.	82	71	75	90	72
	Min.	29	31	27	42	31
	Av.	56	51	51	66	52
Dec.	Max.	83	93	91	88	95
	Min.	40	37	34	46	43
	Av.	62	65	62	67	69

図A－Ⅶ(15／18)　気象データ

Unit: %

Station: HUDAYDAH　　Element: Relative Humidity (3/3)

Month	Year	1979	1980	1981	1982	1983
Jan.	Max.	82	84	91	84	80
	Min.	65	61	75	63	63
	Av.	74	73	78	72	72
Feb.	Max.	86	82	92	84	81
	Min.	77	63	65	61	60
	Av.	82	73	77	69	71
Mar.	Max.	85	82	94	83	76
	Min.	60	61	70	68	58
	Av.	73	71	80	74	67
Apr.	Max.	83	81	96	83	82
	Min.	61	56	70	56	59
	Av.	72	69	77	77	70
May	Max.	78	80	91	80	81
	Min.	56	54	66	58	58
	Av.	67	67	75	67	70
Jun.	Max.	-	77	89	81	81
	Min.	-	54	65	55	63
	Av.	-	65	78	64	74
Jul.	Max.	-	75	83	77	82
	Min.	-	52	65	55	62
	Av.	-	63	70	64	72
Aug.	Max.	66	80	89	76	80
	Min.	50	50	61	54	55
	Av.	58	65	68	63	68
Sep.	Max.	75	80	88	77	78
	Min.	51	57	63	54	56
	Av.	63	63	71	63	67
Oct.	Max.	76	77	85	81	74
	Min.	59	55	65	55	52
	Av.	68	66	72	64	63
Nov.	Max.	76	79	88	83	76
	Min.	57	50	66	60	50
	Av.	67	65	76	68	63
Dec.	Max.	85	78	95	-	85
	Min.	60	52	65	-	60
	Av.	73	65	76	-	73

図 A－Ⅶ (16／18)　　気 象 デ ー タ

Unit: mm

Station: SANA'A Airport　　Element: Precipitation (1/3)

Month \ Year	1975	1976	1977	1978	1979	1980	1981	1982	1983
Jan.	1.5	0.0	8.7	1.6	15.6	0.0	-	24.8	30.9
Feb.	2.0	0.0	0.0	7.5	1.0	24.3	-	19.4	11.2
Mar.	35.8	45.8	6.7	15.3	15.8	35.8	114.4	75.3	54.9
Apr.	109.4	33.5	5.9	28.1	0.2	27.3	10.7	35.9	88.5
May	0.0	36.9	75.1	11.4	9.7	2.0	12.4	92.3	7.9
Jun.	0.1	0.0	0.8	8.1	4.0	0.0	-	0.0	0.0
Jul.	35.0	18.3	21.7	46.6	8.2	50.6	29.6	30.0	8.0
Aug.	84.1	3.7	81.2	1.0	25.2	21.4	124.3	33.4	68.9
Sep.	13.8	0.0	16.8	0.5	0.0	0.0	-	0.0	0.0
Oct.	0.0	0.0	127.3	0.0	0.0	1.8	-	40.3	0.0
Nov.	0.0	33.7	0.0	5.7	0.0	0.0	-	-	0.0
Dec.	0.0	0.0	1.6	-	0.0	0.0	-	-	0.0

図A－Ⅶ(17／18)　　気 象 デ ー タ

Unit: mm

Station: TAIZZ Airport　　Element: Precipitation (2/3)

Month \ Year	1975	1976	1977	1978	1979	1980	1981	1982	1983
Jan.		0.0	0.0	19.8	10.0	13.4	-	10.5	83.9
Feb.		0.0	0.0	-	1.4	0.0	-	0.9	57.0
Mar.		10.9	46.9	-	6.0	10.5	153.1	37.1	0.8
Apr.		75.8	104.9	0.0	79.1	152.8	39.4	10.3	83.6
May		19.6	127.9	31.7	17.4	42.5	32.4	13.4	222.1
Jun.		31.6	53.7	0.0	32.4	48.9	33.2	19.8	105.2
Jul.		32.0	68.1	50.4	107.2	38.6	22.7	19.4	107.8
Aug.		20.2	169.1	65.1	52.4	82.9	30.7	114.2	267.2
Sep.		46.4	60.5	16.6	63.2	102.1	92.9	89.6	33.9
Oct.		17.4	-	20.3	44.1	16.2	-	0.0	72.9
Nov.		4.6	0.0	-	10.8	0.0	-	-	1.8
Dec.		0.0	0.0	12.0	0.0	0.0	-	-	0.0

図 A－Ⅶ (18／18)　　気 象 デ ー タ

Unit: mm

Station: HUDAYDAH　　Element: Precipitation (3/3)

Month \ Year	1975	1976	1977	1978	1979	1980	1981	1982	1983
Jan.	-	-	-	48.2	2.0	3.3	0.0	13.9	
Feb.	-	-	-	0.4	0.0	0.0	0.0	0.0	
Mar.	-	7.8	-	0.0	1.3	0.0	0.0	-	
Apr.	-	0.2	-	0.1	0.0	0.0	1.6	0.0	
May	-	-	-	0.0	0.0	0.0	0.0	0.0	
Jun.	-	-	-	0.0	0.0	7.4	0.0	0.0	
Jul.	1.6	-	-	120.6	0.0	0.0	0.0	0.0	
Aug.	51.2	-	17.4	0.0	0.0	0.0	0.0	-	
Sep.	56.3	-	-	0.0	1.0	0.0	0.0	-	
Oct.	11.2	-	34.5	1.0	26.0	0.0	0.0	11.0	
Nov.	0.0	-	11.5	2.1	0.0	0.0	0.0	-	
Dec.	9.6	-	15.0	78.0	0.0	0.0	0.0	-	

付属資料Ⅷ　面談者リスト

面談者リスト

Name	Position/Section
H.E. Ahmed Mohamed Al-Anesi	Minister of MOC
H.E. Mohamed Mohamed Al-Arashy	Deputy Minister, MOC
Mr. Abdulla Al-Khourabi	DG of Projects, MOC
Mr. Abdulla Al-Kabus	DG of Communications, MOC
Mr. Abdulla Nehimi	General Manager, PTC
Mr. Mohamed A Al-Kassous	Deputy Manager, PTC
Mr. Ali Ahmed Al-Mkhaphy	Director, TAIZZ Region, MOC
Mr. Ahamed Nasser	Director, HUDAYDAH Region, MOC
Mr. Ahamed Al-Wargi	Director, DHAMAR Region, MOC
Mr. Mohsen Al-Damari	Director, IBB Region, MOC
Mr. Abdulla Al-Hajaji	Director, HAJJAH Region, MOC
Mr. Abdulla Al-Hamami	Director of O/M, PTC
Mr. Mohamed Al-Nahari	Director of Finance, PTC
Mr. Mohamed Al-Athory	Director of Telecommunications Institute, PTC
Mr. Mohamed Al-Geez	PTC (counterpart)
Mr. Abdul Rahman Al-Moain	PTC (-ditto-)
Mr. Ahamed Al-Adadi	Frequency Manager, MOC
Mr. Abdul Kader Yassien	MOC
Mr. Mohamed Al-Assry	Director Assistance, HUDAYDAH Region, MOC
Mr. Samy Hanna Reheb	ITU Project Cordinator, MOC
Mr. H.J. Mirchandani	ITU Expert, MOC
Mr. T.K. Ramaswamy	Project Director, PTC

付属資料Ⅸ　収集資料リスト

収集資料リスト

1. 7 Maps (Map 1 - Map 6, Map 7I-7IV, Map 7VI) Yemen A.R.

2. Eleventh Annual Report;
   Central Bank of Yemen, Research Department, 1982

3. Summary, Final Results of the Cooperative Population Census;
   Central Planning Organization, Feb. 1981

4. Evaluation and Analysis of 1975 Population and Housing Census Concerning Population Distribution and Internal Migration in Yemen A.R.;
   Central Planning Organization, May 1983

5. Population Study, Population Projections by Sex and Age for the Yemen A.R. for the Period 1975 - 2010;
   Central Planning Organization, May 1984

6. The Second Five-Year Plan 1982 - 1986;
   Central Planning Organization

7. Information on Tax (In Arabic)

8. - ditto -

9. - ditto -

10. Geologic Map of the Yemen A.R.;
    Department of the Interior

11. Distribution of Population Aggregates (Mahalah) by Population;
    Central Planning Organization

12. Tax information (an extract, in Arabic)

13. - ditto -

14. Technical information of existing towers, aerials and stations' locations; MOC/PTC

15. Geographic information of existing stations; MOC/PTC

16. Yearly Busy Hour Computation for existing 3 exchanges; MOC/PTC

17. Directorate of Operation and Maintenance Chart Book;
    PTC, Aug. 1984

18. Directorate of Operation and Maintenance Traffic Book of Sana'a E10B Exchange; PTC, Aug. 1984

19. Existing Telephone Network in Yemen A.R. (an extract)

20. Information of exchange type, manufacturer etc.

21. Information of interfacing between switching and analog microwave system; MOC/PTC

22. Information of PCM between exchange and satellite: MOC/PTC

23. A.C. mains conditions; Yemen General Electricity Corp.

24. Local cost; MOC/PTC

25. Number of employee (in Arabic); MOC/PTC

26. Meteorology data;
Civil Aviation and Meteorology Authority

27. Information of Typical cost for self-supporting tower; MOC/TPTC

28. Average life times: MOC/PTC

29. Revenue and investment of PTC, 1982 and 1983; MOC/PTC

30. MOC Annual Report (5 years); MOC

31. Information of registration and progressive total of work orders as of 15/11/1984 for E-10B exchanges; MOC/PTC

32. Telephone' tariff in Yemen A.R.

33. Signalling; PTC

付属資料X　A案・B案の技術的比較検討

A案・B案の技術的比較・検討

A案とB案を技術的に比較・検討すると，次のような結果が得られる。なお，各項目に関する詳細については，次項を参照されたい。

項　　目	A　案	B　案
単位料金区域，課金制御に対する融通性	×	○
加入者番号容量	○	○
所要無線周波数帯	○	×

注）　○　：　有　利
　　×　：　不　利

1. 単位料金区域および課金制御に対する融通性

1－1　単位料金区域

本プロジェクトで対象とする6州において，必要とされる単位料金区域数を以下のように推定した。従って，既設交換機を使用する場合にも，呼の方路決定，課金処理のために，それだけの区域を識別できることが必要となろう。次表における“初期”とは，本プロジェクトがサービス・インする時期に必要となる区域数を示す。

サブ・ルーラル網	単位料金区域数 初　期	単位料金区域数 終　期	対応する交換局
SANA'A	23	30	SANA'A
DHAMAR	5	5	〃
HAJJAH	9	16	〃
（小　計）	（37）	（51）	
TAIZZ	13	15	TAIZZ
IBB	4	10	〃
（小　計）	（17）	（25）	
HUDAYDAH	14	17	HUDAYDAH

この数は，県の数を基に，現行の料金体系を念頭において，概算で求めたものである。すなわち，面積の小さい県については，２つ以上の県で，その直径が２５Km程度になるように１つの単位料金区域を設定する。一方，直径が２５Km以上あるような県については，これを１つの単位料金区域として数えている。

Ｂ案においては，これら単位料金区域の識別は比較的容易と思われる。ところがＡ案では既設交換機を利用するため，その機能により制限を受ける。すなわち，E－10Ｂ親交換機は当面最大３２の料金区域を識別できるに過ぎず，しかも，そのうちのいくつかは，既に集線装置用に割当てられている。従って，Ｂ案の方が有利と言える。

１－２　課 金 制 御

課金機能は，上述の料金区域の識別機能と密接に関係している。換言すれば，課金制御は，対応する料金区域の識別を前提としている。従って，新ルーラル網にも現行の料金体系を適用しようとすれば，Ｂ案の方が有利と言える。

2.　加入者番号容量

対象となる６つの州は，現在４つの市外区域（市外番号：2,3,4と7）に分けられ，６桁の加入番号が加入者に付与されている（ただし，EMD／RFT加入者を除く）。つまり，番号計画上は，それぞれの市外区域が1,000,000の加入者番号容量をもっている。たとえ，複雑なルーティング機能を避けるため，０×××××，１×××××の番号符与を禁じたとしても，市外区域の加入者番号容量は８００,０００である。

２－２　電話機数の推移

北イエメンの総電話機数の推移は，概算で次表のごとく推定される。この計算では，基礎数値，つまり，１９８４年の国内居住者数および１人当りＧＤＰを，“第２次５ケ年計画”より引用した。一方，各年度の電話機密度は，５６ケ国における電話機密度と１人当りGDPとの相関々係（１９８１年）より得られたものである。

年	国内居住者(千人)	1人当りGDP (米ドル)	電話機密度	総電話機数(千)
(成長率)	2.8%	4.2%	—	—
1984	7,879	447	0.49	38.6
1994	10,384	674	0.86	89.3
2004	13,687	1,017	1.51	206.7
2014	18,041	1,535	2.66	479.9
2024	23,779	2,317	4.67	1,110.5

言うまでもなく，電話機数の増加に対し最もクリティカルな市外区域は，市外番号“2”のSANA'Aである。理由は，現在約50%の電話機がこの区域に集中していること，そして，この傾向は将来とも大きく変わらないと思われるからである。

このSANA'A市外区域における大規模な集中率，1984年における現存電話機数との差（約1.3倍）を考慮したとしても，その加入者番号容量は，向う40年間の需要数に見合うものである。

2－3 ルーラル加入者の番号付与

新ルーラル加入者の加入者番号は，原則的に今の番号計画の範囲内で付与されるべきであろう。と言うのも，前述したように現在の番号計画が相当の長期にわたって，変更を必要とせず，番号変更に伴う無用な混乱を避けるためである。

従って，本プロジェクトにおけるルーラル加入者の加入者番号は，次のようになろう。

ABC×××（6桁）

ここで，Aコード：ルーラル加入者が収容される交換機に付与された番号

BCコード：単位料金区域ごとに，現在の空番号を付与する。このコードは，単位料金区域の識別ばかりでなく，課金制御にも有効である。

以上の加入者番号計画は両案とも実現できよう。

3. 所要無線周波数帯

B案は，A案に比べて対象地域をカバーするのに必要な中継区間が多くなる。つまりB案は，より多くの周波数帯を必要とする。従って，将来のシステム拡張を考慮すれば，A案が有利となる。

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