執務参考資料

平成元年度
海外情報協力
報告書

平成2年3月

国際協力事業団
国際協力総合研修所

第Ⅰ部　海外情報協力業務報告書

第Ⅱ部　MINISIS Version Hの概要

第Ⅲ部　MINISIS/IDRISデータベース演習マニュアル
検索編

付属資料

1　1989年度IDRISおよび開発調査(SURVEY)登録案件一覧

2　PIDRIS13出力リスト

3　MINISIS/MARC INTERFACE

4　欧文報告書出力例

5　他機関提供データベース利用許可申請書およびその回答

6　先進国援助機関データベース検索例

7　IDRCにおけるMINISIS開発体制

8　Geographycal Distribution of Financial flows to developing Countries

9　World Development Indicators

10 ACCISプロジェクトデータベース

11 CESIデータベース

12 援助機関間における開発情報ネットワーク研究会討議録

13 Expected Benefits for Bilateral Doner Agencies Participating in an Information Network

14 開発情報ネットワーク研究主旨賛同機関一覧表

15 図書館年間カレンダー(一部抜粋)

第Ⅰ部　海外情報協力業務報告書

目　次

1.　業務の背景および目的

1．1　業務の背景

近年、日本のODAの量的拡大とともに、先進国援助機関、国際機関等との援助協調や共同プロジェクトもいくつか実施されており、日本の援助方針、援助プロジェクトの内容等に関する情報提供依頼が増加している。これらに対処するため、１９８７年度に海外情報協力に必要な情報機器およびカナダ国際開発研究センター（IDRC）の開発したMINISIS/IDRISデータベースシステムを導入し、あわせて先進諸国との情報交換に適した情報システム計画についての基礎調査を実施した。　さらに１９８８年度にはMINISIS/IDRISシステムの運営体制に関するIDRCとの協議およびMINISISユーザー会議への参加、JICA協力プロジェクト（６１７件）の加工・入力、国際通信回線を利用した情報の交換、その他の援助機関等のシステム化動向に関する情報収集を行った。

1．2　業務の目的

本年度においては、１９８８年度に引続き、海外情報協力データの加工と情報収集・交換およびユーザー研修に必要な事項を実施する。

1．3　業務の範囲

1）　JICA協力プロジェクトデータの加工・入力および入力データのメインテナンス

2）　事業団ローカルデータベースの構築に関わる調査

3）　先進国・国際機関との情報交換に関する体制の整備

4）　他先進国援助機関提供データベース利用のための調査

5）　MINISIS/IDRIS演習マニュアルの作成

6）　派遣前専門家等へのコンピュータ研修

2.　JICA 協力プロジェクトデータの加工・入力

2．1　新規データの加工・入力

IDRIS 提供用データとしては、１９８０年以降に実施されている全てのプロジェクト方式技術協力案件を対象としたが、一部のプロジェクトは英文による情報がないため除外した。

開発調査データ（ファイル名 SURVEY）については、昨年度データを作成した以降に公開された報告書よりデータの加工・入力を行った。

それぞれの入力プロジェクトは、付属資料１ 登録プロジェクト一覧に示すとおりである。

2．2　登録データの修正

昨年度に登録した IDRIS データのうち、実施中プロジェクトに関しては新たな実績データの追加を行った。

IDRIS 登録済みデータの更新にあたっては、MINISIS の編集機能に比べ、パーソナルコンピューター上で稼働するワープロ、あるいは文書編集ソフトウェアを利用するほうが効率的であり、かつ応用範囲も広い、そこで IDRIS データの BATCHIN コマンドによる入出力インターフェースフォーマットとして PIDRIS13 を定義した（出力リストを付属資料２に示す）。

なお、当フォーマットを応用して、IDRIS あるいは SURVEY データのダウンロードを行うことにより、データの２次加工（パーソナルコンピューター等による再利用）をはじめとする広範な活用が可能となる。

データの修正は以下に示す手順によって行った。

1）　IDRIS データをフロッピィディスクに出力

MINISIS 内のデータをフロッピィディスクにダウンロードするために PRINT プロセッサを用いて以下のように行った。

①　MINISIS 起動前に以下のイクォール文を定義する。

:FILE OUTFL;DEV=DISC

② MINISIS を起動する。

:MINISIS

③ PRINT プロセッサーを起動する。

④ プリントファイルに PIDRIS13 を選択する。

⑤ 出力デバイスに LP を指定する。

⑥ リモートのファイル名 OUTFL を指定し、FROM REMOTE の HP モードでファイル転送を行う。

2) フロッピィディスク上のデータの修正

フロッピィディスク内のデータは、パーソナルコンピュータ上で文書編集用ソフトを用いて以下のように修正した。

MINISIS からダウンロードされたデータには各行の1カラム目にスペースが挿入されていたり、MINISIS 内での改ページ記号が付いているので、これらの削除を行った（ただし、この2点については PIDRIS13 の設定内容の問題であり、ダウンロード時に対処可能と考えられる）。また、一部の日本語情報にエラーが生じるのでこの修正も行った後、情報内容の修正を行った。

3) フロッピィディスクから MINISIS にアップロード

通常の入力の手順と同様に、HP3000 ディスク上にデータを転送した後、MINISIS の BATCHIN プロセッサを用いて IDRIS データベースに登録を行った。

3．情報の交換

3．1　JICA 欧文報告書データベースの作成

前年度定義した JICA 書誌情報データベースを利用し、JAPAN-MARC に準拠したJICA 欧文報告書データベース（ファイル名 BIBLIC）を作成した（付属資料３ MINISIS/MARC INTERFACE 参照）。

入力データは ORION に登録されている約５０００件の欧文報告書を対象とし、そのためのテストを実施した。以下にその手順を示す。

① ORION の端末として利用できる 2050 ワークステーション上で、通常の ORION 検索コマンドを実行する。

② 検索結果を OUTPUT コマンドにより、ORION のワークエリアへ出力する。

③ ORION のワークエリアから 2050 のディスクに出力する。

④ MS-DOS でフォーマット済みの 3.5 FD に UNIX から MS-DOS にコード変換したテキストデータを出力する（付属資料４ 欧文報告書出力例参照）。

⑤ テキストデータを PC-9801 上で稼働するワープロソフトウェアを使用し、MINISIS の BATCHIN フォーマットに変換する（付属資料４ 同上参照）。

⑥ MINISIS BATCHIN フォーマットに変換したテキストデータを VECTRA-PC から HP3000 にファイル転送を行う。

⑦ MINISIS BATCHIN コマンドにより BIBLIC データベースへ登録を行う。

なお、後述するように 当 BIBLIC データベースは他国際機関にとっても興味深く、かつ利用度も高いと考えられる。今後他機関と積極的に情報交換を行うためにも、以下の点に関する整備と体制づくりが必要となっている。

① ORION からの出力は、図書館においてジョブ依頼書を作成し、経済協力ビルにある電子計算機室へ提出する。したがって効率も悪く、かつ、今後、欧文報告書以外の情報も再利用するには、技術情報課自らが検索結果を MS-DOS のテキストファイルにダウンロードできる体制づくりが必要である。このことにより、出力データの２次加工（パーソナルコンピュータ等による再利用）をはじめとする広範な活用が可能となる。

② 今回は、パーソナルコンピュータ上で、日本語および英文ワープロソフトウェアを用いMINISISのBATCHINフォーマットに変換した。しかし手作業による変換は間違いも多く、効率も悪い。

そこで、今後、約５０００件の欧文報告書データを BIBLIC に登録するにあたっては、変換プログラムの開発・利用が不可欠である。

３．２ 他先進国援助機関との情報交換

他先進国援助機関(UNIDO, FAO, ILO, USAID, UNESCO)が IDRC ライブラリーへ提供しているデータベースについて利用許可を求め、下記の回答を得た。

（１９８９年１２月１日発信他機関提供データベース利用許可書および回答の原本については、付属資料５に示す。）

１） UNIDO

① UNIDO IDA (UNIDO's Industrial Development Abstracts data base) の利用を許可する。開発途上国支援のために大いに活用して欲しい。

②開発途上国の技術分野情報、ジョイントベンチャーなどのデータに関心があれば、それらの提供も可能である。

③ IDRIS の JICA データ１０５件、開発調査(SURVEY)データ５００件、欧文書誌データ (BIBLIC) について早期の提供を希望する。

２）FAO

①商用目的に使用しないことを条件に FAO Documentation データベースの利用を許可する。

② データベースは ISO 2709 標準フォーマットによる販売も行っている。

③ FAO の Libraryでは年１回 COM(computer output microfiche)の累積版も作成している。

３） ILO

① ILO のデータベース LABORDOC を IDRC 経由で利用することは、カナダ国内

のユーザーのみ許可している。

② ただし、ILO のデータベースについては各種印刷物または商用データベースのオンラインサービスで利用できる。

（例 ； ARAMIS の提供は Swedish Center for Working Life ）

4） USAID

① 以下の項目を条件に AID データベースの利用を許可する。

- 商用に利用しない。
- JICA 役職員および関係者の業務用途以外の利用は禁止する
- 上記以外の目的でのデモンストレーションおよび利用については書面による許可を得ること。

② JICA の SURVEY, BIBLIC を利用したい。

5） UNESCO

① Unesco データベースの利用を許可する。

概して、各機関とも情報の提供にたいし好意的である。今後、上記、他機関データベースの検索結果に関する詳細な資料の入手にたいして、

1） 入手可能な資料の形態（原本、マイクロフィッシュの複写等）

2） 資料送付に関わる費用、および支払い方法

等の調査が必要である。付属資料６にオンラインによる検索テスト結果を示す。

また、JICA の提供情報については SURVEY, BIBLIC, IDRIS データの一層の充実と、今後、開発が期待される派遣専門家データベース（EXPERT）、無償資金協力実績データベース（AID）等と連動し、JICA プロジェクトの援助サイクル全体を網羅するデータベースシステムの構築・提供が求められる。

情報の提供形態としては、

1） 従来と同様 IDRC ライブラリーへ提供し、

2） 他機関における JICA データベース利用は、IDRC ライブラリー経由で許可するのが現実的である。

3．3 他先進国援助機関提供データベースの利用

1） OECD

OECDがマグネチックテープで販売している"Geographical Distribution of Financial Flows to Developing Countries"の読み取り行った。

しかしながら、読み込まれたデータは短く、付属資料8 Geographical Distribution of Financial Flows to Developing Countries に示したものがすべてであった。問題の調査もOECDの広報センターには専従の者がいないため困難な状況である。

2） 世界銀行（World Bank）

世銀がフロッピィディスクで販売している"World Development Indicators"をパーソナルコンピューターを用い読み取り、印刷物を作成した（付属資料9参照）。

"World Development Indicators"は、各国の基礎情報として有益なものであり、今後は生データを印刷物として利用するだけでなく、2次加工＝データベース化し、国別、金額別比較等の幅広い活用方法を確立することが肝要である。

3） FAO

国内の関連機関にたいし、問い合わせを行ったが、データベースに関することは、すべて本国（イタリア）で取り扱っているとのことであり、国内での詳しい調査は不可能であった。

4） UNDP

国内の広報センターにおいて手作業で資料を検索した後、原本の請求を本部にたいし行なう。

３．４　援助機関間における開発情報ネットワーク研究会（非公式）
(Informal Study Group on Development Information Networking)

１９８９年６月および１９９０年２月、非公式ながら、以下のことを目的とする研究会が OECD 開発センター（Development Centre）において開かれた。

先進国援助機関・国際機関等は限られた援助予算を効率的に活用し、援助の効果を最大限に発揮するため、援助機関間の対話や協力を推進することとしているが、そのためには互いのプロジェクトの活動状況等に関する援助情報を交換するネットワークを確立することが重要となっている。

１）　組織化・システム化された情報交換ネットワークの確立にたいし、各機関がいかなる関心を持ちどのような方法で実現できるかを確認する。

２）　各機関の援助プログラムの開発と調整に関する情報資源の共有化を促進する。

３）　上記の課題について将来、より多くの二国間・多国間援助機関の参加を得て、継続的に情報の問題を扱う会議の形態を検討する。

そこで検討のための基礎データとして、各機関の開発情報システムの現状が報告された。

１）　国連開発プロジェクト情報システム(ACCIS)

事務局　：　国連社会経済委員会の下に設置（ジュネーブ、スイス）

情報内容　：　UN 傘下２０機関の援助プロジェクト情報全般（１９８７年以降）

データ数　：　約３０，０００件

運営経費　：　１０万 US ドル

情報機器等：　VAX，IBM-PC と CDS/ISIS

情報提供　：　データ検索サービスは行っていないが、毎年プロジェクトデータ年報を作成し関係機関に提供し、国別、地域別に磁気テープ、CD-ROM で提供する予定である。ECHO オンライン・ホストコンピュータにデータを蓄積しているので EC 諸国は、無料で検索が可能（検索マニュアルも希望者に提供）である。

情報公開　：　すべての情報を公開しており、非公開状報は入力しない方針で

ある。

（（付属資料１０ ACCIS プロジェクトデータベース参照）

2）研究協力プロジェクト情報システム(IDRIS)

事務局　：　IDRC（オタワ、カナダ）

情報内容　：　援助機関の研究協力プロジェクト

データ数　：　約６０００件

参加機関　：　SAREC,IFS,GATE,BOSTID,NUFFIC,IDRC,JICA,UNU

情報機器等：　HP3000 と MINISIS

情報提供　：　IDRIS 参加機関。

情報提供は各機関の自由意志で行われており、情報内容、フォーマットもかなりフレキシブルである。

3）　アフリカ農業研究プロジェクト情報システム(SPAAR)

事務局　：　世銀内に設置（ワシントン、米国）

参加機関　：　２３の援助機関

情報内容　：　各援助機関のアフリカ地域における研究プロジェクトの概要。１９８７年５月から活動を開始し、実施中およびパイプライン・プロジェクト（コミットされてはいるが実施されていないもの）の情報を収集している。将来は援助機関のみならず途上国自身の研究プロジェクトも対象とする予定である。

データ数　：　現在３００件程度であるが、IDRC より５００件、ODA より１２０件の追加予定あり。

情報機器等：　IBM-PC と CDS/ISIS、事務局では HP3000 と MINISIS

ソフト　：　SPAAR に参加している援助機関とアフリカ諸国にたいして提供を行っている。

4）OECD・DAC 援助情報システム

事務局　：　DAC 内に設置（パリ、フランス）

情報内容　：　DAC 加盟１８ヵ国および国際機関、OPEC の援助統計、評価情報、

借款、無償、技術協力プロジェクト情報を蓄積している。

データ数　：　１９７２年から現在まで約７万件（年間６０００件）

情報機器等：　UNIX、インハウスでは dBASEⅢ

情報提供　：　加盟各国、国際機関等にオンラインで情報の提供を行っている。

５）　衛生・水供給プロジェクト援助情報システム(CESI)

事務局　：　WHO 内に設置（ジュネーブ、スイス）

情報内容　：　援助機関の衛生・飲料水提供関連プロジェクトの情報を蓄積している。

データ数　：　約３０００件

運営経費　：　３６万 US$を WHO, GTZ, UNDPが提供している。

情報機器等：　IBM-PC と dBASEⅢ で運用している。

情報提供　：　援助機関、途上国政府等、JICA も一部情報を提供しており、印刷物でで情報を入手している。

（付属資料１１ CESI データベース参照）

６）　その他の機関の情報システム

昨年 USAID は、世銀とネットワークの協定を結び、情報の交換を開始しているが、CIDA との交渉は進んでいない。

CIDA は、プロジェクト情報と評価情報をリンクさせて利用している。

各機関とも一見似かよった情報を収集しているように思えるが、機関によってはプロジェクトよりもプログラム別に情報を作成している、あるいは援助形態の定義が異なっている等、それぞれ独自性の強いデータベースを構築しているのが実状である。

例えば UNDP をはじめとする国連関係グループでは、独自の情報収集能力をすでに有し、かつ関連機関も多いため、詳細な情報システムの設計なしでこれらデータベースの統合化を開始すると、そのメリットよりも手直しのためのデメリットが生じることとなる。

しかしながら、各種の制約条件（研究会のための費用、場所、時間）のもと、当初から完全な情報システムの構築を目的とせず、４０～５０の項目の違いがある各機関のデータベースフォーマットから、８フィールド程度を共通フィールドとして抽出し、サンプル・

フォーマットを作成することが現実的な対応策であると判断できる。

また、開発情報ネットワーク構築に関わる制約要因として、以下のことが議論された。

1） 組織上の制約要因

- 各機関間のデータの入手可能性、内容、規模の違い、提供体制の未整備
- 情報提供が義務か、自主的なものかによって提供意欲に差が生じる
- 情報公開の要求と極秘情報の扱いの難しさ
- 情報ネットワークに参加する場合に受ける利益が曖昧
- インフラの未整備、中央と出先機関の協力関係確立が難しい
- 機関内の支援、特にトップ・マネージメントの支持が得られにくい
- 運営資金の不足
- 担当者（フォーカル・ポイント）の配置転換

2） データの内容に関する問題点

- 共通フォーマットの作成
- 使用言語の選択および翻訳作業
- 辞書・シソーラスの作成・選択
- 地域の区分等データ・エレメントの標準化
- データの信憑性、完全性と責任
- データ定義と要求されるデータの範囲の決定
- ニーズの変化に対応する柔軟性の確保

3） 環境・技術面での制約要因

- 人的資源、技術、訓練等の不足
- データの活用方法
- 活用先の確認と調査
- 市場性

4） 技術面での問題点

- 電算機の支援・ソフトとハードの選択
- 通信手段・情報提供機器の発達度（特に途上国）
- データの収集と加工のタイミング
- 収集データの容量の制限

- コード化された情報の流用性の確保
- 今後の行動計画と各機関の責任分担

しかしながら、JICA のような二国間援助機関にとって、

1） 二国間の政策対話、援助協調に際し、各国の援助方針や重点セクター、地域を調整し、効率的に援助予算の活用ができる。

2） 国別援助計画の策定に必要な基礎データを把握することができる。

3） 個々の援助プロジェクトの計画立案に際し、その重複を避けることができ、他の援助機関の過去の経験を学ぶことにより、将来直面することが予想される問題にたいして解決策の検討ができる。

4） 各国の援助システムや手法の違いを比較し、自らの援助システムを改善することができる。

等、開発情報ネットワークへ参加することのメリットは大きく、今後も引き続き研究会への積極的な参加が望まれる（付属資料１３ Expected Benefits for Bilateral Donor Agencies Participating in an Information Network 参照）。

３．５ 今後の課題

1） 情報交換の原則はギブアンドテイクである。国別の基礎情報、セクター・地域、あるいは援助計画の策定に直接影響する相手国担当省庁別等の情報が、派遣専門家、調査団等から迅速かつ正確に収集され、国内外を問わず提供が可能な体制を確立する。

2） 公開／非公開資料の区分はありながら、運用上、曖昧になっている部分が見受けられる。資料の実際の取扱方法について調査を行い、情報公開の阻害要因となっているものについて検討する。

3） JICA の実施する事業について、情報整備を必要とする範囲を明確化し、統合化の可能性を検討する。例えば、それぞれ個別にデータベース化が可能な、

① 無償資金協力とプロジェクト方式技術協力との関連性

② および派遣専門家の収集情報との関連性

③ プロジェクト評価との連動

等について、JICA 事業実施サイクル上の各段階において発生する情報を時系列的に把握することは可能である。

4）欧米各国の二国間援助機関および国際機関と比較して、JICA 内の情報システム開発体制の整備は遅れている（付属資料１５ IDRC における MINISIS Version H の開発体制参照）。情報先進国である研究会のメンバーに JICA が考えている情報システムのプロトタイプを提示し、的確なアドバイスを受け、相互の情報システムに関する考え方の違いを整理する。

5）各援助機関の共通的な問題である要員不足の現状に対し、JICA からシステムの設計・開発要員を派遣することが可能であるか検討する。実務を通じて、情報先進国に蓄積されているシステム構築技術を吸収することは JICA の情報部門にとって大きなメリットとなることが期待される。

4. 派遣前専門家集合研修

本年度より、専門家派遣前集合研修の一環としてパーソナルコンピュータ(パソコン)講習が開催された。そこでは、

1) 初心者のためのワープロ・表計算ソフトウェアの講習であること。

2) 途上国での業務形態等を考慮し、今後、パソコンを有効に活用できるための基礎知識を身につける。

3) 実習中心であること。

4) 第1週目は、派遣経験者を対象としたパソコン使用のデモ、第2週目は、選択コースとして各ソフトウェアの入門編、そして第3週目は、課外授業として、第2週目受講者等のフォローアップとしての実務編を実施する。

を方針とし、JICA にとって実際の情報の収集、あるいは情報の提供形態として、どのようなものが適切であるかなども調査した。

- 過去の派遣経験からは、現地でのコンピューター利用率は、概して高いとのとであった。また、携行機材、あるいはその他の方法でパソコン・ワープロを派遣先へ携帯することを考えている者は全受講者中約7割程度であった。海外情報協力事業のひとつとして、彼らからの情報収集と JICA での加工、そして提供という、援助情報の更新循環といったものが必要である。
- 上記に関連して携行機材としてのパソコン、あるいは派遣先でのコンピューター利用等に関する質問が多数あり、そこでは、派遣後に予想される問題（機材の修理体制、利用者のスキル等）も表面化した。しかしながら JICA としては現地の正確なコンピューター利用状況を把握しておらず、今後の調査が必要となっている。
- 受講者へのフォローアップとして、コンピューターに関する派遣先での問題点、質問等の回答を技術情報支援の一環として実施できる体制をつくる。

5. HP3000 の有効利用

（JICA 図書館年間予定表の作成）

HP3000 上で稼働するソフトウェア HPDESK を使用し、事業団図書館の年間予定表を作成した。手順は

① :HELLO LIB.HPOFFICE

② :HPDESK

③ 登録者（所）名を入力

④ Calender 機能の選択

で行う。

予定を作成するためのコマンドは、初心者ユーザーを意識してか比較的やさしく、例えば 1990. 4. 1 ～ 1991. 3.31 までの全日曜日を休館日とする場合、

EVERY MONTH FROM 4/1 TO 3/31/91 ON SUNDAY

といったきわめて日常語に近い言葉で記述できる。今後、他部署での利用が期待される。

付属資料１５に HPDESK を使用した図書館年間カレンダー（抜粋）を示す。

第II部　MINISIS Version Hの概要

目　次

1. 方針

序文（"The Story of MINISIS", M. Arkin, 1985 より抜粋）

１９７１年、国際開発研究センター（International Development Research Centre:IDRC）図書館は、情報科学部（Information Science Division）の組織内プロジェクトとして設立されました。図書館形成の初期段階では、コンピュータの役割について以下の検討が行われました。一つ目は図書館の基本的機能の自動化についてであり、二つ目は図書館あるいは情報センターにおけるコンピュータ化に関する経験の収集でした。開発途上国での情報収集・分析・普及に関する組織は、先進国において新たに開発されたコンピュータ技術を学び、それを利用することに興味を示していました。情報の管理におけるコンピュータ利用の有効性について、的確かつ厳然とした話をしたり、有用なアドバイスを提供するため、情報科学部はコンピュータ技術に関する経験を必要としていました。

図書館のオタワサービス事務所では、１９７３年中旬から１９７９年初旬にかけて、ILO の開発した ISIS を利用していました。しかし、コストと利用の複雑さから、このシステムは徐々に使用されなくなりました。１９７５年、情報科学部はミニコンピュータベースによる ISIS と同程度のパッケージデータベース開発に関するフィージビリティスタディを行い、システムのファイル構造、コマンドファンクション、システム要求などをまとめたレポートを作成しました。

情報科学部は、１９７６年に理事会に対し、以下に示す目標を実現するためのプロジェクト提案を行いました。

- 情報の収集（保管）・検索、および図書館管理ため、ミニコンピュータシステムを使用した ISIS システムの設計、開発、運用。
- 費用節約のため、サービス事務所の使用制限。
- 開発途上国は国際的ネットワークへの参加が困難であるため、これらの国への導入に適した情報の収集・検索システムの提案。
- ミニコンピュータを使用した、IDRC 内での情報システムとデータ処理全般に関する専門知識の蓄積。

MINISIS は４５人月を費やして情報科学部のスタッフにより開発されたものです。２人からなるチームが１２カ月間作業し、別の３人のチームが７カ月間作業しました。Feye Daneliuk（プロジェクトマネージャーであり、設計責任者）、Terry Gavin および Richard Lee は、モデルとなったシステムを解析し、その開発目標を十分に満足するリレーショナル型のデータベースマネージメントシステムを構築しました。

開発にあたっての原則は以下に示すとおりです。

- 広い業務範囲に適用でき、データベースの一般的な使用目的に適合していること。
- モジュラー構成とし、メインテナンスおよび拡張性が容易であること。
- 応用機能はデータベースマネージメント機能から独立していること。
- 多様な出力形式が提供できること。
- 他の情報システムとの情報交換ができること。
- システムが容易に理解され、操作が平易であること。
- 小さな組織でも運用可能であること。
- 国際的システム（AGRIS あるいは ISIS 等）と互換性があること。

１９７９年には１０機関（うち開発途上国では２機関）であったユーザー数は、１９８５年第１四半期に１２４（うち開発途上国は６３）、そして現在では３５０機関まで拡大しています。

１．１　ユーザー

MINISIS は主として図書館内で書誌情報管理のために利用されています。一部のユーザーは先駆的に利用していますが、その他、大部分のユーザーはそのような技術力を有していません。Version H の提供により、技術力を持たないユーザー内への浸透が期待されています。

ユーザーの７０％は開発途上国にあり、無償で MINISIS を利用しています。残りが商業ベースの有償の利用者です。今でもなお開発途上国内のユーザーを第一

に考えていますが、先進国内のユーザーにも同様に対応しなければなりません。北米やヨーロッパで使用されていないツールや科学技術を、開発途上国のユーザーに供給するのは危険なことです。したがって、商業ベースのユーザーに対し、市場性のある製品を開発することも目的の一つとしています。

1．1．1 ユーザー要求

MINISISユーザーグループ会議（MINISIS Users' Group [MUG] Meeting）、ユーザーバグレポート、機能強化要求、スタッフの経験、およびユーザーの提供により図書館（MINLIB）を通じて寄せられたユーザーの要求には以下に示すものがあります。

1） MINISIS には、よりよいユーザーインタフェイスが必要です。画面の表示が不親切です。ヘルプメッセージがいつも有効であるとは限りません。エラーの復旧はほとんど存在していません。新規あるいは経験の浅いユーザーにとっては、コマンドモードによる操作は困難です。経験を積んだユーザーにとっては、メニューモードによる操作は時間がかかりすぎます。

2） 一般に、ユーザーは MINISIS の機能性に満足しています。問題は、多くの機能を同時に使用して演算したり（例えば QUERY, INDEX, COMPUTE と PRINT を同時に利用する）、いくつものプロセッサ間を行き来するときに生じています。

3） MINISIS で提供されていない（例：一連のコントロール、循環）機能のために、ユーザーがアプリケーションを開発することは非常に困難です。

4） ユーザーが自らの要求（例：ユーザー定義のルーチンや出口）を MINISIS にカスタマイズすることは困難です。

5） ドキュメントが利用しにくいです。

6） トレーニング用の材料が不完全で、一貫性のある事例がありません。

7） ハードウェアに関して最も多い疑問は「どうしてHP3000ミニコンピュータでしか利用できないのか？」というものです。

8） ユーザーは標準システムを必要としています。最も多い要求は、完全な図書館パッケージです。

9） ユーザーはデータベースサイズ、レコードサイズ（テキストアプリケーション全部のため）、ファイルサイズやサブファイル数上の限界は必要としていません。

10） ユーザーは他のデータベース管理システムや、パッケージソフト間でのデータの交換を必要としています。

11） ユーザーは MARC との互換性を必要としています。

1．1．2 期待される便益

ユーザーにとっての長期的な便益には、以下に示すようなものがあります。

- 論理的思考が行えるユーザーであれば、アプリケーションの開発が可能であり、プログラマーの必要はありません。
- 高度なシステム保守機能により、データベースマネージャーの作業を容易にします。
- 新しい、経験豊かなユーザーが MINISIS 運用するのに、ドキュメントを参照する必要性は多くはありません。高度なヘルプシステムは、ユーザーインタフェイスとエラー復旧システムとあいまって、MINISIS 運用の複雑さを軽減します。
- ユーザーにおける利用経験の有無に関わらず、コマンドモードおよびメニューモードによる操作で利用が可能です。スクロールモードはネットワークを通して MINISIS を使用する初心者の要求を満足するでしょう。
- ユーザーはプログラミングを行わずに、ILS(Integrated Library System) や IDRIS (Inter-Agency Development Research Information System) などのアプリケーションを導入、カスタマイズした利用が可能です。
- 自習用ドキュメントによって、ユーザーは MINISIS を操作し、データーベースの作成、カスタマイズされたフォーマットに従ったアウトプットの作成やソート、演算を行うことができます。
- ドキュメントは利用しやすく、データーベースサイズ、レコードサイズ、フィールドサイズやサブフィールドサイズの制限に関する項目も記載されています。

1．2 開発にあたっての考慮事項

Version H の開発にあたって考慮した事項には以下のものがあります。

- MINISIS アプリケーションのカスタマイズ -SMA (Standard MINISIS Application), ILS, IDRIS (「2．1 システムの特徴」参照)
- アプリケーション開発のための SQL (Structured Query Language) との互換性
- MARC を活用するための改善
- Version G のデータベースとアプリケーションの Version H への移行
- 他のパッケージとのインタフェイス
- システムファイル保守の自動化
- 冗長なコーディングの排除
- CD-ROM、テキスト、イメージ、音などの将来の情報記録技術の開発への対応
- 実行標準環境の確立
- 他ハードウェア環境での MINISIS ソフトの運用のサポート

1．3 開発スケジュール

- 1991年12月までに、SMA と IDRIS (ミニおよびマイクロバージョン) のシステムとトレーニング用ドキュメントを全てのユーザーに届けます。これは Version G.01 の全ての機能を含み、これまでのユーザーに役立つものです。
- 1990年10月末までには、マイクロコンピュータ用 IDRIS の IDRC 上級マネージメント用アプリケーションのデモンストレーションを行います。これには変換 (ISO IMPORT) と REPORT 機能 (SERCH, SORT, COMPUTE, PRINT)、ヘルプシステムが含まれます。
- 1991年3月末までに Version G ユーザーの一部に SMA と IDRIS (ミニコンピュータ用およびマイクロコンピュータ用) の Beta リリース版を届

けます。

- ユーザーインタフェイスおよびトレーニング用の材料、ドキュメントを改善します。
- Version G から H への変換プログラム、Beta 版のためのバッチジョブインタプリタ（G から H）およびミニコンピュータバージョン（最終）のリリースを行います。
- Version G.01 の高レベルの本質的機能は、追加も含めてサポートします（ただし、低位の機能はサポートされません）。
- Version H には ATS (Application Specification Toolbox) に ADS (Application Development System) を含みます。
- ILS および AST（ミニとマイクロバージョン）は次のリリースで供給します。
- ドキュメントは英語とフランス語で供給します。他言語のドキュメント作成については MINISIS 資源センター（MINISIS Resource Centres：MRC）との協議を予定しています。

第２版以降ではさらに機能を拡張します。

１．４　ベースと必要条件

ミニコンピュータ上でのプログラム開発言語は、HP3000 Classic Series のためにコンパイルされた CCS/C 手順や、HP3000 Precision Architecture のためにコンパイルされた C/XL 手順を呼び出すことができなければなりません。また、マイクロコンピュータのための言語は、Microsoft/C オブジェクトライブラリを呼び出すことができなければなりません。

HP ミニコンピュータのために必要な条件は以下に示すとおりです（これらは最小限度の必要条件であり、パフォーマンスはシステム構成によって変動します）。

HP3000 Classic Series：

- ２５６KB 以上のメモリー、および １００MB のハードディスク（または HP に必要な最低限の構成）
- ディスク容量 ---- MINISIS の初期言語バージョンには約５MB 必要です（もし他言語も利用するならばさらにスペースが必要です）。
- 端末機 ---- カーソル操作が行え、画面が鮮明であることが望まれます。
- オペレーティングシステム ---- MPE Ⅳ または PASCAL Heap マネージメント手順をサポートするシステム。EDITOR/3000、 FCOPY/3000 および SORT /MERGE/3000 を含む HP FOS (Fundamental Operating System)。
- ラインプリンタ ---- 複数の文字セットを利用する場合、それに対応していること。
- １６００bpi の磁気テープ装置またはカートリッジ式テープ装置を１台。

HP3000 Precision Architecture：

- ２４MB 以上のメモリー
- ディスク容量 ---- Classic Seriesと同じ
- 端末機 ---- Classic Seriesと同じ
- オペレーティングシステム ---- EDITOR/XL、FCOPY/XL、SORT/MERGE/XL、MPE/XL を含む HP FOS (Fundamental Operating System)。
- ラインプリンタ ---- 複数の文字セットを利用する場合、それに対応していること。
- １６００bpi の磁気テープ装置またはカートリッジ式テープ装置を１台。

マイクロコンピュータのための必要条件：

- IBM PC/XT/AT または互換機
- ６４０KB 以上の RAM
- ディスク容量 ---- フリースペースはデータファイルを蓄積するために２：１の比率で必要、MINISIS のソフトウェアのためには約５MB の容量が必要。
- モノクロディスプレイ端末（カラーモニタはオプション）
- ３．５インチ７５０KB または ５．２５インチ３６０KB ディスク装置（１台以上）

- ラインプリンタ ---- 複数の文字セットを利用する場合、それに対応していること。
- オペレーティングシステム ---- MS-DOS または PC-DOS 3.3 以上が必要。将来バージョンは拡張メモリに対応するので、Lotus, Intel, Microsoft (LIM) のために EMS が必要となります。

1．5　データの転送と変換

Version G から Version H への変換は、データ定義、データベースおよびバッチファイルの３種類に対して行います。データ定義の変換は、Version H と同時期に供給されるプログラムを利用して行います。データベースの変換は、データファイル、補助ファイルフォーマットおよび KSAM ファイルを Version H フォーマット互換に変換することです。Version G あるいはそれ以前に作成された HP3000 バッチファイルは、Version H のインタプリタ用コマンドによって変換されます。このコマンドは次のバージョンがリリースされるまでの約２４カ月間 Version H.00 によってサポートされます。

Version H におけるミニコンピュータとマイクロコンピュータ間でのデータ交換は、Version H に備わっている IMPORT/EXPORT を使用して行います。

2．システム開発

IDRC 上級マネジメントのためのアプリケーションのデモンストレーションは１９９０年１０月にマイクロコンピュータ上で行われます。また、Beta のリリースは１９９１年３月、MINISIS Version H 全リリースは１９９１年１２月を予定しています。

コンピュータシステムグループ（Computer System Group：CSG）は、システム開発、ユーザーインタフェイス開発、アプリケーション開発、ドキュメント作成・トレーニング、そしてテストの５つのグループから成り立っています。香港生産性委員会（Hong Kong Productivity Council：HKPC）からは５人／年がプロジェクトに関わることになっています。その他にも MINISIS 資源センター（MRCs）、IDRC 図書館をはじめ、様々なユーザーがドキュメント作成（翻訳と校正）、テスト段階で関係することになります。

２．１　システムの特徴（図１ MINISIS Version H 参照）

Version H のために開発されるアプリケーションには SMA（Standard MINISIS Application）、IDRIS（Inter-Agency Development Research Information System）、そして ILS（Integrated Library System）が含まれます。

SMA（Standard MINISIS Application）：

Version G の機能の全ては、SMA に組み込まれます。さらに、Version H の第１リリースでは次の機能が追加されます。

- 統合環境によって、データベースを開いたままファンクション間の移動ができます。
- HELP システムが改良されます。
- ユーザーインタフェイスが改良されます。
- メニューモード（フルスクリーンまたはリモートアクセスからのスクロールモード）とコマンドモードを選択できます。

- MARC のように、一部のユーザー定義を Version H と統合できます。

ILS (Integrated Library System):

ユーザーからの統合図書館システムに対する要求に応じるために開発され、図書館の基礎的機能をモジュールとして供給するアプリケーションです。AST を使用することにより、図書館の需要を満足させるために ILS の機能を強化することもできます。

IDRIS (Inter-Agency Development Research Information System):

IDRIS は開発途上国に関連した研究活動情報データベースです。これらの情報は、参加している援助機関から提供されています。各機関はそれぞれの目的を持って、開発途上国に対する研究協力を行っています。MINISIS Version H での IDRIS アプリケーションの目的は、それぞれの機関で所有するシステムに容易にデータベースをインストールをすることです。これにより、IDRC ホストコンピュータと接続しないでもデータの入力や検索を行えます。データはアプリケーションとともに送付され、定期的に更新されます。

COMPUTE、INDEX そして PRINT の各機能について大幅な改良が加えられました。初心者にも容易に利用できるよう、使いやすいメニュー方式を提供します。

これらのアプリケーションは Application Specification Toolbox (AST) を使用して開発されます。AST はユーザーが自身のアプリケーションを開発したり、既存のアプリケーションの改良が行えるよう、MINISIS の将来のバージョンでリリースする予定です。

AST (Application Specification Toolbox):

AST は Application Development Subsystem, Application Extenntion Subsystem そして Language Change Subsystem を含んでいます。これらのサブシステムは新しいアプリケーションの開発、既存のアプリケーションの修正、既存のアプリケーションの言語の修正に対応したものであり、レイアウトや実行内容を開発・編集するための各種コマンドから成り立っています。

MINISISアプリケーションは、関連した活動とともに、レイアウトを含む一連のインタフェイスから成り立っています。MINISIS Integrated Processor (MIP) は、これらのインタフェイスの翻訳をします。

MINISIS Primitive はアプリケーションを受け入れるための最低限のコマンドです。これらのコマンドは MINISIS の本質的機能 (MINISIS Intrinsics) を呼び出し、MINISIS とユーザー定義のデータ構造を取り扱えるようにします。これらは SQL と互換性があります。

システム管理者およびデータベース管理者は、MINISIS に関連する構造をメインテナンスするのに System Processors を使用します。System Processors は機密保持、ユーザープロフィール、インストール手順、システム形態、データ復旧、文字セット定義、そしてシステムメッセージカタログ編集に関連するコマンドです。このプロセッサは MINISIS Intrinics を通してシステムファイルにアクセスします。

MINISIS Intrinsics はユーザーの作成したデータおよびデータ構造を取り扱うため、分離してプログラミングされた演算部分です。データ構造は MINISIS または他システムによって生成されていなければなりません。MINISIS 以外のシステムが使われているなら、ある程度のプログラミングが必要です。

Version H の MINISIS データ構造は、論理構造がより一様になっており、従来のバージョンとは異なっています。高速検索処理のためのファイルである KSAM ファイルは、Version H に適合するよう変換されます。

第3世代言語プログラムは、COBOL、PASCAL または C のコンピュータ言語を使用してユーザーによりプログラムされます。プログラムは、従来のバージョンで High Level Intrinsics として知られていた本質的機能 (Instrinsics) を利用します。新しいバージョンにおいては、本質的機能はさらに強化されています。プ

ログラマーは Version H のデータベースエリアにアクセスする必要はありませんが、データベースエリアを利用するために書かれたプログラムは書き換えなければなりません。

2．2　機能的分割

2．2．1　SMA

システム管理者・データベース管理者は、DBMGR モジュールによって、データベース管理、機密保持、そしてシステム機能を行うことができます。

END USER モジュールには次に示すものが含まれます。

1. DB SELECTION は次の処理データベースを選択するのに使用します。
2. NEW RECORD は、相互作用的または IMPORT ファイルフォームでデータベースにデータを記入するために使用します。
3. QUERY は次の処理レコードを選択するために使用します。
4. IMPORT は ISO ファイル、BATCHIN ファイル、FIXED1（位置固定）または FIXED2（位置従属）ファイルを入力するのに使用します。
5. UPDATE はデータベースや IMPORT ファイル内のデータを個別に、あるいは一括で修正するのに使用します。また、レコード削除や削除レコードの復活処理、変更禁止の指定・解除を行います。
6. REPORT は指定するドライブにアウトプットを送ったり、フォーマットを修正、編集、記録するために使用します。
7. SORT はソートされたアウトプットのフォームを作成するのに使用します。QUERY で選択された作業中のレコードから、次の処理に必要となるファイルを作成します。ソートを行うには、ソート・キー、範囲を指定し、処理のための各種のパラメータを指定します。SORT の機能は Version G とほぼ同等です。
8. EXPORT は ISO 2709、BATCHIN、位置固定、位置従属ファイルのフォーマットに合わせたアウトプットファイルを作成するのに使用します。UPDATE のた

めに外部と内部データベース間の関連マップを作成するのにも使用します。

9. COMPUTE は演算処理を行います（Version G とほぼ同等です）。

10. HELP はすべてのレベルで、すべてのモジュールから絶対的なものです。画面上にエラーメッセージが現れたら、エラーメッセージに対するヘルプが表示されます。もし表示されなければ、ユーザーは異なったタイプのヘルプを選択することが可能です。

2.2.2 ILS

Version H のための ILS の機能は最終的に決定されていませんが、以下に示すモジュールを検討中です。

1. ACQUISIRION
2. CATALOGUING
3. OPAC (ONLINE PUBLIC ACCESS)
4. CIRCULATION
5. SERIAL CONTROL
6. ILL (INTER-LIBRARY LOAN)

2.2.3 IDRIS

IDRIS は SMA の機能に類似しています。IDRIS のユーザーにはデータの提供者と利用者があります。

データの提供者は以下のモジュールが使用できます。

1. DBMGR
2. NEW
3. QUERY
4. UPDATE
5. REPORT
6. SORT
7. EXPORT

8. COMPUTE

データの利用者は以下のモジュールが使用できます。

1. IMPORT
2. QUERY
3. REPORT
4. SORT
5. COMPUTE

HELP は SMA と同様に全てのレベルに対応しており、REPORTS でも利用できます。

2. 2. 4 AST

Application Development Subsystem によって、アプリケーションのスペック・プロフィールの作成や、3つのサブシステムの共通機能にアクセスできます。アプリケーションのスペック・プロフィールには、アプリケーション ID、機密保護、利用言語が含まれます。アプリケーション ID には、ディレクトリのチェック・更新およびアプリケーションの概要が含まれます。機密保護によって、アプリケーションの変更・拡張、メニュー、言語についての範囲を設定します。アプリケーションの変更に対する設定は、レイアウトおよびアプリケーションの実行内容を含んでいます。言語の設定は、メッセージと I/O モードの言語に関係します。

Application Extension Subsystem, Languege Change Subsystem そして Development Subsystem は、次のような一般的操作を共有しています。それは、アプリケーション機能のリスト作成、アプリケーションの編集、作成・修正・削除のアプリケーション選択、アプリケーションのためのメッセージカタログの編集、アプリケーションのコンパイルと生成、そしてアプリケーションの実行とデバッグのための翻訳です。

アプリケーションのリスト作成機能には、エラーメッセージとワーニングリストの作成とコンパイリング、インタフェイスの投射リスト作成、インタフェイス詳細（機能、機密性、レイアウトの記述、レイアウトフォーマット）リストの作成、アプリケーション変数リストの作成、対話記録リストの作成、そしてアプリケーション詳細リストの作成が含まれています。

アプリケーションの編集は、インタフェイス設計・全体的機能構文設定のためのエディタを使用して行われます。インタフェイス設計では、機能設計、レイアウト、およびインタフェイス（HELP のための）テキスト記述の作成が行えます。レイアウトの設計では、項目メニュー・項目の機密保護・メニュー属性の設計を行い、データ入力画面を設計します。

アプリケーション構成は、モジュールにブレークダウンをすることができます。モジュールは個別に開発することができ、アプリケーション構成フォームにリンクすることができます。

2．3　変換

MINISIS Version H リリースは Version G.01 からデータとデータ定義を変換する変換プログラムとともに配布されます。システムサポートファイルは、ターミナルハンドラと同様に Version H に変換しなければなりません。既存のバッチジョブは、インタプリタにより高速に翻訳されます。インタプリタは Version H.00 のリリースからほぼ２４カ月後に行われる次期リリースまでサポートされます。バッチジョブ翻訳はその後のリリースでもユーザーに供給されます。

2．4　開発手法

MINISIS Version H ソフトウェア開発は、ハードウェアに依存したルーチン、

本質的機能、アプリケーション機能、およびインタフェイスの4つの階層を持っています。コードは ANSI Standard C を使用して書かれます。ハードウェアに依存したルーチンは、C言語によって書かれます。C言語コンパイラは、HP3000では CC/C3000 と C/XL、マイクロコンピュータでは Microsoft C 5.1 の3種類を使用します。高速・高機能が要求されるルーチンは、HP3000 Classic Series では SPL、HP3000 Precision Architecture では PASCAL、そしてマイクロコンピュータでは Microsoft Assembler 5.1 を使用して書かれます。

本質的機能と MIP Primitives はシステムの核となるもので、ハードウェアに依存しないよう開発します。これらのルーチンは、すべてC言語によって書かれます。

システムグループはユーザーインタフェイスを作成する方法として、Applicasion Specificasion Toolbox (AST) を開発します。AST は HP3000 ミニコンピュータおよびマイクロコンピュータ上で作動する第4世代言語によって提供され、アプリケーション開発に有効となるでしょう。

3. ドキュメント作成

Version H のドキュメントは、ドキュメント作成・トレーニンググループにより作成され、3つのタイプのユーザーに向けたものです。SMA 用のドキュメントには以下のものが含まれます。

エンドユーザー用ドキュメント：

- リファレンスマニュアル（データベース管理者／システム管理者にも必要です）
- ワークブック／指導書
- ユーザーガイド

データベース管理者／システム管理者用ドキュメント：

- 運用ガイド
- Applicasion Specification Toolbox ユーザーガイド
- ユーザーガイド
- 変換用ドキュメント／関連ニュース

プログラマ用ドキュメント：

- システムリファレンスガイド
- ハードウェア依存ルーチンのガイド、文字セットの作成、ユーザー定義データ構造のインタフェイス、ファイルフォーマット構造、および高機能本質

またこの他に IDRIS と ILS のためのユーザーガイドが作成されます。

3. 1 開発方針

担当グループによるユーザー分析の結果、以下に示すドキュメントの開発方針が採用されました。

- なすべき作業が迅速に行えるよう、業務志向であること。
- エラー復旧など、問題発生時に解決の手助けとなること。
- 自習パッケージによる自給体制を促進すること。

3．2　翻訳

Version H の初期リリースでは、英語とフランス語によるドキュメントを提供します。スペイン語、中国語、およびアラビア語への翻訳については、MINISIS 資源センター（MINISIS Resource Centres ： MRCs）と協議を行います。

4. トレーニング

トレーニング用ドキュメントと教材は、システム・ドキュメントと整合性を保って開発されます。一貫性のあるドキュメント開発によって、MINISIS に対する体系だったアプローチができます。Version H は、マイクロコンピュータや他のハードウェアで利用でき、今後、利用者の増大が期待されます。その結果、普及・支援（Outreach）担当は、新しいユーザーのトレーニングに対する需要を満足することが困難なものとなります。今後のトレーニングは MINISIS 資源センター（MRC）、MINISIS Resource Persons（MRP）およびユーザー自身によって行われることになります。そのための主要なトレーニング方法である自習を容易にする教材の作成が重要であると考えます。

5. テスト

5. 1 システムテスト（図2：The System Test 参照）

システムテストは、設計書およびテストケースに基づいて行われます。

- アプリケーションテスト ---- SMA、IDRIS、ILS の各モジュールのチェック
- ボリュームテスト ---- 大量データによるプログラム実行
- 使用テスト ---- 人的要素および使用上の問題点の把握
- 機密保護テスト ---- システムの機密性チェック機能の破壊に対するテスト
- 性能テスト ---- 目標性能を満足しない部分があるかどうかのテスト
- 構成テスト ---- 最小および最大のハードウェア構成における各装置のテスト
- 互換・変換テスト ---- 互換性の目標との合致性、互換手続きの作動性のテスト
- 組込テスト ---- プロシージャのシステムへの組み込み方法のチェック

システムテストの目的を下記に示します。

1. ドキュメントの記述と同じ作動をすること。
2. 処理能力は Version G.01 と同等以上であること（同一機能に対して、同一機器構成で同一の処理を行う場合）。
3. エラー診断（エラーメッセージ）と HELP サブシステムは単純で明解であり、コンピュータサイエンスの素養がなくとも理解できること。
4. すべてのユーザーインタフェイスは、概念上の完全性、一貫性、構文・規則・意味論・フォーマット・スタイル・略語の統一性がとれていること。
5. システムはデータの完全性、機能性において信頼できること。

5. 2 文書テスト

一連のリハーサルテストは、ドキュメント化された各ソフトウェアモジュールや章に対して行われます。リハーサルは、一連のタスクの提供と、第一次的およ

び第二次的な利用者に擬せられた被験者グループに対する適切なドキュメントから成り立っています。被験者がタスクを完了させる途中の精神的プロセスを観察します。また、タスクに要する時間と、エラー数の記録もします。

この方法により、被験者のタスク遂行の際の精神的モデル、ドキュメントに含まれる誤解されやすい部分・不明確・不正確な部分が分かります。各タスクの処理時間とエラー数の性能限界値を指定することにより、ユーザー性能との比較を行うことができます。

6. 配布

MINISIS Version H ソフトウェアおよびドキュメントは、これまでのリリースと同様の方法で配布されます。配布は、IDRC、登録配布業者および MINISIS Resource Centers を通じて行われます。ユーザーベースで期待されるシステムの拡張性、および IDRC がサポートしていないハードウェアでの MINISIS の開発可能性に取り組むことは、将来における配布に関する課題です。

HP3000 ミニコンピュータ用の MINISIS Version H は、リール式あるいはカートリッジ式の 1600bpi 磁気テープで配布されます。マイクロコンピュータ用は 3.5インチ720K あるいは 5.25インチ360K ディスケットで配布されます。

ドキュメントおよびトレーニングマニュアルは、従来のバージョンアップと異なり印刷物のみで配布され、コンピュータで読み取れる形態ではありません。同様に、リリース後の更新も印刷物のみで供給されます。

7. 将来の開発に向けて

開発後の重点は AST（第1リリースで供給される ADS を除く）と ILS の完成に置かれ、これらは Version H.00 リリースの約24カ月後に利用できるようになるでしょう。

新しいリリースのスケジュールは、ユーザーの要望・需要と IDRC の利用可能資源によって決定されます。

マイクロコンピュータ用とミニコンピュータ用は機能上互換性があり、可能な限り、同時にリリースされます。しかしながら、これら以外の機種のリリースについて時間的な約束はできません。

ASI と ILS 後の開発には以下の項目が含まれます（これらの開発優先順位は決定していません）。

- 異なるハードウェア環境のための MINISIS Version H（およびそのアプリケーション）。対象機種はまだ決定していません。
- 他パッケージとのインタフェイス（パッケージとインタフェイスは、まだ決定していませんが、例えば dBASE、Lotus などです）。
- イメージ、音声、および全テキスト情報の管理。

第Ⅲ部　MINISIS/IDRISデータベース演習マニュアル　検索編

目　次

ページ

I. はじめに

本マニュアルは、MINISIS／IDRIS データベース検索のための基礎入門編であり、過去においてデータベースにアクセスした経験がある、あるいはコンピュータを利用して業務を行うことがあるといった方を対象に作成しました。

構成としては、1.～5.までが検索にあたって最低限必要な技法の演習。6.以降が少し高度な検索手法と検索補助コマンドの紹介となっています。

また、本マニュアルは、上記の性格上 MINISIS の膨大な機能すべてを網羅したものではありません。必要に応じて原本（An Introduction to MINISIS, August 1985, D.F.Thompson, M.Campbell または MINISIS Volume Ⅰ～Ⅲ）を参照してください。

II. 凡例

1) 直線 ＝ 直線アンダーラインの小文字は、ユーザーの入力箇所を示します（画面出力と区別するため小文字を使用していますが、大文字で入力していただいても結構です）。
2) 強調 ＝ 強調文字は、重要な事項を示します。
3) 波線 ＝ 波線アンダーラインについても強調文字と同意です。

1. MINISIS／IDRIS 概要

1） MINISIS／IDRIS データベースシステムとは

MINISIS はカナダの国際開発研究センター（IDRC：International Development Research Centre）によって開発された情報管理ソフトウェアであり、ミニコンピューターの HP3000 シリーズ上で稼働します。

IDRIS は MINISIS で構築された開発途上国にたいする海外研究協力プロジェクトデータベースであり、IDRC を中心とした下記の機関が情報を提供しています（JICA も 1988.9 よりプロジェクト技術協力の情報を提供）。

① BOSTID(米国)　:Board on Science and Technology for International Development(USAID の研究協力の大半を実施)
② GATE(西ドイツ)　:German Appropriate Technology Exchange ,GTZ
③ IDRC(カナダ)　:International Development Research Centre
④ IFS(スウェーデン)　:International Foundation for Science
⑤ JICA(日本)　:Japan International Cooperation Agency
⑥ NUFFIC(オランダ)　:Netherlands Universities Foundation for International Cooperation
⑦ SAREC(スウェーデン):Swedish Agency for Research Cooperation with Developing Countries
⑧ UNU(国連)　:United Nations University

また、主な情報は以下のとおりです。

① 援助機関名、共同援助機関名
② 対象分野、研究テーマ、キーワード
③ 援助予算額、援助期間、進捗状況
④ 援助受入機関名、研究者名、住所
⑤ プロジェクト概要

2） IDRIS データベースフォーマット
以下に出力例を示します。

Agency: JICA File: 98/HCF/1-5 ISN: 1
Donor: JICA Alternate Language: JPN

Thai Primary Health Care Training Centre

タイ国プライマリーヘルスケア訓練センター

-- Donor Funding by Fiscal Year --

48915000	JPY	19820401	JICA missions, 9 experts, equipment
97272000	JPY	19830401	JICA missions, 11 experts, equipment
85126000	JPY	19840401	JICA missions, 10 experts, equipment
120377000	JPY	19850401	JICA missions, 16 experts, equipment
143294000	JPY	19860401	JICA missions, 17 experts, equipment

Date Funds Committed: 19820929 Completion Date: 19890900 Status: Active

For information, contact: Institute for International Cooperation, JICA.

-- Co-funding Agencies --

WHO

WB

-- Recipient Institutions --

ASEAN Training Centre for Primary Health Care (ATC/PHC)
Salaya, Nakhon Pathom TH

Address: 25/5 Phuttamonthon 4, Salaya, Nakhon Pathom 73170, Thailand
Parent Institution: Mahidol University

Regional Training Centre for Primary Health Care (RTC/PHC)
Khon Kaen TH

Address: Northeastern Region College for Public Health, Khon Kaen, Thailand
Parent Institution: Ministry of Public Health

Regional Training Centre for Primary Health Care (RTC/PHC)
Nakhon Sawan TH

Address: Provincial Health Office Kao-Kard, Heav Supper Highway, Nakhon Sawan 60000, Thailand
Parent Institution: Ministry of Public Health

-- Researchers --

Natth Bhamarapravati Dr.
Function: Project Director

Chairat Mr.
Function: Director

Mathee Mr.
Function: Director

Snan Mr.
Function: Director

Manoj Mr.
Function: Director

-- Cooperating Institutions --

Tokyo University
Bunkyo, Tokyo JP

Saitama Junior College for Public Health
Urawa, Saitama JP

/health education//health services//volunteers//contagious diseases//infant mortality//villages//rural population//information services/

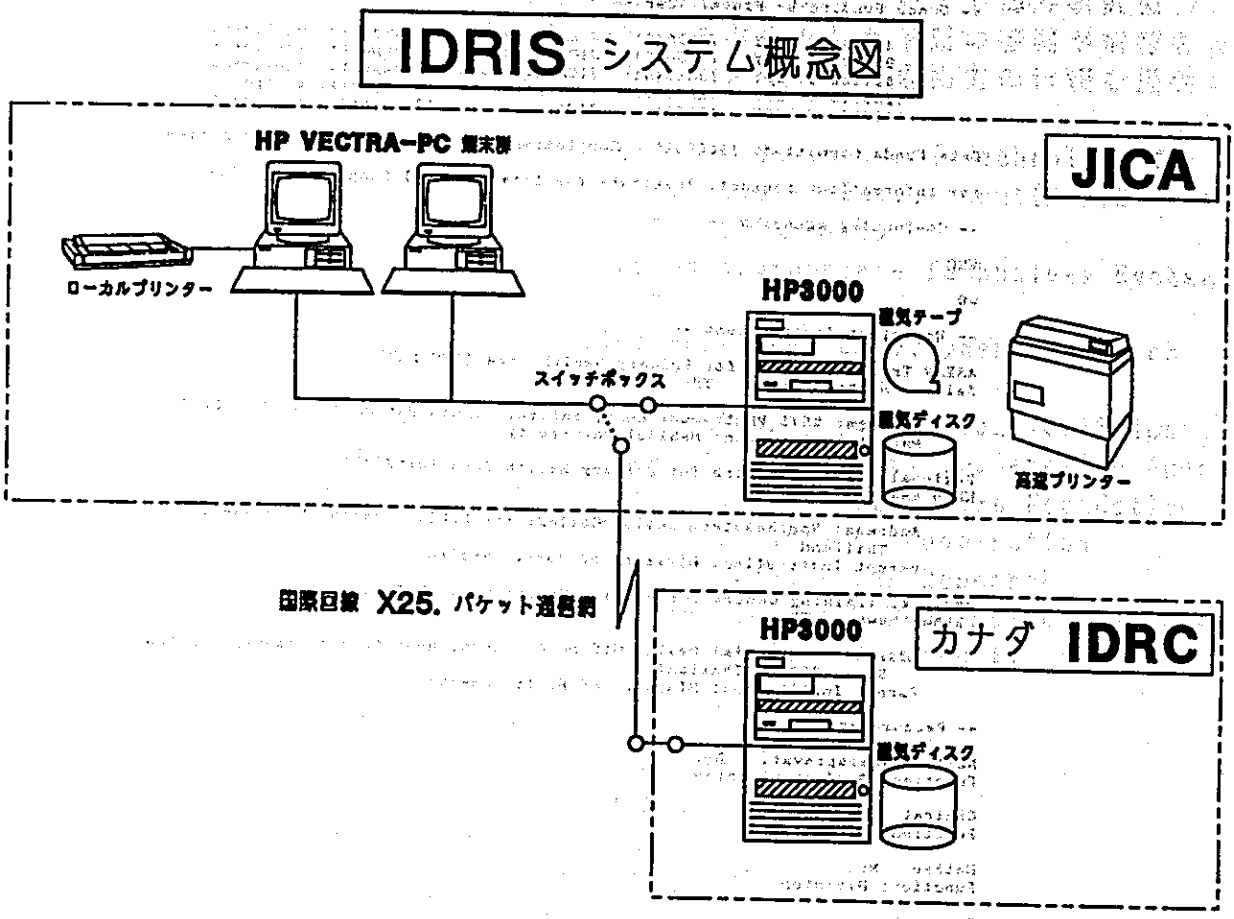
Area Under Study: /ASEAN//Thailand/

Availability of Documents: Anek irunraks, A report of monitoring and evaluation survey for ASEAN Training Centre for PHC Development: (Thailand, JICA,etc.)

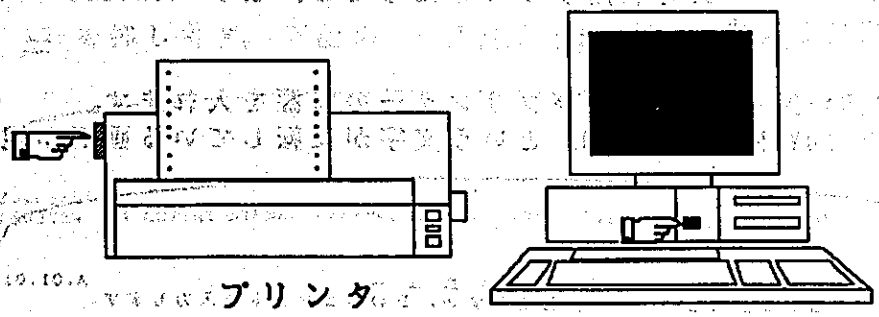
The Thai government has attempted to improve its primary health care (PHC)services. This project, which has been included to the "ASEAN Human Resources Development Projects" since 1982, is primarily intended to train leaders and extension workers who are to contribute to the betterment of PHC in local comunities. The ASEAN Training Centre (ATC) is to implement PHC-related education and training, research and development, and teaching material production programs. The results of these programs are to be utilized at the four regional training centres (RTCs). This project would help with the Thai government for building a large pool of about 500,000 village health volunteers (VHVs) and village health communicators (VHCs). By the end of FY 1987, this project has achieved most of its technical objectives. Socio-economic impacts of this project by utilizing PHC personnel in the local communities would be rather recognized in the long-term observation. As a result of project evaluation, ATC would be promoted to the ASEAN Institute for Health Development (AIHD) and JICA would continue its cooperation with more emphasis on the RTC's activities until Sep.1989.

Notes: 3 billion yen grant for the buildings. 24 participants were trained in Japan.

3） IDRIS システム概念図

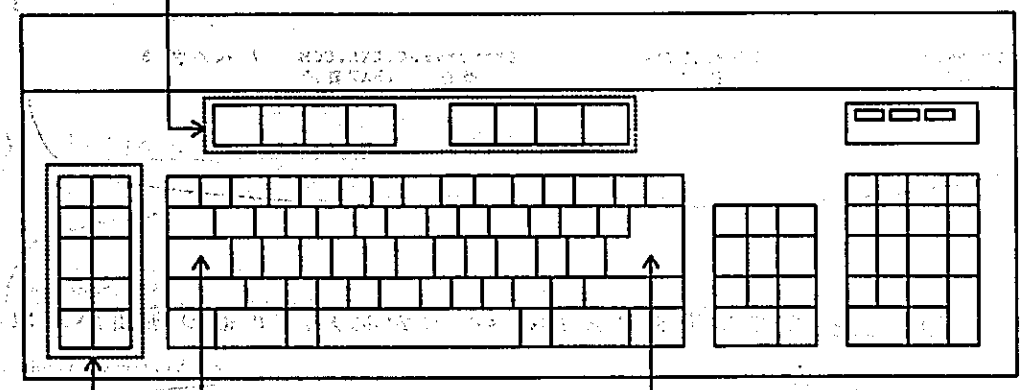


4） VECTRA-PC 端末構成図



☞は電源の位置を示します。

5） キーボード配置図



2. MINISIS の起動

IDRIS データベースを利用するにあたっては、まず MINISIS システムを以下の手順で起動します。

1） VECTRA-PC 端末、およびプリンターの電源を入れます。
下記の ADVANCELINK 2392 という文字が反転している画面が現れます。

```
P A M                    メ イ ン・メ ニ ュ ー                    A.01.01
アプリケーションを選択しｱﾌﾟﾘｹｰｼｮﾝ実行を押すか，ＤＯＳコマンドを入力します．
C>

        Hewlett-Packard                    1989-05-10      10:06:26

ADVANCELINK 2392      一太郎 (JX-Word)    Drawing Gallery-J    DOS COMMANDS

  CHANGE SYSTEM       LASERJET  DIRECT    LOCAL PRINTER        SETUP

1ｱﾌﾟﾘｹｰｼｮﾝ2          3日付時刻4          5ｱﾌﾟﾘｹｰｼｮﾝ6.EXE.COM   7 ヘルプ 8
  実行                 設定                 管理    .BAT表示
```

2） <u>ENTER ↵</u> を押します（以降、↵ と表記）。下記の画面が現れます。

```
AdvanceLink                          メイン                          W.05.01
HP68333W (c) COPYRIGHT Hewlett-Packard Co. 1982, 1983, 1984, 1985, 1986, 1987

1ファイル2        3コマンド4ロギング        5ファイル6 ﾀｰﾐﾅﾙ  7 ヘルプ 8AdvLink
```

3） ↵を押します。下記の ： が表示された画面が現れます。

```
AdvanceLink                                メイン                                W.05.01
HP68333W (c) COPYRIGHT Hewlett-Packard Co. 1982, 1983, 1984, 1985, 1986, 1987

1ファイル2        3コマンド4ロギング        5ファイル6 ﾀｰﾐﾅﾙ  7 ヘルプ 8AdvLink
```

4） hello srch.idris↵ と入力します。

```
AdvanceLink                                メイン                                W.05.01
HP68333W (c) COPYRIGHT Hewlett-Packard Co. 1982, 1983, 1984, 1985, 1986, 1987

:hello srch.idris

1ファイル2        3コマンド4ロギング        5ファイル6 ﾀｰﾐﾅﾙ  7 ヘルプ 8AdvLink
```

5） JICA ウェルカムメッセージ画面が現れたら、minisisj↵ と入力します。

```
AdvanceLink                                メイン                                W.05.01
HP68333W (c) COPYRIGHT Hewlett-Packard Co. 1982, 1983, 1984, 1985, 1986, 1987

:hello srch.idris
HP3000 / MPE V  G.A3.01 (BASE G.A3.01).  WED, MAY 10, 1989,  9:58 AM
*************************************************************
*                                                           *
*       Welcome     to    JICA     Micro3000XE              *
*                                                           *
*************************************************************
:minisis

1ファイル2        3コマンド4ロギング        5ファイル6 ﾀｰﾐﾅﾙ  7 ヘルプ 8AdvLink
```

6） 下記の MINISIS 機能（プロセッサー）選択画面が現れ、起動が終了します。

```
AdvanceLink                                メイン                                W.05.01
HP68333W (c) COPYRIGHT Hewlett-Packard Co. 1982, 1983, 1984, 1985, 1986, 1987

:hello srch.idris
HP3000 / MPE V  G.A3.01 (BASE G.A3.01).  WED, MAY 10, 1989,  9:58 AM
*************************************************************
*                                                           *
*       Welcome     to    JICA     Micro3000XE              *
*                                                           *
*************************************************************
:minisis

MINISIS VERSION G.00.00  WED, MAY 10, 1989, 9:58 AM

VALID FUNCTIONS ARE:

 1. UPDATE          2. LISTDDT         3. PRINT          4. QUERY
 5. LISTFORMAT      6. EXIT

WHICH FUNCTION DO YOU WANT ?

1ファイル2        3コマンド4ロギング        5ファイル6 ﾀｰﾐﾅﾙ  7 ヘルプ 8AdvLink
```

3. 検索機能とデータベースの選択

1） 検索に使用するプロセッサーは、4. QUERY です。4↵ と入力します（query↵ と入力しても可）。

```
AdvanceLink                                   メイン                                    W.05.01
HP68333W (c) COPYRIGHT Hewlett-Packard Co. 1982, 1983, 1984, 1985, 1986, 1987

:hello srch.idris
HP3000 / MPE V  G.A3.01 (BASE G.A3.01).  WED, MAY 10, 1989,  9:58 AM
*****************************************************************
*                                                               *
*      Welcome     to    JICA     Micro3000XE                   *
*                                                               *
*****************************************************************
:minisis

MINISIS VERSION G.00.00  WED, MAY 10, 1989, 9:58 AM

VALID FUNCTIONS ARE:

 1. UPDATE          2. LISTDDT         3. PRINT          4. QUERY
 5. LISTFORMAT      6. EXIT

WHICH FUNCTION DO YOU WANT ? 4

1ファイル2      3コマンド4ロギング      5ファイル6 ﾀｰﾐﾅﾙ  7 ヘルプ 8AdvLink
```

```
WHICH FUNCTION DO YOU WANT ? 4
```

または

```
WHICH FUNCTION DO YOU WANT ? query
```

2） 利用するデータベースの問い合わせに idris↵ と入力します。

```
AdvanceLink                                   メイン                    V.05.01
HP68333W (c) COPYRIGHT Hewlett-Packard Co. 1982, 1983, 1984, 1985, 1986, 1987

:hello srch.idris
HP3000 / MPE V  G.A3.01 (BASE G.A3.01).  WED, MAY 10, 1989, 10:02 AM
*************************************************************
*
*       Welcome     to     JICA     Micro3000XE                 *
*
*************************************************************
:minisis

MINISIS VERSION G.00.00  WED, MAY 10, 1989, 10:03 AM

VALID FUNCTIONS ARE:

 1. UPDATE          2. LISTDDT         3. PRINT          4. QUERY
 5. LISTFORMAT      6. EXIT

WHICH FUNCTION DO YOU WANT ? 4
QUERY/MINISIS G.00.00 WED, MAY 10, 1989, 10:03 AM

ENTER DATA BASE NAME OR EXIT - idris

1ファイル2        3コマンド4ロギング        5ファイル6 ターミナル  7 ヘルプ 8AdvLink
```

```
ENTER DATA BASE NAME OR EXIT - idris
```

3） 下記の > が表示された画面が現れ、以降、QUERY プロセッサーの検索コマンドが使用できます。

```
:hello srch.idris
HP3000 / MPE V  G.A3.01 (BASE G.A3.01).  WED, MAY 10, 1989, 10:02 AM
*************************************************************
*                                                           *
*       Welcome     to     JICA     Micro3000XE              *
*                                                           *
*************************************************************
:minisis

MINISIS VERSION G.00.00  WED, MAY 10, 1989, 10:03 AM

VALID FUNCTIONS ARE:

 1. UPDATE        2. LISTDDT        3. PRINT          4. QUERY
 5. LISTFORMAT    6. EXIT

WHICH FUNCTION DO YOU WANT ? 4
QUERY/MINISIS G.00.00 WED, MAY 10, 1989, 10:03 AM

ENTER DATA BASE NAME OR EXIT - idris
TYPE 'HELP' FOR VALID COMMANDS

>

1ファイル2      3コマンド4ロギング      5ファイル6 ﾀｰﾐﾅﾙ  7 ヘルプ 8AdvLink
```

```
>
```

4. 検索開始

1） プロンプト（入力促進記号＝利用者に入力を促すために画面に現われる記号のこと）を変更します。
QUERY の検索は、Q> プロンプトが表示されている状態で行うのが便利です。=↵ と入力します。

```
> =
```

2） プロンプトが Q> （常時、表示されています）に変わりました。

```
> =
     1 :    P=0      T=0
Q>
```

3） 検索の書式を説明します。

Q> 検索項目 検索用語

の順で入力します。

4） IDRIS に参加している機関とその提供データの件数を調べてみましょう。
agency 0↵ と入力してください。agency が検索項目で 0 が検索用語です。

```
Q> agency 0
   BOSTID   P=211
   GATE   P=108
   IDRC   P=3983
   IFS   P=1481
   JICA   P=105
   NUFFIC   P=21
   SAREC   P=387
   UNU   P=43
     2 :    P=6339   T=6339
```

★ 0 は「すべて」を意味し、検索用語中に使用できます。長い文字列、記憶が曖昧な文字列で検索を行いたいときに便利です。
0 ····· 対象となるものすべて。
ji0 ··· 対象となるもののうち ji で始まるものすべて。

★ P ··· 検索できたデータの件数。
T ··· 検索できたデータのうち、実際にユーザーが見るこ

とのできるデータの件数。

5） ８機関が情報を提供していました（1989.12.25 現在）。agency jica↵ と入力して、JICA の提供データを検索してみましょう。

```
Q> agency jica
    3:      P=105     T=105
```

１０５件でした。少々件数が多いようなので、内容の確認は、もう少し数を絞り込んでから行いましょう。

6） 対象地域がタイ（THAILAND）のデータを検索してみます。（area thailand↵ と入力してください。

```
Q> area thailand
    4:      P=296     T=296
```

7） キーワードが health education というデータを検索してみます。thes health education↵ と入力してください。

```
Q> thes health education
   HEALTH EDUCATION    P=92
   EDUCATION SANITAIRE    P=0
   EDUCACION SANITARIA    P=0
    5:      P=92      T=92
```

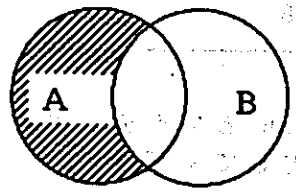
★ IDRIS ではキーワードに OECD のマクロシソーラスを使用しています。

8） 今までに検索したデータをandで結んでみましょう、どうなるでしょうか。3 and 4 and 5↵と入力してください。

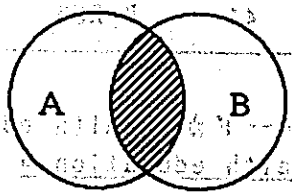
```
Q> 3 and 4 and 5
    6:     P=1      T=1
```

★ and は「かつ」を意味する論理演算子です。その他の重要な論理演算子としては、or , not , eor があります。下図で概念を確認し、同様に試してください。なお演算子の優先順位は以下の通りです。

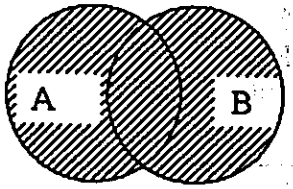
1) NOT （否定）
2) AND （論理積）
3) OR （論理和）
4) EOR （排他的論理和）



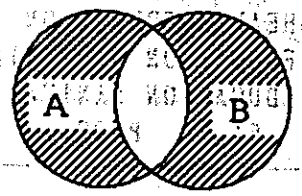
A and not B



A and B



A or B



A eor B

9） 検索結果が1件に絞れました。データの内容を確認してみましょう。
b↵と入力してください。

```
Q>b
```

10） 画面にデータが出力されました。速度が速すぎて確認ができなかったと思います。以下の機能を利用して画面出力をコントロールしてください。

- 画面への出力を一時中止させる　CTRL + S

★ CTRL と S を同時に押し下げることを意味します。以降も同様です。

- 一時中止させた画面出力を再開させる　CTRL + Q
- 画面出力を強制終了させる　CTRL + Y

11） 再度 b↵ と入力してください。すぐ CTRL + S で出力を一時中断させ、データ内容を確認します。確認後 CTRL + Q で出力を再開させ、これを繰り返します。もちろん、CTRL + Y で強制終了させてもかまいません。

12） 次はデータをプリンターへ出力しましょう。下記の手順に従って、データの出力先をプリンターに設定してください。

① CTRL + F6 （左側のファンクションキー）
② f1 （上部のファンクションキー）画面下 装置 選択
③ f2 （ 〃 ） 〃 外部 選択、＊が表示されます（注）
④ f1 （ 〃 ） 〃 装置 選択
⑤ f3 （ 〃 ） 〃 ログ 選択、＊が表示されます（注）

（注） ＊の状態で外部（プリンター）に出力されます。解除は、上記の逆を行ない＊を消去します。ただし ① について行う必要はありません。

13） 再度 b↵ と入力し、プリンターへデータが出力されることを確認してください。

14） データの内容を確認しましょう。

今回の式は 3 and 4 and 5 でした。これは、agency jica and area thailand and thes health education と同一式であることが確認できたでしょうか。

つまり MINISIS では過去の検索履歴を記憶し、検索結果の前にその検索（履歴）番号を表示します。それでは検索履歴を確認しましょう。dsf↵ と入力してください。

```
Q> dsf
AGENCY
     2 :     P=6339    T=6339
AGENCY JICA
     3:      P=105     T=105
AREA THAILAND
     4:      P=296     T=296
THES HEALTH EDUCATION
     5:      P=92      T=92
3 AND 4 AND 5
     6:      P=1       T=1
```

このように、過去の履歴を組み合わせて検索すると、いちいち長い式を書くことがなく便利です。

5. 検索終了

1） 以上で、基礎となる検索技法を終わります。IDRIS を終了させましょう。
exit↵ と入力し、機能選択画面に戻ってください。

```
Q> exit
```

2） MINISIS を終了させましょう。
機能選択画面において 6↵ と入力します（exit↵ と入力しても可）。
：が画面上に出力されたならば終了です。

6. シソーラスを利用した検索

1） 前述したように、MINISIS/IDRIS は、キーワードとして OECD のマクロシソーラスを使用しています。人は同じ意味を表現するにも複数の語句を用いるため、シソーラスを利用することで類似情報の幅広い検索が可能となります。

書式は、検索用語の前に

rt （Related Terms ： 関連語）
bt （Broader Terms ： 上位語）
nt （Narrower Terms ： 下位語）

をつけるだけです。

★ ただし、シソーラスを使用した検索に @ は使用できません。

2） health education をシソーラスを使用して検索してみましょう。=↵ と入力した後（4. 1）参照）、rt helth education↵ と入力してください。

```
> =
     1 :    P=0      T=0

Q> rt health education
   HEALTH EDUCATION   P=92
   HEALTH   P=36
   HYGIENE   P=10
   PREVENTIVE MEDICINE   P=3
   SANITASION   P=66
     2:     P=181    T=181
```

同様に、bt , nt についても試してみてください。

★ 検索項目がキーワードの場合、thes は省略できます。

3） シソーラスと似たものに any というものがあります。これはシソーラス構造に含まるものではありませんが、関連性が高く一緒に利用されることの多い語句をグループ化したものです。

4） any を使用して対象地域が東南アジア（SOUTH EAST ASIA）のデータを検索してみます。 area any south east asia↵ と入力してください。タイも含まれているのが確認できます。

```
Q> area any south east asia
   SOUTH EAST ASIA    P=101
   BURMA    P=7
   INDONESIA    P=227
   LAO PEOPLE'S DEMOCRATIC REPUBLIC    P=3
   MALAYSIA    P=167
   PHILIPPINES    P=282
   SINGAPORE    P=28
   THAILAND    P=296
   VIET NAM    P=33
    3:     P=1035    T=1035
```

7. 検索補助コマンド紹介

1） 高速検索項目の表示

いままで、agency , area , thes といった項目で索引（INDEX）を利用した（ユーザーは意識しません）高速検索を行なってきました。この他の高速検索項目を紹介します。inverted↵ と入力してください。高速検索が可能な項目の一覧表が表示されます。

```
Q> inverted
AGENCY  FILEID  DONOR   TITLE   STATUS  CONAME  INNAME

INCTRY  PARENT  RENAME  CPNAME  AREA    THES    NOTHES
```

それぞれについて説明します。

① AGENCY --- 実施機関名
② FILEID --- 機関内識別記号
③ DONOR ---- 援助供与機関
④ TITLE ---- プロジェクト英文名称
⑤ STATUS --- プロジェクト状態（ Active / Closed ）
⑥ CONAME --- 共同援助供与機関名
⑦ INNAME --- 相手国側実施機関名
⑧ INCTRY --- 相手国コード
⑨ PARENT --- 相手国統轄機関名
⑩ RENAME --- 相手国側実施責任者名
⑪ CPNAME --- 共同実施機関 - 国内委員会等の関連機関
⑫ AREA ----- 対象地域名
⑬ THES ----- マクロシソーラス準拠のキーワード
⑭ NOTHES --- マクロシソーラス準拠以外のキーワード

例として上記の項目を指定して検索を行います。status active↵ と入力してください。

```
Q> status active
     4 :   P=2869   T=2869
```

2）表示フォーマットの変更

IDRIS では表示、および印字のためのフォーマットが１２種類用意されています（1989.12.25 現在）。

例として、f pidris09↵ と入力してください。pidris09 がフォーマットファイル名です。

```
Q> f pidris09
```

続いて、表示フォーマットが変更されたことを確認してください。

```
Q> b
```

どんなフォーマットで出力されましたか。以下に IDRIS で使用できるすべてのフォーマットファイル名を列挙します、試してみてください（海外情報協力 1988版 付属資料5 MINISIS 出力例参照）。

PIDRIS00 ･････････ ロングフォーマット（デフォルト）
PIDRIS01 ･････････ ロングフォーマット
PIDRIS02 ･････････ ミディアムフォーマット
PIDRIS03 ･････････ ショートフォーマット
PIDRIS04 ･････････ ミディアムフォーマット
PIDRIS05 ･････････ ショートフォーマット
PIDRIS06 ･････････ ロングフォーマット
PIDRIS07 ･････････ ショートフォーマット
PIDRIS08 ･････････ ミディアムフォーマット
PIDRIS09 ･････････ ショートフォーマット
PIDRIS10 ･････････ ロングフォーマット
PIDRIS11 ･････････ ロングフォーマット（１３２桁プリンター出力用）

3）検索結果のソート表示

書式を説明します。

Q> b,sort=検索項目（ソート項目）

以下に例を示します。

```
Q> b,sort=area
```

```
Q> b,sort=title
```

4） 本マニュアルの最後にあたり、覚えていると便利なコマンドを紹介します。

HELP --- 使用可能なコマンドとその説明を表示します。

```
Q> help
```

RECLIMIT nn --- 画面に同時に表示させる検索結果の個数を設定します。

```
Q> reclimit 2
```

LIST OFFLINE,NOW,+nnn,LAST nnn --- 検索結果を高速プリンターに出力します。

```
Q> list offline,now
```

付　属　資　料

1　1989年度 IDRIS および開発調査(SURVEY) 登録案件一覧

2　PIDRIS13 出力リスト

3　MINISIS/MARC INTERFACE

4　欧文報告書出力例

5　他機関提供データベース利用許可申請書およびその回答

6　先進国援助機関データベース検索例

7　IDRCにおけるMINISIS開発体制

8　Geographycal Distribution of Financial flows to developing Countries

9　World Development Indicators

10 ACCISプロジェクトデータベース

11 CESIデータベース

12 援助機関間における開発情報ネットワーク研究会討議録

13 Expected Benefits for Bilateral Doner Agencies Participating in an Information Network

14 開発情報ネットワーク研究会主旨賛同機関一覧表

15 図書館年間カレンダー(一部抜粋)

付属資料1　1989年度IDRISおよび開発調査(SURVEY)登録案件一覧

ＩＤＲＩＳ登録プロジェクト一覧

中国鉄道管理学院

中国道路交通管理幹部訓練センター

インドネシア高分子材料（特性解析）研究

インドネシア・スラバヤ電子工学ポリテクニック

大韓民国・企業技術訓練院

ペルー鉱山保安技術育成

マレイシア・ファインセラミックス研究

マレイシア船舶機関士養成計画

フィリピン労働安全衛生センター

シンガポール構造物腐食研究

スリ・ランカ・コンピュータセンター

タイ・ウボン職業訓練センター

タイ・モンクット王工科大ラバン拡充計画

タイ大気腐食（有機被覆）研究

ブルネイコンクリート構造物腐食研究

エジプト建設機械訓練センター

サウディ・アラビア海水淡水化訓練センター

サウディ・アラビア・リヤド電子工業高校

シリア国立計測標準研究所

トルコ・ツヅラ職業技術高等学校

ケニアＮＹＳ上級技術学院センター

ザンビア職業訓練拡充計画

チリ教育テレビ

バングラデシュ・リウマチ熱リウマチ性心疾患抑制パイロット

ケニア人口教育促進

バングラデシュ循環器病対策

ビルマ製薬研究開発センター

ビルマ感染症研究対策

インド日本脳炎ワクチン製造

インドネシア薬品品質管理

インドネシア看護教育

インドネシア北スマトラ地域保健対策

インドネシア中央生物医学研究所

大韓民国・母子保健

大韓民国・循環器センター

ネパール医学教育

ネパール結核対策

ネパール西部地域公衆衛生対策

パキスタン看護教育

パキスタン・イスラマバード小児病院

フィリピン住血吸虫症研究対策

スリ・ランカ国立医学研究所

スリ・ランカ・スリジャヤワルダナプラ総合病院

スリ・ランカ・ペラデニア教育病院

アフガニスタン結核対策

アルジェリア・オラン科学技術大学医療センター

エジプト・カイロ大学小児病院

エジプト看護教育研究

イラン産業衛生・核医学

チュニジア医薬品品質管理

ガーナ大学医学部

ケニア伝染病研究対策

ザンビア感染症

アルゼンティン健康管理システム

ボリヴィア・サンタクルス総合病院

ボリヴィア消化器疾患研究対策

ブラジル・ワクチン製造

チリ胃がん対策

コロンビア中央医学研究所

コスタ・リカ大学医学部

エクアドル微生物病研究対策

グァテマラ・オンコセルカ症研究対策

パラグァイ・ジャガス病等寄生虫症研究

ペルー地域精神衛生向上

ヴェネズェラがん対策

トンガ・日本／WHO合同保健衛生検査所

ユーゴースラヴィア・プライマリヘルスケア生涯教育

バングラデシュ家族計画

中国・家族計画

インドネシア家族計画

ネパール家族計画

フィリピン家族計画

タイ家族計画

スリ・ランカ人口情報

トルコ人口教育促進

ケニア人口教育促進

コロンビア家族計画

メキシコ人口活動促進計画

バングラデシュ園芸研究計画

バングラデシュ農業普及計画

ビルマかんがい技術センター

ビルマ中央農業開発訓練センター

ビルマ養豚・養鶏開発計画

ビルマ・アラカン山系林業開発技術協力計画

中国・北京蔬菜研究センター

インドネシア・エビ養殖

インドネシア南スラウェシ治山

インドネシア農業開発リモートセンシング（II）

インドネシア・ボゴール農科大学大学院

インドネシア作物保護強化フェーズ－

インドネシア適正農業機械技術開発センター

インドネシア農業研究計画

インドネシア浅海養殖

インドネシア・ジャワ山岳林収穫技術協力計画

インドネシア・ボゴール農科大学農産加工計画

インドネシア家畜衛生改善計画

インドネシア南スラウェシ地域農業開発計画

インドネシア養蚕開発計画

インドネシア・ランポン農業開発計画

大韓民国農業研究計画

マレイシア・サバ州造林技術開発訓練計画

マレイシア水管理訓練計画

ネパール・ジャナカプール農業開発計画

フィリピン・パンタパンガン林業開発計画フェーズII

フィリピン畑地かんがい技術開発

フィリピン・カガヤン農業開発計画

スリ・ランカ植物遺伝資源センター

タイ水産資源開発研究計画

タイ・カセサート大学研究協力計画フェーズII

タイ・カセサート大学研究協力計画

タイかんがい農業開発計画

タイ家畜衛生改善計画

モロッコ漁業訓練計画

ナイジェリア・ローア・アナンブラ農業開発

タンザニア・キリマンジャロ農業開発

タンザニア・キリマンジャロ農業開発センター計画

アルゼンティン・ラプラタ大学獣医学部

アルゼンティン国立漁業学校

ボリヴィア家畜繁殖開発計画

ブラジル農業研究

ブラジル野菜研究

ブラジル・サンパウロ林業研究

ブラジル農業研究計画

チリ植物遺伝資源計画

チリ沿岸漁業訓練普及

ドミニカ共和国コショウ開発計画

中部パラグァイ森林造成計画

ペルー・パイタ漁業訓練センター

ペルー野菜生産技術センター計画

ウルグァイ野菜研究計画

ミクロネシア漁業開発プロジェクト

パプア・ニューギニア森林研究所

中国特許情報検索用教育システム開発

インドネシア貿易研修センター

インドネシア建材開発

大韓民国鉱山災害予防技術

マレイシア鋳造技術

ネパール家内工業育成技術

フィリピン・ワニ養殖研究所

フィリピン貿易研修センター

フィリピン・パーティクルボード開発

タイ貿易研修センター

タイ天然ゴム品質改善

タイとうもろこし産業開発

香港・金型技術

タンザニア・キリマンジャロ州中小工業開発フェーズII

タンザニア・キリマンジャロ州中小工業開発

アルゼンティン包装技術

ボリヴィア亜鉛等有価鉱物回収

ブラジル鉱物資源開発

チリ鉱山公害防止技術

チリ銅製錬開発

メキシコ選鉱製錬技術育成

フィリピン大気腐食（金属被覆）研究

タイ地域保健活動向上計画

パラグァイらい対策

インドネシア中堅技術者養成計画

タイ木材生産技術訓練計画

ホンデュラス農業開発研修センター計画

インドネシア低品位ニッケル・ラテライト鉱処理技術

パキスタンＰＩＴＡＣ機械加工技術開発

ブラジル鉱山公害防止技術

ウルグァイ紙パルプ品質改善

開発調査登録案件一覧

ビルマ

The Feasibility Study Report on the Integrated LPG Project in the Socialist Republic of the Union of Burma

インドネシア

Study on Urban Renewal Housing Project in Jakarta

Study Report on Padang Area Flood Control Project

Jakarta Water Supply Development Project

Study of Widas Flood Control and Drainage Project

マレイシア

Master Plan and Feasibility Study for Sewerage and Drainage System Project in Kelang, Port Kelang and its Environs, Malaysia

Study on the Afforestation and Settlement Project in Division V of the Bengkoka Area of the State of Sabah, Malaysia

フィリピン

Feasibility Study on the Establishment of the Powdered Carbon Plants in the Republic of the Philippines

スリ・ランカ

Feasibility Study on Water Supply Scheme for Amparal Group of Towns, Democratic Socialist Republic of Sri Lanka

タイ

Preliminary Study on Flood Protection/Drainage Project in Eastern Suburban-Bangkok

The Study on the Promotion of Metal-working Industries in the Kingdom of Thailand

エジプト

Feasibility Study on Sharqiya Water Supply System in the Arab Republic of Egypt

Feasibility Study on El-Arish Sewerage and Drainage System in the North Sinai Province, Arab Republic of Egypt

ジンバブエ

Rural Water Supply Programme in Communal Lands in Parts of Masvingo and Midlands Provinces, the Republic of Zimbabwe

ブラジル

Study Related to the Regional Development Plan of the Greater Carajas Program of the Federative Republic of Brazil

付属資料2　PIDRIS13出力リスト

!REC-ID 101
!P010!JICA
!P020!21.3/SDC/3-2
!P110!JICA
!P040!19890323
!P030!JPN
!P120!Institute for Skill Development in the Northeast of Thailand
!P130!東北タイ職業訓練センター
!P190!P191!130773000
!P192!JPY
!P140!P141!130773000
!P142!JPY
!P143!19810401
!P144!JICA missions, experts, equipment
!P160!19771212
!P170!19811211
!P060!Closed
!P150!Institute for International Cooperation, JICA
!P310!P311!Kohn Kaen Institute for Skill Development (KISD)
!P312!Kohn Kaen
!P313!TH
!P320!P321!Sakda Bunyoprakarn
!P322!Mr.
!P323!Director
!P330!P331!Employment Promotion Agency
!P332!Chiyoda, Tokyo
!P333!JP
!P420!/vocational schools/ /welding/ /plating/ /training centres/ /training courses/ /electronics/ /electrical machinery/ /construction/
!P410!/Thailand/
!P440!Courses in shops and trades as listed below will be provided by the Institute: gasoline engine repair, diesel engine repair, car body repair, car service, agro-machine repair, sheet-metal and welding, arc-welding, gas-welding, plumbing, lathe operator, general fitter, fitter-machinist, electrical installation wiring, electrical appliance service and repair, radio and TV repair, refrigeration and air-conditioning repair, construction and building, carpentry, furniture making, plastering, bricklaying and concrete.
!REC-ID 102
!P010!JICA
!P020!63/SDC/3-3
!P110!JICA
!P040!19890323
!P030!JPN
!P120!Maintenance Vocational Training Centre
!P130!エジプト・ショブラ機械整備職業訓練センター
!P190!P191!521974000
!P192!JPY
!P140!P141!94661000
!P142!JPY
!P143!19760401
!P144!equipment
!P140!P141!81310000
!P142!JPY
!P143!19770401
!P144!equipment
!P140!P141!60112000
!P142!JPY
!P143!19780401
!P144!equipment
!P140!P141!7532000
!P142!JPY
!P143!19800401
!P144!JICA missions, equipment
!P140!P141!177741000

!P142!JPY
!P143!19810401
!P144!JICA missions, 13 experts, equipment
!P140!P141!76084000
!P142!JPY
!P143!19820401
!P144!JICA missions, 7 experts, equipment
!P140!P141!24534000
!P142!JPY
!P143!19830401
!P144!JICA missions, 6 experts, equipment
!P160!19770130
!P170!19830729
!P060!Closed
!P150!Institute for International Cooperation, JICA
!P310!P311!Shoubra Maintenance Vocational Training Centre
!P312!Cairo
!P313!EG
!P320!P321!Moustafa
!P322!Mr.
!P323!Director
!P330!P331!Japan. Ministry of Labour
!P332!Chiyoda, Tokyo
!P333!JP
!P420!/training centres/ /training courses/ /vocational schools/ /electrical machinery/ /maintenance and repair/ /metalworking industry/
!P410!/Egypt/
!P440!The period of training will consist of training in the Center for 2 years and on-the-job training in production sites of respective enterprises for one year. Trainees are to be from 14 to 19 years old who have finished preparatory education and passed the entrance tests undertaken by the Department of the Productivity & Vocational Training. The courses and the number of trainees are: metal working machine course 20; textile machinery course 40; electricity course 30.
!P510!360 million yen grant for the building, 19 participants were trained in Japan.

付属資料3　MINISIS/MARC INTERFACE

PART II : THE MINISIS/MARC INTERFACE

July 29, 1988

1.0 Processing MARC records with MINISIS

1.1 Introduction

MARC, an abbreviation for MAchine-Readable Cataloguing, was originally used by the Library of Congress to describe a program to automate library processing, and subsequently to describe a format for computer-produced records. It is now used to refer generally to certain standard communications formats for the exchange of machine-readable bibliographic records.

A MARC format may be used as a national standard (as in the case of the Canadian CANMARC format, or the USMARC format in the United States), a regional standard (as in the case of the South East Asian format SEAMARC), or a truly international standard (as is the case of the Universal MARC Format UNIMARC). It may be used primarily by libraries for exchange of data, or it may be intended for a wider community, as is the case with Unesco's Common Communications Format (CCF).

While there are a great many differences between the various MARC or MARC-like formats, there are also similarities. Their specifications conform with the international standard format for bibliographic interchange on magnetic tape (ISO 2709), and the data is generally structured in similar ways. In this document, the term "MARC" is not intended to refer to any specific MARC format, including the MARC format used by the Library of Congress (referred to as USMARC), the MARC format used by the National Library of Canada (CANMARC), or the Universal MARC format (UNIMARC). Instead it refers to the general types of structures and features of national and international MARC formats in general, and of similar formats, such as the Common Communications Format (CCF).

In the initial design of MINISIS, no particular consideration was given to the processing of these MARC-type formats. There was a general base of compatibility, since MINISIS supported the loading and dumping of records in ISO 2709 format. However MARC formats generally specified structures that were difficult to support using MINISIS. Some users of MINISIS tried to write special user exits that would process this data in different ways: in the MINISIS User Contributed Library (UCL), there are programs to assist in the loading of CANMARC data into a MINISIS data base (MARCSUB), and to assist in the loading and dumping of MALMARC (Malaysian MARC) data to and from MINISIS data bases (MALMARCX). However in neither case could MINISIS be said to support in a substantial way a MARC or MARC-type format.

Nevertheless, MINISIS users - in particular university and national libraries in developing countries, continued to be interested in the possibility of both using MINISIS and of exchanging records in MARC format (specifically the UNIMARC format).

In 1982, the Programme Management Committee of the International Federation of Libraries and Associated Institutions (IFLA) with the assistance of the Library of Congress, the British Library and the National Library of Canada, decided to investigate the feasibility of interfacing MINISIS with UNIMARC and CCF, the Common Communications Format developed by Unesco. An independant consultant, Ms. Elaine Woods, was contracted to perform the study; in her report, she identified problems and suggested solutions for MINISIS implementation.[1]

These problems included:

- the need for user access to the information in the ISO leader
- the limit of 256 fields per MINISIS data base
- the MINISIS limit of 9 subfields per subfielded field
- a requirement for repeating subfields
- the inability of MINISIS to process fixed fields.
- a requirement for the sorting of fields containing embedded subfield identifiers
- a requirement for the generation of search keys from fields containing embedded subfield identifiers
- printing of fields containing subfield identifiers

The MARC concepts of fixed and subfielded fields may require some further explanation.

In MARC terms, a fixed field is a field of invariant length containing data elements, also of fixed length, which are identified by their character position within the field. In MINISIS, there is no structure available that corresponds to this type of field. All MINISIS fields are considered to be of variable length, and are identified by the MINISIS programs by the tag of the field in the record directory. There is no means, for example, within MINISIS to access the fifth data character of a given field as a separate data element at data entry time.

A MARC subfielded field is a field which is composed of a two character indicator, and a number of subfields, each subfield consisting of a two character subfield identifier and the data in that subfield. (The first character of the subfield identifier is normally the Unit Separator, octal value 037 and is represented in this document by the dollar sign: "$"). There may be more than 9 subfields in a MARC subfielded field, and a given subfield may occur more than once within the same occurrence of a field. Again, there is no structure in MINISIS that corresponds to this type of field. A MINISIS subfielded field is a field which contains different component fields (called subfields) each of which carries its own tag. The subfields are related to the subfielded field by their position in the record directory, and by the first three characters in their tag which are the same as the tag of the subfielded field.

[1] Woods, Elaine. Report on MINISIS/UNIMARC Study. (November, 1983). This report is available in photocopy or microfiche form from IDRC.

Because of the tag structure, There may be no more than 9 subfields defined for a MINISIS subfielded field; also subfields may not repeat within one occurrence of a MINISIS subfielded field. Therefore MINISIS subfielded fields cannot be used to support data of the kind described for a MARC subfielded field.

IDRC responded in four ways to the problems outlined in the consultant's report. First of all, consideration showed it would be extremely difficult (because of hardware and software considerations) to modify MINISIS to accept more than 256 fields per data base. However, assuming that only a certain number of fields would be required for local processing, it was determined that enough fields could be defined in a MINISIS data base to support a substantial MARC-type record, even if all possible fields could not be accomodated.

Secondly, it was agreed that MINISIS could be modified to accept and load information into the ISO leader from specific fields in a MINISIS data base. Special field tags were added to ISOCONV to permit the dumping or loading of information from the ISO leader when creating an ISO 2709 record using ISOCONV.

Thirdly, MINISIS would be modified in such a way to permit user-written programs to process MARC fixed fields and MARC subfielded fields in a MINISIS database. This included the ability to define, for each MINISIS data base, a parameter file to contain field processing information not normally part of a MINISIS data base definition; and the ability to call user-written exits for special processing of records in PRINT as well as UPDATE, INDEX, ISOCONV, and QUERY.

Finally, in consultation with Ms. Woods, IDRC created just such a series of user-written routines or special exits that would extend the normal processing capabilities of MINISIS to handle MARC fixed fields or subfielded fields. These programs were designed to overcome the most important of the problems identified by Ms. Woods in her report. The MARC exits developed by IDRC consist of a group of programs called "special exits" which may be used to extend the normal processing capabilities of MINISIS to the support of MARC fixed fields and subfielded fields.

These routines were developed for three reasons:

- To serve as examples for users to follow in writing new and different exits based on their local requirements or the requirements of a particular MARC format;
- To serve as a point of departure for users who wish to adapt these exits to their own local requirements or particular MARC format; and
- To be used without modification in cases where users interested in processing or producing records in the UNIMARC format were satisfied with the functions supported by these exits.

It is the responsibility of the individual user to ensure that the generalized solutions provided by the MARC extension of MINISIS conform to the requirements of a given format. Nevertheless, IDRC has worked closely with a consultant, Ms. Elaine Woods, during the development of these MARC exits to ensure that the major requirements of the UNIMARC format may be met by a MINISIS data base. Although it is not possible to use MINISIS to produce, for example, the fullest possible UNIMARC record, tests indicate that users who are willing to forgo fields of peripheral value to their application will be able to produce a useful and quite full UNIMARC record via the MINISIS processors and UNIMARC exits.

The rest of this document describes these particular special exits, the data structures they use, and the way in which they modify standard MINISIS processing to support the processing of MARC type fixed fields and subfielded fields.

Use of these exits supports the following capabilities:

- the entry and modification of each data element in a fixed field in a user-friendly fashion, including validation of entries against a simple list or on a MINISIS validation file;
- the display of subfielded field data including removal of indicators or subfield identifiers, or the substitution of punctuation marks for subfield identifiers (as required, for example, in the production of catalogue cards)
- sorting records on the contents of a subfielded field, ignoring subfield identifiers and (optionally) using indicator values to ignore initial characters at the begining of a field
- sorting records on the contents of a subfield, ignoring subfield identifiers.
- fast access on the contents of any or all subfields of a given subfielded field, either using the whole subfield or keywords extracted from the subfield.

1.2 The IDRC MARC Interface

The MARC exits developed by IDRC are based on a systematic approach to the implementation of fixed fields and subfielded fields within a MINISIS data base. Before describing the data structure the exits use, and the processing of MARC fields that they perform, it will be useful to describe in general terms the approach that has been adopted by the special exits.

Fixed fields are stored within MINISIS record in simple, elementary fields. Each element in the fixed field is stored contiguously, one next to the other without spaces or blanks. For example, UNIMARC field 111 (CODED DATA FIELD: SERIALS-PHYSICAL ATTRIBUTES) might appear in a MINISIS elementary field as shown below:

--$aea

where the dashes (--) represent the two blank indicators, $a the subfield identifier, e the physical medium designator (newspaper format) and a the form of reproduction code (microfilm). When it is necessary to access the different data elements of the fixed field separately for data entry or modification, a mask is used to separate each of the data elements. The information that is required for the mask for each fixed field is stored in a separate MPE file (the MARC table) linked to the data definition file. When the MINISIS processors are used with a special exit, the user is prompted for each separate fixed field data element.

Similarly, UNIMARC subfielded fields are stored within MINISIS elementary and repeatable fields. For example, the UNIMARC subfielded field 022, GOVERNMENT PUBLICATION NUMBER, might appear as below within a MINISIS elementary field:

--aCAbC85 99437 3$zCA85 99437 3$zCD85 99437 3

where the dashes represent blank indicators, the $ sign represents the unit separator octal 37 which, along with the lower case letters, comprise the subfield identifiers. The MARC indicators will be entered as the first two characters in the subfield or MARC subfield identifiers are embedded in the data. When it is necessary to access the indicators, or any of the different subfields of the subfielded field, a mask is applied to the data to distinguish the indicators and each of the component subfields. As with the fixed fields, the information concerning these masks is stored in a parameter file (the MARC TABLE) linked to the MINISIS data base, and accessible to each of the special exits that require it. When used in the normal way, MINISIS processors will treat data as a single string of characters, and will not distinguish between characters that are part of the indicator, the subfield identifiers or the actual data in any of the subfields. There may be any number of subfields (as long as the total length of the field does not exceed the MINISIS maximum length), and a given subfield may repeat many times within a single occurrence of the subfielded field.

2.0 Setting Up the IDRC MINISIS-UNIMARC Interface

A five stage set-up procedure is required before MARC records can be handled by a MINISIS database. During this procedure, the database manager must:

- add messages to the message file for the use of the MARC interface exits
- add (catalog) those MARC exits into the MINISIS SL
- define a MINISIS database to be used for the creation of the MARC TABLE
- create the MARC TABLE which will be used by the MARC exits
- define the MINISIS database which will hold the MARC records

Each of these steps is described in detail on the following pages.

2.1 MARC Messages

The appropriate messages must be added to the MINISIS message files (MESS00, MESS01, MESS02) for the use of the MARC exits. The English messages which should be added to MESS00 may be found in the file MARCMES0 which is distributed in the MESSAGE group of the MINLIB account in the User Contributed Library. Similarly, the French and Spanish messages may be found in MARCMES1 and MARCMES2, respectively. These messages may also be found in appendix D of this manual. Formerly, lines 2373 to 2392 in the MINISIS message files MESS00, MESS01 and MESS02 were reserved for the MARC exit messages. This is no longer true and the database manager is cautioned to watch for conflicts which may arise with other application programs. The convention now observed by IDRC is that line 2294 in the message files will be reserved for the start address of the MARC exit messages. Therefor, the first line in the message file which will be used for MARC messages should be placed in line 2294.

2.2 Adding the MARC Exits To The MINISIS SL

2.2.1 Description of the Exits

The IDRC MARC interface consists of nine exits: USER'DISPLAY, USER'GENKEY, LOAD'MARC'TABLE, MARC'FLD'ATTR, MARCINP (IPFIXED), IPSUBFLD, MARCINDX, MARCPRNT'FUNC1 and GENKEY'FUNC1. These nine procedures can be classified into two types, local and global, in accordance with their use.

A global exit is an exit which is permanently linked to the MINISIS system, and resides in the MINISIS SL. It is provided for tasks which are likely to be required by all or a large number of users at a given installation, e.g. generation of keys used for inversion or searching, or for special routines required to display information. The following are the global routines of the MARC interface developed by IDRC:

- USER'GENKEY is a dummy routine used to call the exit GENKEY'FUNC1 routine
- GENKEY'FUNC1 is the routine called to generate word processing or support fast access on MARC subfielded fields; this exit is called to process MINISIS fields having 1 for FUNCTION CODE OF USER EXTRACTION
- USER'DISPLAY is a routine used to called the routine for printing MARC subfielded fields;
- MARCPRNT'FUNC1 is a routine which formats MARC subfielded fields for display.
- LOAD'MARC'TABLE is a routine called by one of the preceding routines to get the information from the MARC Table and load it into an accessible form (EDS) in memory;
- MARC'FLD'ATTR returns the attributes of a given MARC fixed element or subfield, from the information loaded in memory from the MARC table.

A local exit, on the other hand, will generally do a specific task, required for a specific data base. A local exit resides in a local SL library, and is available only to users of a given account (if the local SL is in the PUB group of that account) or to the users who log on to a specific group (if the SL is in another group in the account). Within the MINISIS system, UPDATE, ISOCONV and INDEX exits are local exits. The following are the local exits supplied as part of the MARC interface:

- MARCINP,IPFIXED processes data for entry or modification of MARC fixed fields. MARCINP and IPFIXED are duplicate entry points for the same exit;
- IPSUBFLD controls data entry of subfielded fields;
- MARCINDX generates sorted keys in INDEX;
- LOAD'MARC'TABLE is a routine called by one of the preceding routines to get the information from the MARC Table and load it into an accessible form in memory;

- MARC'FLD'ATTR returns the attributes of a given MARC fixed element or subfield, based on the information loaded in memory from the MARC table.

LOAD'MARC'TABLE and MARC'FLD'ATTR are counted as both global and local routines, because they are in effect utility routines, called by both the global and local exits, and hence must reside both in the MINISIS and the local SL.

All these routines are distributed together in the MARCEXIT file in the SOURCE group of the MINLIB account (User Contributed Library). The user must load these procedures in the MINISIS SL, and the local account SLs before they can be used to process this MARC-type data. The following section explains how this can be done.

2.2.2 Cataloguing the MARC Exit Routines

2.2.2.1 Cataloguing the Global Exits

When IDRC distributes the MINISIS software, two dummy procedures, USER'DISPLAY and USER'GENKEY are provided in the SL library. These procedures have to be removed before adding the IDRC UNIMARC exits to the SL library. To assist you, there is a job file JMARCSL.EXAMPLE.MINLIB that will catalog these procedures for you. The following shows the proper procedures for cataloging the MARC exits into the SL library.

```
:SPL MARCEXIT,MARCXUSL          <----- compile user routines.
                                       This only needs to be
                                       done if you have made
                                       changes to the MARCEXIT
                                       source code (found as
                                       MARCEXIT.SOURCE.MINLIB
                                       in the UCL).You can skip
                                       this step by taking the
                                       compiled object code
                                       (MARCEXIT.OBJECT.MINLIB)
                                       from the UCL.
:FCOPY
FROM=SL.PUB.MINISIS;TO=SLCOPY;NEW <----- make a copy of SL as
                                       a backup. This may be
                                       used later if anything
                                       goes wrong.
EXIT
:SEGMENTER                        <----- run the MPE SEGMENTER
SL SL.PUB.MINISIS                 <----- work on the SL
PURGESL ENTRY,USER'DISPLAY        <----- purge dummy USER'DISPLAY
PURGESL ENTRY,USER'GENKEY         <----- and USER'GENKEY entries
```

```
USL MARCXUSL                    <----- specify the USL library.
                                    ***If you have made no
                                       changes to the exit
                                       source code and will use
                                       MARCEXIT.OBJECT.MINLIB
                                       from the User Contribu-
                                       ted Library as your USL,
                                       this line should be:
                                       USL MARCEXIT.OBJECT.MINLIB.
ADDSL MARC'ROUTINE,PMAP         <----- add the new segment
                                       MARC'ROUTINE to the SL;
                                       The PMAP option will
                                       result in a listing of
                                       the added segment to
                                       the $STDLIST device
EXIT
```

The modified MINISIS SL library is used to replace the standard SL library.

Now whenever the user instigates a call to the USER'GENKEY or USER'DISPLAY global exits with the appropriate function codes, they will be able to access and execute these global routines. Users within the account where the MINISIS SL is found will also be able to use the local exits which are found in the MINISIS SL in the PUB group of their account.

付 - 19

2.2.2.2 Cataloguing the Local Exits

Users who log on to another account, i.e. an account other than the account where the MINISIS SL resides, will not be able to access the local exits in the MINISIS SL used for sorting records or entering and modifying information. The data base manager must ensure that these users also have access to the local exits in their own log on group or (more likely) account.

The simplest way to ensure that users have access to the local exits is to copy the modified MINISIS SL into the PUB group of each account that is to process MARC records.

```
:FCOPY
FROM=SL.PUB.MINISIS;TO=SL.<group>.<account>;NEW
EXIT
```

MINISIS will then look in the group (or failing that) account SL when it needs to find a local procedure. The fact that the global exits, and all the MINISIS intrinsics are also found in that SL will not effect the processing at all.

Alternatively the data base or system manager may choose to copy the modified MINISIS SL into each account where MARC processing will

take place (as indicated above), and delete all unwanted segments in order to save space. Or the data base manager may choose to compile only a part of the routines in the MARCEXIT file into a USL, and then copy this SL into the PUB group of each account where users will be processing MARC records. The essential thing is to ensure that the global exits are in the MINISIS SL, and the local exits are in the SL in the logon group or account of users who will be accessing data bases with MARC-type records.

2.3 The Parameter File MARCTBLE (The MARC Table)

2.3.1 Introduction

Much in the same way as the information required by MINISIS for the processing of each MINISIS field is stored in the data definition file, the information required by the MARC exits for the special processing of each MARC subfield or fixed field element is stored in the MARC table. The MARC table may be thought of as an extension to the MINISIS data base definition.

The MARC table is a file in EDITOR-compatible format. Each record in the file (with the exception of comment lines) refers to either a MARC fixed field or subfield which will be contained in a MINISIS database. The MARC Table may be given any legal MPE file name, although the examples, print formats and jobs provided in the User Contributed Library expect the name MARCTBLE. The name of the file must be supplied to MINISIS as the NAME OF THE PARAMETER FILE in the header of the data base in which the MARC fields are to be found. While there will be only one MARC Table for each MINISIS data base, for any given application, there may be as many MARC tables as are required for the processing of that data. However normally one table would be used for the RD data base, and any dependent PS data bases, and perhaps associated DS data bases as well.

The applications programmer should note that the structure of the MARC table as outlined below is closely linked with the IDRC-written MARC exits, which use it to interpret the MARC fields. If the programmer wishes to write new exits or adapt the IDRC-written exits, s/he may also have to modify the structure of the MARC table, adding, deleting or re-arranging information as required. In no case will such changes affect the operation of the standard MINISIS processors which do not rely on or call these special exits for individual processing. However the responsibility for these programs, and their accompanying documentation belongs to the programmer himself.

2.3.2 Structure of the MARC Table

The structure of the MARC table (parameter) file is described below. As previously mentioned, the table will be created as an unnumbered EDITOR-compatible file. Each row (record or line) in the table will hold information to be used by the exits in processing one MARC fixed field or subfield. Since one MINISIS field may hold several MARC fixed fields or subfields, there may be more than one record in the table for each MINISIS field or subfield. For example, the MINISIS field G220, which may be defined to hold the UNIMARC field 022 (Government Publication Number) will be mentioned in three entries in the MARC table because UNIMARC field 022 has three subfields ($a - country code; $b - number; and $z - erroneous number). It should be noted that MINISIS fields which will hold MARC fields not containing fixed fields or subfields (for example the UNIMARC field 001 - Record Identifier) will not have entries in the table.

Note that fixed field elements must appear in the table grouped together with other fixed field elements from the same MINISIS field - e.g. if MINISIS field A100 is comprised of fixed field elements BE, OD, IC and IF, those four elements should appear together in the table. Note also that the order in which those elements appear is not important, although careful attention should be paid to the restrictions indicated in the section below on FIXED FIELD DATA ENTRY and BIBLIOGRAPHIC LEVEL PROMPTING.

Subfields of the same subfielded field must be grouped together. The order of these subfield entries in the MARCTBLE is significant for both data entry and indexing.

The table, as described here, may be created using EDITOR or some other EDITOR-compatible file editing program. However, each record in the table is 255 characters in length and has many parameters: to create such a table having many entries would be a tedious task if done manually. A method is described in section 2.3.3 whereby a MINISIS database is used to create entries in the table. This method is highly recommended. It allows the table to be maintained easily, to be printed with headings and to serve as a good backup.

In the section below, the parameters of the MARC table file are listed by position within the record, starting at the first character which has position 1.

Note that, where a Y/N response is expected, the default is N and no value need be supplied - if no value is entered, a blank will be placed in the table; this blank will be read as N by the MARC exits. These values are stored in lines 13 and 14 of the MARC messages (see Appendix D) and are language dependent.

In the listing below, the heading for each MARC table parameter gives the parameter name, the tag of the field in the MINISIS MARCTBLE RD which (if used to load the table - see section 2.3.3.2), will place the correct value into the table, and the character position of the value in the MARC table record.

Note that whether the MARC table is created using EDITOR or the MARCTBLE RD, all fields which are contained within a MINISIS field should be found together in the table - i.e. listed one after the other. This is an absolute requirement since "stray" entries in the table will not be processed by the exits.

**NOTE: Those users who will be using EDITOR to create or make modifications to MARC table records (i.e. rows or lines) are reminded that the entry of the unit separator (octal 37) into the table (as part of a subfield identifier) will take up one character position in the table, but will not display on the terminal screen. For this reason, MARC table entries containing unit separators may not appear to occupy the appropriate columns.

COMMENT INDICATOR (No Tag) Position 1

An asterisk in this position indicates that the line in the MARC table is a comment line, and will not be used by any of the exits. A blank or any other character in this position indicates that what follows is a description for a MARC field. Note that comments may only be inserted using EDITOR; the IDRC MARCTBLE database does not provide a facility for the entry of comments into the MARC table. Those users who feel that the MARCTBLE database should accommodate comment lines may wish to add the appropriate field(s) to the database and make the required changes to the PMARCTBL print format which produces the MARC table disc file.

MINISIS TAG (M000) Positions 2 - 5

This is the MINISIS tag for the field as defined in the MINISIS database. It can be any valid MINISIS tag, i.e. an alphabetic character followed by three digits. The alphabetic character can be in upper or lower case: A100, b101, z999 are all valid tags.

FIXED FIELD/SUBFIELD IDENTIFIER (M010) Positions 7 - 8

For MARC fixed fields, this is the two character mnemonic or "mini-tag" used to specify the fixed field. Note that any alphanumeric character is valid for mnemonics. In UPDATE, the user must enter this identifier in response to the prompt ENTER FIXED FIELD IDENTIFIER in order to identify the fixed field to be added, deleted or changed.

Note that, although you are free to create your own mini-tags, that which is used for the Bibliographic Level field must agree with the tag found in line 19 of the MARC messages (see Appendix D). The tag currently in this line number is BI; users who wish to use a different mini-tag for the Bibliographic Level element should also ensure that this new mini-tag replaces the BI mini-tag in that line.

For subfielded fields, this is the two character MARC subfield identifier which immediately precedes the subfield data. Subfield identifiers may be composed of any two characters; usually in MARC formats this will be the Unit Separator (octal 37), followed by an alphabetic character. On different terminals, the entry of the unit separator from the keyboard may be achieved by different means. For example, on HP2392A terminals, the unit separator is entered by simultaneously pressing the CONTROL, SHIFT and HYPHEN keys; on a HP2621A terminal it is achieved by pressing CONTROL SHIFT and DELETE simultaneously. Those users who would prefer to use only "visible" characters in subfield identifiers or "mini-tags" may prefer to enter a regular ASCII character such as a dollar sign ($) rather than an octal 37 when inputting data at the keyboard. This has the obvious advantage of making data verification easier but means that the subfield identifier will not be recognized by other sites with

whom MARC tapes will be exchanged. In such cases, users may wish to use an ISOCONV exit such as CONVCHAR (in the MINISIS user-contributed library). Such exits may convert specified subfield identifier characters such as a $ to octal 37 during the ISOCONV LOADing of MINISIS databases or vice-versa during DUMPing.

FIELD NAME (M020) Positions 10 - 24

This is the name of the fixed field element or subfield. This name is used by the IPFIXED (MARCINP) and IPSUBFLD exits to prompt the user to enter the fixed field element or subfield during data entry. You may wish to include the two character FIXED FIELD/ SUBFIELD IDENTIFIER in the FIELD NAME for easy reference at data entry time.

LENGTH OF THE FIXED FIELD ELEMENT (M030) Positions 26 - 28

This is the length of the fixed field data element. If this length is greater than the data entered by the user, then the data entered is left justified and padded with trailing blanks or the FIXED FIELD FILLER. If, however, right-justification is specified for the field, the data would be right justified with leading blanks, or the FIXED FIELD FILLER.

This parameter does not apply to subfields and should be left blank in entries meant to define subfields.

OFFSET OF FIXED FIELD ELEMENT (M040) Position 30 - 32

This is the position, relative to zero, of the fixed field element within the MINISIS field holding the fixed field data. The first position in the MINISIS field is considered to to be 0. For example, consider the MINISIS field S110 defined to hold UNIMARC field 110 - CODED DATA FIELD: SERIALS. The first character position, which would hold the Type of Serial Designator, would have an offset of zero. The table entry for Frequency of Issue would have an offset of 1; that for Regularity an offset of 2; etc..

This parameter does not apply to subfields and should be left blank in entries meant to define subfields.

ENTRY (Y/N) (M050) Position 34

A value of Y (for YES) in this position means that the IPFIXED (MARCINP) and IPSUBFLD exits will be called for the data element during data entry, either by default or from the keyboard. If the user enters an N, then the data element will not be prompted. If DATA ENTRY is Y and this entry is for a fixed field element, then both LENGTH OF FIXED FIELD and OFFSET OF FIXED FIELD ELEMENT must be present.

INDEX SORT KEY GENERATION (Y/N) (M060) Position 36

A value of Y (for YES) in this position means that the subfield will be used in generating a key by INDEX when a local exit is specified with the EXIT=<name> command. If the value is N, then the subfield will be ignored when sorting records, i.e. it will not make up part of the key generated from the whole field if the MARCINDX'FUNC1, WHOLE'FIELD, PRIMARY'WHOLE, or SECOND'WHOLE exit is used, or no key will be generated from this subfield if the MARCINDX'FUNC2, SUBFIELD, PRIMARY'SUBFLD, or SECOND'SUBFLD exit is called. The user is referred to the section of this manual dealing with the indexing of MARC records for more details.

This value does not apply to fixed fields.

PRINT (Y/N) (M070) Position 38

A value of Y in this position means that the subfield will be processed by the USER'DISPLAY exit called by the PRINT processor. If the value is N, the subfield will not be printed.

This value applies only to subfields, and should not be entered for fixed field elements.

USER'GENKEY INVERTED KEY GENER'N (Y/N) (M080) Position 40

A value of Y in this position means that the subfield will be processed by the USER'GENKEY exit. This exit will:

- invert records online, on release or offline;
- sort records using word processing, e.g. using INDEX with the FUNC=n parameter at the field level, and FUNCTION CODE OF USER EXTRACTION = 1 at the field definition level of your RD.
  - FUNC=1 indicates that we want to extract the subfields for any key level.
  - FUNC=2 indicates that we want to extract the subfields for the primary key level only.
  - FUNC=3 indicates that we want to extract the subfields for key levels other than primary.
- generate keys for fast access searching during QUERY.

If you wish to have keys produced from the field during inversion, there must be a "Y" in this column. The value placed in the next colum determines whether the keys generated are by word or whole field processing.

If you wish to use FUNC 2 or 3, then please refer to column 44 (M200) for further instructions.

This parameter does not apply to fixed fields.

WORD PROCESSING (Y/N) (M090) Position 42

A value of Y in this position means that word processing will be used when the global exit USER'GENKEY is called. Each word in the subfield becomes a separate sort key, or a separate key in the inverted file; strings within the subfield which are separated by blanks are considered to be separate words. Since word processing is performed by the USER'GENKEY exit, the value to the preceding prompt must also be Y.

If the value is N, or any value other than Y, then the whole subfield is taken as the key.

This parameter does not apply to fixed fields.

PRIMARY/SECONDARY KEY EXTRACTION (1/2/) (M200) Position 44

A value of space in this column means that this subfield is to be extracted for a composite key, regardless of the key level. In INDEX, the sort definition for the key will call EXIT= MARCINDX'FUNC1 or WHOLE'FIELD, or MARCINDX'FUNC2 or SUBFIELD. MARCINDX'FUNC1 and WHOLE'FIELD will make the subfield part of a composite key. MARCINDX'FUNC2 and SUBFIELD will make the subfield a key of its own. For USER'GENKEY key extraction, at the field level of the sort definition of the key, you would specify FUNC=1 for extraction at any key level.

A value of 1 in this column means that this subfield is to be extracted only for primary keys. In INDEX, the sort definition for the primary key will call EXIT=PRIMARY'WHOLE or PRIMARY'SUBFLD. PRIMARY'WHOLE will make the subfield part of the primary composite key. PRIMARY'SUBFLD will make the subfield a primary key. For USER'GENKEY key extraction, at the field level of the sort definition of the primary key, you would specify FUNC=2.

A value of 2 in this column means that this subfield is to be extracted for keys other than the primary level. In INDEX, the sort definition for the key will call EXIT=SECOND'WHOLE or SECOND'SUBFLD. SECOND'WHOLE will make the subfield part of a composite key. SECOND'SUBFLD will make the subfield a key of its own. For USER'GENKEY key extraction, at the field level of the sort definition of the key, you would specify FUNC=3.

Control of FIXED FIELD and SUBFIELD Prompting

The following four positions are used to control the prompting of fixed field data elements and subfields during data entry. They depend on the value of the data entered by the user in the Bibliographic Level fixed field corresponding to the ISO Record Label. In the database example found in the User Contributed Library, this field has ISO tag BIL, RD tag L070 and fixed field

identifier (mini-tag) BI, the latter being found in the 19th line of MARC messages (see Appendix D). The entry in the MARC Table for the Bibliographic Level field (L070 BI) must precede the entries for any other fixed field elements or subfields whose prompting depends on the value of the bibliographic level. Where bibliographic levels will be used to control prompting, the database therefor should have the bibliographic level field defined at the beginning of the database record.

If no bibliographic level is entered when the L070 field has been prompted, or no bibliographic level has been entered by the time the fixed field element is being prompted, then all fields with a Y in any of the positions from 44 to 50 will be prompted.

PROMPT FOR FIELD IF MONOGRAPH (M100) Position 46

A value of Y in this position means that the fixed field element or subfield will be prompted for if the bibliographic level entered in the Bibliographic Level fixed field element (L070 BI) is M or m for "monograph".

PROMPT FOR FIELD IF ANALYTIC (A100) Position 48

A value of Y in this position means that the subfield or fixed field data element will be prompted for if the bibliographic level entered in the Bibliographic Level element (L070 BI) is A or a for "analytic".

PROMPT FOR FIELD IF COLLECTIVE (C100) Position 50

A value of Y in this position means that the fixed field element or subfield will be prompted for if the bibliographic level entered in the Bibliographic Level element (L070 BI) is C or c for "collective"

PROMPT FOR FIELD IF SERIAL (S100) Position 52

A value of Y in this position means that the fixed field data element or subfield will be prompted for if the bibliographic level entered in the Bibliographic Level element (L070 BI) is S or s for "serial".

RIGHT JUSTIFY FIXED FIELD (Y/N) (M110) Position 54

A value of Y in this position indicates that the fixed field data element will be right-justified if the data entered is less than the length of the fixed field. The data element will be padded on the left with the fill character indicated in Position 56.

Any other value in this position means that the element will be left-justified if the value entered is less than length of the element. The element will be padded on the right with the fill character indicated in Position 56.

This parameter does not apply to subfields.

FIXED FIELD FILL CHARACTER (M120) Position 56

This is the character used to fill out the data element of a fixed field if the data entered is less in length than the length of the fixed field. The default value is a space.

This parameter does not apply to subfields.

CONTROL CHARACTERS/INDICATOR STRIP FLAG (M130) Position 58 - 59

In some MARC formats, special characters are used to delimit characters in the subfield which will be ignored during sorting. If such characters are used in this format, then they should be entered in Positions 58-59 in the entry for the first subfield of the MARC subfielded field.

In other MARC formats, the value of an indicator in the MARC subfielded field specifies the number of characters at the beginning of the first subfield to be ignored for sorting purposes. In these cases, Position 58 should indicate which indicator character contains this value. For example an ASCII "1" in Position 58 means that the first indicator character contains the number of characters to be ignored in filing; a "2" in Position 58 means that it is the second indicator character that contains this number.

This parameter does not apply to fixed fields.

DEFAULT VALUE FOR FIXED FIELD (M140) Positions 61-70

This is the default value of the fixed field data element. The value Y must be in the DATA ENTRY column. If the value N is in each of the bibliographic prompting columns, then the default will be entered for the fixed element, though you will not be prompted for it. If the fixed field element is prompted, and no data is entered, then the default is entered in the element. The default value may be up to 10 characters long. Note that default values should not be specified where the fixed field is contained in a repeatable MINISIS field. If default values are specified for such fields, MINISIS will prompt for the field indefinitely since prompting for repeatable fields does not stop until no data are entered into the field.

This parameter applies only to fixed field elements.

DEFAULT INDICATOR (M210) Positions 72-75

This is the value which IPSUBFLD will automatically put in the indicator position in MARC subfielded fields during data entry (i.e. immediately preceding the first subfield of data). This value must be defined for the first subfield of each MARC subfielded field appearing in MARC table. Only two characters may be entered here. In the MARC table, those characters will be bracketed by the delimiter character found in M190. If no value exists in M190, a double quote (") character will be used. Do not enter a delimiter into M210 with the DEFAULT INDICATOR.

If no data is entered into the MARC subfield for which this is defined, the DEFAULT INDICATOR will be placed before the first subfield for which data is entered. For example, a subfielded field contains $a, $b and $d, and the DEFAULT INDICATOR is defined in the MARC table for $a. In records where data is not entered into $a but is entered into $b, the indicator will be placed in front of $b.

This value applies only to subfielded fields. Where it is desirable to enter an indicator into a fixed field, define a fixed field element to handle it.

It is not currently possible to directly enter indicator values into MINISIS MARC subfielded fields - the DEFAULT INDICATOR described above must be used. If no value is present in columns 72-75, no indicator will be put into the subfielded field. An indicator of 2 spaces (blanks) may be supplied in the table.

Printing Subfields With MARCPRNT

The next 3 columns in the MARCTBLE are referred to by the MARCPRNT exit only. The MARCPRNT exit is available to subfielded fields only. That is, the field to be displayed must have subfield identifiers in it. The exit does not care whether you entered the subfielded field using IPFIXED or IPSUBFLD. For example, if you called exit IPFIXED on MINISIS field A000 to enter a MARC fixed field, you could have the following entries in the MARCTBLE:

tag	len	ofs	Entry	Print	M	A	C	S
A000 IN Indicator...	002	000	Y	n	n	Y	n	n
A000 $a Subfield a...	002	002	Y	Y	n	Y	n	n
A000 DA date 1 ...	004	004	Y	n	n	Y	n	n
A000 D2 date 2 ...	004	008	Y	n	n	Y	n	n

Note, all elements are prompted for as fixed data elements. Only $a has the value Y in the PRINT column. If in your print format A000 calls MARC print exit, it will recognize the $a with the PRINT column Y, and proceed to print A000 using the function code specified in the print format field definition. If A000 has the value 01$a19781987 then with FUNC=1, the indicator and $a would be stripped, printing 19781987

SUBFIELD IDENTIFIER REPLACEMENT STRING (M150) Positions 77-88

This can also be referred to as a pre-literal. This is the value which will be displayed instead of the subfield identifier when the subfield is printed using the USER'DISPLAY exit in PRINT. It may be up to 12 characters in length and must be delimited by two identical characters which constitute two of the allowed 12 characters. For example !; ! would result in a semi-colon and a space being substituted for the subfield identifier when the subfield was displayed. /Title: / in Positions 77-88 would mean that the subfield identifier would be replaced by "Title", a colon and a space. Note that, where it is desirable to have the subfield identifier replacement string separated by spaces from the data portion of the record during record display, those spaces must be a part of the replacement string. Note that those users who will be creating the MARC table using the IDRC-supplied MARCTBLE RD may supply the character to be used to delimit the subfield identifier replacement string when prompted for field M190 in the IDRC MARCTBLE RD. If no character is supplied, the TEST fields in print format PMARCTBL used to create the MARC table disc file will supply a quotation mark (") as the delimiter. If the above example is considered, the print format would place the subfield identifier replacement string into the MARC table as shown here: "Title: ".

SUPPRESS DUPLICATE FULL STOP (M220) Position 90

If the last character of the last subfielded field that the MARC print exit displayed was a full-stop (.), and the first character of the current subfielded field is a full-stop, then the current full-stop is suppressed. The full-stops are looked for, by the exit, after all massaging, done by MARCEXIT, is completed. Therefor, the full-stop may be part of the post literal of the last existing subfield of the last subfielded field. It may also be the first character of the first existing subfield's pre-literal. Note the following examples.

A000 subfields : $aLondon$bxi, 244 p.
B000 subfields : $cWestview studies$eISBN 0-8133-7174-0

If $b of A000 had no pre or post literals defined, using FUNC=1 it would be printed as :

London xi, 244 p.

If $c had a pre-literal (replacement of subfield identifier) defined as ". -- ", the following would print

. -- Westview studies ISBN 0-8133-7174-0

If the SUPPRESS FULL STOP was indicated in the MARCTBLE for the entry B000 $c, then the following would print.

London xi, 244 p. -- Westview studies ISBN 0-8133-7174-0

If the MINISIS PRINT field definition had a literal to be printed in between the 2 subfielded fields, the full stop would still be suppressed from the second subfielded field:

London xi, 244 p.B000 LITERAL -- Westview studies ISBN 0-8133-7174-0

If the MINISIS print format had a field definition that did not call the MARC print exit, in between the 2 subfielded fields, the full stop would still be suppressed from the second subfielded field:

London xi, 244 p.
W900 STATUS: XXXX
-- Westview studies ISBN 0-8133-7174-0

This feature works only where the full stop is part of either the data, a pre-literal or a post-literal. It does not suppress full stops contained in MINISIS PRINT format LITERAL 1 or LITERAL 2.

POST LITERAL OF SUBFIELDS (M230) Positions 92-103

This is a string enclosed in delimiters (as defined in M190). The literal has a maximum length of 10 characters. This value will be displayed directly after the subfield. For example, subfield value "xi, 207 p." with post literal ". --" would print

xi, 207 p.. --

Validation of Fixed Fields

The following positions refer to the validation of fixed field elements only. Validation may take place using either a KSAM validation file, or a list of valid values entered directly into the MARC table, but not both. The first two parameters below refer to validation using a MINISIS KSAM database; VALIDATION LIST describes how to enter a list of valid values directly into the table.

ROOT NAME OF VALIDATION FILE (M160) Positions 105-108

This is the four-character root name of the KSAM file to be used for validation. This file should be built as a MINISIS data base with file type KSAM.

This parameter does not apply to subfields.

PRIMARY KEY LENGTH IN VALIDATION FILE (M170) Positions 109-111

This is the length of the KSAM file primary key against which the fixed field data element will be validated. This value must be an

even number. Unlike validation of standard MINISIS fields, the validation of fixed fields can only take place against the primary key of the validation file.

This parameter does not apply to subfields.

VALIDATION LIST (M180) Positions 105-248

This is a list of valid values for the element, when validation against a MINISIS data base (i.e. KSAM file) is not required. This method is generally used when the number of valid values is too small to justify the setting up of a KSAM file. The list must begin with a left parenthesis "(" and end with a right parenthesis ")". Each value in the list must be separated by a semi- colon ";". For example, for the data element LANGUAGE, the value in Positions 105 - 248 might be:

(EN;FR;SP;RU)

Note: If the MARCTBLE RD is used to create the MARC Table (as described in section 2.3.2.2 below), the "(" and ")" at the beginning and the end of this list are printed as literals, and should not be entered in the field. Only the valid values, separated by semi-colons should be entered. This field is defined in the MARCTBLE RD as a repeatable field of a length of 20 characters; you may enter multiple occurrences, with several values in each occurrence. Each occurrence must end with a semi-colon, except the last. Note that values to be tested are "case sensitive" - that is, upper case letters must be matched by upper case letters during data entry.

This parameter does not apply to subfields.

DELIMITER FOR SUBFIELD STRING (M190) Various Columns

This is the character which will be used in the MARC table for the DEFAULT INDICATOR and SUBFIELD IDENTIFIER REPLACEMENT STRING. Only one character should be supplied here. If none is supplied, a double quote (") will be used.

2.3.3 Creating the MARC Table

The MARC Table is an ordinary MPE file in EDITOR-compatible format. It can be created by entering data with EDITOR, or by using the MARCTBLE MINISIS data base supplied in the User Contributed Library (UCL).

2.3.3.1 Using Editor to Create the MARC Table

Set the EDITOR default line size and right margin to 255 characters, input the appropriate responses in the column positions indicated above, and keep the resulting file as an unnumbered file as follows:

```
:EDITOR
/set length=255, right=255
/a
        .
        .
        .
        .     [parameters for each MARC fixed or subfielded field]
        .
        .
        .
        //
/keep <table-name>,unn
/exit
:
```

<Table-name> is the user-defined name for the MARC Table file, which must be given as the NAME OF PARAMETER FILE in the data base definition; examples given in this document will use the file name MARCTBLE.

This method is, however, a painstaking and error-prone way of creating the file: It is easy to misplace a character, or to drop a character by mistake, causing all the other characters to shift one position, thereby producing undesired results. IDRC has developed a simpler alternative method, using a database to enter and print out these parameters in the form of a disc file. This method is described below. Although you may prefer this easier method, you may still find it useful to edit the MARC table using EDITOR. When editing the file, you should be careful that the appropriate values are not displaced from their columns.

2.3.3.2 Using an RD to Create the MARC Table

To make creation of the MARC Table faster and easier for the user, a data base definition called MARCTBLE has been included in the User Contributed Library. If you are working under version F.02 or earlier of MINISIS, you can take this data definition from the UCL by building and/or editing the appropriate SYSCHEMA and KEYGROUP files, as well as by copying the appropriate DD file and creating the necessary MASTER and XREF files, as described in the MINISIS newsletter article by R. Davies (March, 1986). You can also achieve the same effect by using DATADICT to enter, at the keyboard, the MARCTBLE data definition listed in Appendix A. This latter method is less complex than trying to copy the database definition from the UCL but much easier than trying to build a definition using EDITOR. If you are working with version G.00 or later of MINISIS, you can access this database by specifying the database name as

DBNAME.ACCOUNT. You should also be able to copy the data definition to your account using BATCHIN or ISOCONV.

If you decide to use the IDRC-supplied RD and print format to create the MARC table, you should be sure to use the same field tags as those supplied with the data definition in the appendices. The print format which creates the MARC table expects these tags and will not work correctly if the RD contains different tags.

You should note that not all characteristics in the MARC table apply to all fields: for example OFFSET OF FIXED FIELD ELEMENT (positions 30-32 in the table) applies only to fixed fields; values should not be supplied for lines in the table which are intended to define subfields. When inputting data into the MARCTBLE database using the UPDATE processor, the user must remember which prompts correspond to fixed fields and which correspond to subfields. To assist in this task, two Projected Subsets are supplied with the MARCTBLE database definition in the appendices. These two PS's, FIXEDFLD and SUBFIELD, project only those fields which apply to fixed fields or subfields and, if data entry is done through these PS's, the user need not remember which prompts are appropriate. Of course, this requires that fields and subfields be entered separately. You should note that, when installing the two PS data definitions, the DATADICT INITNUM command should be used to ensure that the two Projected Subsets do not compete for ISNs when writing records to the MARCTBLE RD master file. This can be done via the command sequence shown below:

```
- INITNUM FIXEDFLD=MARCTBLE
- INITNUM SUBFIELD=MARCTBLE
```

Note that both the MARCTBLE RD, as well as the PS's, must have AUTO-NUMBERING turned on for this to work.

Once the MARCTBLE data definition has been entered, the MARC table can be easily built using the MINISIS UPDATE processor. Each of the MARCTBLE database fields will correspond to one characteristic of a MARC fixed field or subfield. Each record in the MARCTBLE database corresponds to one line or record in the MARC table and therefor to one subfield or fixed field in the eventual MARC database. The order of these records can be changed in Editor if necessary.

It should be stressed here that, where prompting will be controlled by the bibliographic level, the field L070, BIBLIOGRAPHIC LEVEL (BI), must be the first record in the MARC table and/or the MARCTBLE RD. The omission of this field from the table, or its improper placement in the table will produce unpredictable results. You should also note that the mini-tag of this field must be that found in line 19 of the MARC messages (see Appendix D).

Note that, although there should be one record, or line, in the MARC TABLE for each fixed field or subfield in the eventual MARC database, there may be many lines in the table for each MINISIS MARC field. This is because the IDRC MARC interface places several fixed

fields or subfields into each MINISIS field. For example, consider each of the following MINISIS MARC fields:

- UNIMARC field 512 - Cover Title has 2 subfields: $a (Cover Title) and $e (Other Title Information). There would be one line (record) in the MARC TABLE for each of those subfields. If MINISIS field F120 were defined to hold those subfields, it would appear twice in the table, once for subfield $a and once for subfield $e. Data actually entered into F120 might look as shown below:

  $aThe Agronomic Future of India$eA Review$eTowards 2000

- UNIMARC field 120 - CDF:Cartographic Materials has 6 fixed field elements: indicator (1 char); index indicator (1 char); narrative text indicator (1 char); relief codes (4 chars); map projection (2 chars) and prime meridian (4 chars). There would be one entry in the MARC TABLE for each of these elements. MINISIS field B200 would be referenced in each of those entries and would therefor appear six times in the table (actually seven since there would also be an entry for the $a subfield indicator in the field - see tips on handling MARC fields in section 2.4). Data actually entered into B200 might look as below:

  $abbbaa bdaa

Note that all fixed fields and subfields which will form part of a MINISIS MARC database must be defined in the MARC TABLE. Fields which will be in the MARC database and which are not of the fixed field or subfield type will not be processed by the IDRC MARC exits and therefor should not be described in the table. Such UNIMARC fields as 001 - RECORD IDENTIFIER field may therefor be defined as elementary fields in the MARC database; they need not be described in the MARC TABLE and data may be entered directly into them as into a "regular" MINISIS database field.

Once all of the appropriate MARC fields have been defined in the MARCTBLE database, you will need to create the MARC table disc file to be used by the IDRC MARC exits. This is done by using a MINISIS print format to print the MARCTBLE records to an MPE disc file. IDRC has created such a print format file, called PMARCTBL (found in the User Contributed Library as PMARCTBL.EXAMPLE.MINLIB). This print format will print information in the MARCTBLE database in the exact format required for the MARCTBLE parameter file. Also, to assist in printing these records to a disc file, rather than a printer device, IDRC has created a job called JOUTFL00 (English) and JOUTFL01 (French). This job may be found in the EXAMPLE group of the MINLIB account and is also listed in the appendices. Before running JOUTFL, you should be aware that it creates a permanent disc file called OUTFL to accept output from the PMARCTBL print format. Before streaming the job, you should purge or otherwise remove pre-existing permanent files by that name. Alternatively, you may wish to

redirect output to another file by way of a file equation, in which case the job should be modified to allow this.

To provide further assistance to users of the IDRC UNIMARC interface, print formats PMARCEnn and PMARCHnn are also provided in the EXAMPLE group of the UCL account MINLIB. PMARCEnn will print the contents of the MARCTBLE database with control characters (such as the unit separator octal 037) so that entries for subfields can be checked. Note that this format operates by sending to the list device a control character which turns on DISPLAY FUNCTIONS. In some cases, for example when the listing is being sent to an HP2688A laser printer, you will find differences in page length characteristics resulting from the use of this print format.

The print format PMARCHnn will print out the contents of the MARCTBLE database with headings which allow the user to easily determine the meaning of data in MARCTBLE record lines.

In the above discussion, nn is a language code such that PMARCE00 is used for English applications and PMARCE01 for French. Further information is available in Appendix C.

2.4 Defining the MINISIS MARC Database

Definition of MINISIS databases to hold MARC records differs in several respects from "regular" MINISIS database definitions. Specific design considerations are outlined below:

2.4.1 Header

The header record for RD's is as usual. The database should be defined as a MASTER type and no NON-MINISIS file type should be supplied. However, the name of the MARCTBLE parameter file should be supplied in response to the NAME OF PARAMETER FILE. Again, the name MARCTBLE does not have to be used, but this is the name of the file created by the batch job supplied in the User Contributed Library and is used throughout this documentation by way of example. In any case, the name of the parameter file you supply should be the name of the 255 byte ASCII file created by the PMARCTBL print format when writing to a disc file (i.e. the name of the disc file).

2.4.2 Field Definitions

The following design considerations are required for field definitions:

2.4.2.1 Fixed Fields

MINISIS fields which will be holding fixed field information should be long enough to hold not only the number of characters in the fixed field data, but also any indicators and subfield markers. Consider, for example, the UNIMARC field 110 - CODED DATA FIELD: SERIALS. This field has 2 indicators, a 2-character subfield marker and 11 data characters. The MINISIS field to hold this MARC field should then be defined as being 15 characters long. Although UNIMARC field 110 has 9 fixed field elements described for it, the MINISIS field into which data entry for field 110 will be done must hold 11 fixed field elements. These 11 will be comprised of the 9 defined UNIMARC elements plus an initial two character element for the indicator and a second two character element for the subfield identifier ($a). Note that the two positions assigned to the indicator would really represent two indicators not separately defined. If the two indicators were defined (or only one was), you would have to define each as a one character fixed field element.

When defining MINISIS fields to hold fixed field elements, you should reply MARCINP or IPFIXED to NAME OF EXIT and YES to PROMPTING CONTROLLED BY EXIT. This means that, at data entry time, MARCINP/IPFIXED will take over prompting for the fixed field elements and place the supplied fixed field elements in their appropriate place within the MINISIS field. MARCINP (IPFIXED) will prompt with the FIELD NAME supplied for each fixed field data element in the MARC TABLE; for the purposes of data entry and

modification you will have to address the fixed field data element by its FIXED FIELD IDENTIFIER, also in the MARC table.

2.4.2.2 Subfielded Fields

The MARCEXIT interface has been enhanced to allow the MARCTBLE and exit to control the prompting of MARC subfielded fields. The exit name is IPSUBFLD. As described in section 2.3.2, Structure of the MARC Table, the only options available to IPSUBFLD are bibliographic prompting, and default indicator. The length and offset columns do no apply to subfields. Only those subfields indicated for prompting will be prompted for. Please refer to section 3.2 for details.

The definition of MARC subfielded fields will also require special considerations. Fields that will be inverted should be defined as usually done, using whole field extraction. In addition, 1 should be supplied as the FUNCTION CODE OF USER EXTRACTION. Other inversion parameters should be supplied as described below:

- LENGTH OF KEY TO EXTRACT should be the maximum length of any key which will be extracted from either a MINISIS or a MARC field (to a maximum length of 256). This applies whether keys are being extracted from MARC subfields in a MINISIS field or directly from a MINISIS field.
- NUMBER OF SIGNIFICANT KEYS EXTRACTED should be the maximum number of keys which will be extracted from all of the MARC subfields within a MINISIS field. For example, if a MINISIS field is divided into MARC subfields $a and $b, both of which will be inverted, this number should be the maximum expected total of both MARC subfields
- TYPE OF EXTRACTION should be whole field (i.e. neither WORD nor TERM) - if WORD or whole MARC subfield keys are to be extracted, then this should be specified in the MARC table; all key extraction will be performed according to instructions found there
- INVERT ONLINE/OFFLINE/ON RELEASE may be as required for your application

The FIELD LENGTH defined for MINISIS fields intended to hold subfielded MARC data should be long enough to hold all of the anticipated data plus any indicators. When assessing field lengths remember that some subfields may repeat - you will have to estimate the maximum number of repeats and take this into account. In some cases, the entire group of subfields may repeat - in this case, you may make the MINISIS field repeatable. However, where not all of the subfields will repeat (as is usually the case), you should not make the field repeatable. Rather, you should handle the repetitions in one long string within the field. Below is given an example using UNIMARC field 011 - INTERNATIONAL STANDARD SERIAL NUMBER. This field contains two blank indicators, followed by four subfields: $a(ISSN - not repeatable); $b (Qualification - not repeatable); $d (Terms of

Availability or Price - not repeatable) and $z (Erroneous ISSN - repeatable). At data entry time, data might be entered into this field as shown below:

--$a1234-1234$bDiffers from erroneous ISSN on back cover$dDiscontinued 1980$z1243-1234$z1432-1234

Note that the dashes in the above example are used to represent the blanks in the unused indicator.

There are two options for the entry of subfielded fields in MINISIS, depending on the number of subfields that will have to be accommodated. Where the MINISIS field will not have to support more than 9 subfields, you may wish to define each MARC subfield as a distinct MINISIS subfield. This will make data entry for the subfields a little easier due to the prompting which will be available. Also, it will be possible to address subfields individually in UPDATE. This method would work for the ISSN example above - you could define a subfielded field A110 (for example) with four subfields: A111 (ISSN); A112 (Qualification); A113 (Terms of availability/Price) and A114 (Erroneous ISSN). In field A111 you would enter the blank indicators along with the $a field contents; in A114 you would have to enter all repetitions of $z; in all fields you would have to enter the subfield identifier ($a,$b, etc.). You should remember, however, that while this mechanism is available to you, it will "use up" some of the maximum 256 fields which a MINISIS database may contain. Where your application may contain a large number of fields, therefor, the options described below should be considered. You should also note that, where the intention is to exchange data with other MARC sites via ISOCONV, this method will present problems with indicators since ISOCONV will not allow data to be entered into the indicators. Where the intention is to control the value of the indicators, provision must be made for the entry of those values from the keyboard via the UPDATE processor. In this case, one of the options described below should be used.

The second option for entering subfielded MARC fields having more than 9 subfields is to enter the indicators, subfield identifiers and data in one contiguous string in a MINISIS elementary (or repeatable) field. This is the option used in the first ISSN example above and described in detail in section 3.2.1. A third option is to use the exit IPFIXED, as described in sections 3.2.2 and 3.2.3.

2.4.3 MARC Records Exceeding the F.02 4K Limit

Where it is expected that MARC records will exceed the MINISIS length limit of 4K (for version F.02) data characters, arrangements should be made to accommodate the greater length of record. This may be accomplished by joining the records of an RD to themselves via a Data Submodel. For this to work, you will need two extra fields in the MINISIS RD definition: a field called SPLIT ISN and another field called CONTINUATION FLAG. SPLIT ISN should be defined as an elementary field 10 characters in length (long enough to hold the longest possible ISN). It need not be inverted. CONTINUATION

FLAG should be 4 characters in length, must be inverted (regular B-TREE) through the RD itself (not through the DS) and should be repeatable. The DS should be set up with the MARC RD being named as the first component and the preceding tag that of the SPLIT ISN. The next component of the join should also be the MINISIS MARC RD with the current component tag being that of the CONTINUATION FLAG. The DS should be defined with the initial restriction given below:

= ISN 1/99999 AND NOT (TAG OF CONTINUATION FLAG FIELD) CONT

At data entry time, when the MARC RD is approaching the 4096 byte limit, data entry should be discontinued and the ISN of the next logical record (i.e. the ISN after the record currently being worked on) should be placed into the SPLIT ISN field. You should then exit the record by supplying the UPDATE command NEXT and start entering data into the next MINISIS MARC record. Only enter data which has not yet been placed into the preceding record. Along with the data you place into the second (continuing) record, you should place the value "CONT" into the CONTINUATION FLAG field.

Note that, under version G.00 of MINISIS, the absolute record limit is 64K and the above strategy is not required to accommodate records greater than 4K bytes. Also, the version G.00 64K limit is absolute and may not be extended by the use of chained joins, as is described above.

2.4.4 Other Data Structures

The MINISIS MARC exits will support both DS and PS structures defined on underlying MINISIS MARC RDs.

KSAM files for the validation of fixed field values may be defined as per usual. Remember that KSAM validation is "case-sensitive", that is, validation will not succeed unless the value being tested is lower-case when the valid value in the KSAM file is also lower-case; the same is true of upper-case values.

2.4.5 Field Tags

With the exception of the bibliographic level field (See below), field tags may take any valid MINISIS value. However, those users who wish to maintain some congruence between their MINISIS field tags and MARC field tags may adopt the IDRC convention (not enforced) in which field tags are derived according to the following scheme:

- the number of the block in which the UNIMARC field is located is used to derive the alphabetic first character of the MINISIS tag. For example, fields in UNIMARC block 0 would have MINISIS tags beginning with A. In this way, UNIMARC field 020 - National Bibliography Number will have a MINISIS tag beginning with the letter A.

- The last two numbers of the UNIMARC field are multiplied by 10 to produce the numeric characters in the MINISIS tag. Thus, UNIMARC field tag 020 above becomes MINISIS field A200.

The bibliographic level field will normally be the ISO 2709 leader tag BIL, as described in section III.5.1. In your CD, BIL can be mapped to any MINISIS elementary tag. In this document, we have chosen tag L070. If bibliographic level prompting is desired with the MARC exits, whichever MINISIS tag you use for bibliographic level must be the first entry in your MARC table. The mini-tag used in this documentation is BI, although you may use any value, provided you place it in line 19 of the MARC messages.

3.0 Data Entry

Data entry protocol for the MINISIS UNIMARC interface will differ for each type of field in the MARC record database. Fields which will not hold fixed or subfielded data will not be processed in any way by the MARC exits and do not have to be treated differently during data entry in UPDATE. REC ID (UNIMARC field 001) is one such field. Fields which will contain fixed or subfielded data, however, may have to be handled as outlined below. Note that since bibliographic level processing is controlled by information in the MARC table, the LEVEL= option of the UPDATE command NEW should not be used when initiating data entry for MARC data.

3.1 Fixed Fields

The following documentation for data entry of fixed fields, will refer to the exit name IPFIXED, although either MARCINP or IPFIXED may be used in the data definition since both entry points will execute the same program.

If in the MINISIS data base definition for the field, PROMPTING CONTROLLED BY EXIT is Yes, and IPFIXED is supplied as the name of the SPECIAL EXIT, then the MARC exit will take over the prompting of the fixed field. When UPDATE comes to the fixed field then, the name of the MINISIS field will not be prompted. Instead, the user will be prompted with the two character identifier of the first fixed field element which has been defined for prompting in the MARC table, followed on a separate line by the IPFIXED prompt, which is a hyphen.

Reply with the data for this element of the fixed field.

If no value is entered, the default value from the MARC table will be placed into the fixed field. If there is no default value, then blanks will be placed into the fixed field.

Fixed field elements will be prompted for in the order in which they appear in the MARC table parameter file.

If the value entered is too long, you will receive a message of the type:

** FIELD IS TOO LONG BY n -- RIGHTMOST CHARACTERS TRUNCATED

If the value entered is not a valid value, you will receive a warning message, and will have displayed for you a list of valid values. Where the value was matched against a list of values in the MARC table and found to be invalid, the error message will look as below:

** INVALID FIELD VALUE
THE VALID VALUES ARE:
a
b

c
d
e
f
g

Note that all of the valid values will be displayed.

Where the value was matched against a KSAM authority file and found to be invalid, the error message will be as below:

a
b
c
d
e
f
g
z

**<field id> NOT VALIDATED - SELECT ONE OF ABOVE VALUES

Note that, where validation is performed against a KSAM authority file, values less than the illegally entered value will not be displayed (i.e. the list of valid values which will be displayed will start with the value next highest to the illegal one which was entered).

In either case, once the error message has been displayed, you will then be prompted again with the element name and the hyphen. Choose one of these valid values, and re-enter it in response to the "-" prompt.

Note that, whether the valid values for the fixed field element are derived from the MARC table or a KSAM authority file, values entered from the keyboard must match exactly, so that an upper case character will not match its equivalent lower case character, and vice versa.

Once all of the MINISIS fields (fixed, subfielded and regular) have been prompted for, the regular UPDATE prompt shown below will be given:

PLEASE SELECT FUNCTION
?

Since bibliographic level prompting is controlled for fixed fields by the information in the MARC table, the LEVEL= option of the NEXT command will not be meaningful and, if used for MINISIS fixed fields, will produce no effect on prompting for fixed field data elements.

For a discussion of record editing commands such as TRA, CHA, REP, ADDS and TRAS, refer to section 4.0. The ADD, DEL, and LIST will

only work at the MINISIS field level: it will not be possible to ADD, DEL or LIST individual fixed field elements. Thus, the entire MINISIS field containing the fixed field element of interest must be addressed. For example, if MINISIS field B210 holds fixed field elements DF, GF and IL, then it will only be possible to ADD, DEL or LIST field B210; using these commands on DF, GF or IL will not be successful. To DELete or ADD one of those fixed field elements, you must DELete or ADD the entire MINISIS field B210.

When a MINISIS fixed field is listed, the MINISIS name of the whole field is printed, and all the elements are listed one after the other on the following line without spaces or delimiters.

When a MINISIS fixed field is deleted, the message

** FIELD <field id> DELETED

will be displayed, where <field id> will be the ID of the MINISIS field, and not simply one of its fixed field elements.

When a MINISIS fixed field is ADDed, IPFIXED will take over prompting for the field, such that the individual fixed field elements will be prompted for by their fixed field two character identifiers, followed on the next line by the IPFIXED hyphen prompt.

Although fixed field elements will generally be prompted for in the order in which they appear in the MARC table parameter file, in some instances, the prompting sequence of fixed field elements may depend on the value that has been entered as the bibliographic level of the item. If a value of A, M, C or S (or the equivalents in lower case) is entered in the fixed field element with the identifier BI or bi (for "bibliographic level"), then only succeeding elements with a Y in the prompt column corresponding to that bibliographic level will be prompted. The experienced MINISIS user will notice that this is substantially different from the system employed by the standard MINISIS software for controlling prompting by bibliographic levels.

Note that the Bibliographic Level value affects only the prompting for fixed field elements that follow the Bibliographic Level element in the MARC Table. Any elements prompted before the Bibliographic Level element will be prompted if they have a Y in any of the PROMPT or ENTRY columns (positions 46 - 52, and 34) in the MARC Table. Similarly, if no value is entered when the Bibliographic Level element is prompted, any succeeding element will be prompted if it has a Y in any of the PROMPT and ENTRY columns.

3.2 Subfielded Fields

There are 3 possible methods to enter subfielded fields in MARC.

3.2.1 Using MINISIS UPDATE for entry

The first method described here is when field prompting is not controlled by the MARC exits. You would reply N to the prompt in the field definition in DATADICT. If there are less than 10 subfields and you are not concerned with the indicator, then the MINISIS method of handling subfields may be used. Otherwise, the subfielded field can be entered as one string of subfields. Consider the MINISIS field A110 which has been defined to hold UNIMARC field 011 - International Standard Serial Number (ISSN). The UNIMARC field has 4 subfields in addition to two unused 1 character indicators.

- $a: ISSN Number (non-repeating)
- $b: Qualification (non-repeating)
- $d: Terms of Availability or Price (non-repeating)
- $z: Erroneous ISSN (repeatable)

When prompted by MINISIS for field A110, data should be entered after the UPDATE prompt (?) as shown below:

```
ISSN (in/$a/$b/$d/$z)
?--$a4321-1234$berror 1st vol$dceased 1979$z3210-0123$z9876-5432
```

Note that, in the above example:

- the two dashes (--) represent two blanks entered at the beginning for the two unused indicators in UNIMARC field 011
- the subfield identifier is not separated from the data by any blanks or delimiters
- the subfield identifier is entered for each occurrence of the repeatable field ($z)
- the $ represents the unit separator (octal 037) which is entered on HP 2392A terminals as CONTROL/SHIFT-HYPHEN, and on 2622A terminals as CONTROL/DELETE

Note also that the field name has been defined in DATADICT to include a shorthand for the leading indicators as well as the subfield identifiers. Although you may wish to adopt this convention for your application, it is not required by the system.

Where entire UNIMARC fields are repeatable, and the MINISIS fields which will hold those UNIMARC FIELDS have been made repeatable, you will be re-prompted for the field until a carriage return is entered. Care should be taken to distinguish between instances where the entire UNIMARC field is repeatable and those where only one of the UNIMARC subfields is repeatable (as in the example above).

Once data have been entered into all of the prompted fields, the UPDATE prompt below will be issued:


```
PLEASE SELECT FUNCTION
?
```

At this time, you may edit any MARC/MINISIS subfielded field according to the field level options described in the MINISIS UPDATE manual. Note that it is not possible to manipulate a MARC subfield within a MINISIS field; all commands must address the MINISIS field in which the subfields are contained.

Note that, where the number of UNIMARC subfields is less than nine (the MINISIS limit), the database manager may have defined each subfield as a MINISIS subfield. For the ISSN example above, MINISIS field A110 may have been defined as a subfielded field having subfields A111 - ISSN; A112 - Qualification; A113 - Terms of Availability/Price and A114 - Erroneous ISSN. Where this is the case, each UNIMARC subfield may be prompted for separately (as a regular MINISIS subfield). Because MINISIS subfields are not repeatable; you will have to input repeating values by the same method described above for Erroneous ISSN: the repetitions must be entered in a continguous string within the MINISIS field, with the subfield indicator being entered with each repetition.

When subfields are handled in the above way, they may, of course, be individually addressed by the UPDATE field level commands. Using the above example, it would be possible to DELete field A112 or LIST field A113. Performing such operations on field A110 would have the expected effects. Refer to the MINISIS UPDATE manual for further details.

3.2.2 Using IPFIXED exit for entry

The second method is controlled by the exit IPFIXED (or MARCINP). This method can be used where you have a fixed field within a subfield and only the one subfield ever exists.

postion	1-2	:indicator
	3-4	:$a
	5	:type of date
	6-9	:Pub date 1
	10-13	:Pub date 2

Default values for the indicator and subfield identifier $a may be specified in the MARC table under "Default Value". If Y appears in their DATA ENTRY column and N appears in all the bibliographic prompting, they will not be prompted for, but they will have their defaults inputted.

3.2.3 Using IPSUBFLD exit for entry

The third method could be used where there are several subfields. The exit name to reply to in the DATADICT field definition is IPSUBFLD. Only the subfields indicated for prompting in the

MARCTBLE will be prompted for. Each subfield prompted for will have its subfield identifier inserted automatically in front of the data entered. If data has been entered for one or more of the subfields of a subfielded group, and a default indicator value has be entered into the MARC table file for the first subfield entry of the subfielded group, then that default indicator will be inserted in front of the first subfield containing data. For example,

ENTRY	PROMPTS M	A	C	S	DEFAULT INDICATOR
A000 $a	Y				"01"
A000 $b	Y		Y		
A000 $c	Y		Y		

The user will be prompted for $b and $c, and if the values "xi, 244 p." and "Westview studies" were entered for them, the result would be

01$bxi, 244 p.$cWestview studies

If any of the subfields were repeatable, or the order of the subfields within the subfielded field was significant and not of the same order as they were entered in the MARCTBLE, the user can enter them in a string. For example, if the following subfields needed to be entered:

$a Leon, Jorge
$a Withers, Lyndsey A.
$c Food and Agriculture Organization
$a Mutoh, Hiromichi
$c Pacific Trade and Development Conference

you could be prompted for and reply as follows:

PERSONAL AUTHOR
- Leon, Jorge$aWithers, Lyndsey A.
CORPORATE AUTHOR ($c)
- Food and Agriculture Organization$aMutoh, Hiromichi$cPacific Trade and Development Conference

With a default indicator of "02" specified in the $a entry, the result would be :

02$aLeon, Jorge$aWithers, Lyndsey A.$cFood and agriculture Organization$aMutoh, Hiromichi$cPacific Trade and Development Conference

4.0 MARC Fields and UPDATE Field Level Commands

The UPDATE processor may be used to alter MINISIS/UNIMARC records. Although many of the UPDATE processor field level functions will be available for the manipulation of MARC data, there are many differences in the way these functions are performed, particularly with respect to fixed fields. Details are provided below for both fixed and subfielded fields.

4.1 UNIMARC Subfielded Fields

Subfielded fields may be manipulated by all of the normal UPDATE functions. Since the MARC subfielded field is defined as a MINISIS elementary field, all the update commands, except ADD, will treat the field as one contiguous string of characters. UPDATE will not recognize individual subfields. Only the ADD command will be performed by the exit IPSUBFLD, as described in section 3.2.3 above. The ADD command is used to add a complete new MARC subfielded field. If you want to add only one subfield into an existing subfielded field, you can either delete the whole subfielded field first, then re-enter all subfields including the new one; or you can use the change command. For example

C A000
PLEASE ENTER CHANGE
$c%$aLeon, Jorge$c

The user is directed to the MINISIS UPDATE manual for further details. When performing modifications of MINISIS UNIMARC data fields, remember that such items as indicators and subfield identifiers must be input with the data and treated as data.

4.2 UNIMARC Fixed Fields

The use of the IPFIXED exit for fixed fields substantially alters the effect and the syntax of many of the MINISIS UPDATE commands. The user should disregard the explanation provided for these commands in the Guide to the UPDATE Processor when attempting to modify a fixed field. Instead, the following descriptions indicate the processing supported by the IPFIXED exit.

4.2.1 Record Selection Functions

After supplying data in response to all prompted fields in the MARC database, you will be prompted with:

PLEASE ENTER FUNCTION

At this time, all of the UPDATE field level options are available, although their functionality will be qualified as described below.

If UPDATE is being used to edit pre-existing records, after entering UPDATE and correctly supplying the name of the MARC database you wish to work with, you will be issued the prompt:

PLEASE ENTER FUNCTION TO SELECT RECORD

Where the intention is to modify MINISIS UNIMARC fixed fields, only the record selection command:

ISN=nn[/mm]

is available. GLOBAL UPDATE, and QUERY formulation will not work correctly for fields which are processed by the IPFIXED exit.

4.2.2 Record Modification Functions

All of the UPDATE record modification functions are available for the manipulation of fixed field data, although many differences in the way these functions will work should be observed when working with fields which will be processed by the IPFIXED exit.

4.2.2.1 ADD

The ADD command may be used with a MARC-type fixed field to

- add an occurrence of a fixed field to a record in which the fixed field does not already occur
- add an occurrence of a fixed field to a record for which that fixed field has been defined as repeating
- replace all elements in an existing fixed field

In the case where the MINISIS fixed field does not exist in a record, or when the fixed field is repeatable, and a new occurrence is to be added, enter the command ADD <field id> where <field id> is that of the MINISIS field, and not that of the fixed field element (attempts to address fixed field elements by their two letter name will not be successful). IPFIXED will take over, prompting for the values of each of the elements as explained above for UPDATE. Validation, default values and prompting sequence all apply as explained in section 3.1.

In the case where any of the fixed field elements in a MINISIS fixed field already exist, and you wish to add an element which does not yet exist in the field, you should enter the command ADD, followed by the MINISIS tag or mnemonic.

UPDATE will prompt you

** FIELD ALREADY EXISTS. DO YOU WISH TO DELETE IT (Y/N)?

Reply Y.

Then MINISIS will prompt you

ENTER FIXED FIELD IDENTIFIER -

At this point, you must enter the "@" (wild card) symbol. This will cause all of the elements in the fixed field to be deleted, following which IPFIXED will begin to prompt for new values, in the same manner as occurs during data entry with the UPDATE processor.

Note that the IPFIXED exit does not allow you to simply add one fixed field data element within a MINISIS field. If only the name of the fixed field element is supplied in response to the ENTER FIXED FIELD IDENTIFIER - prompt, (rather than the wild card symbol), IPFIXED will prompt you for all of the fixed field elements in the field but not write any of the supplied information to the record. Rather, the error message $$ INVALID ADDITION (M685) will be issued.

4.2.2.2 ADDS

The ADDS command can be used to add a given occurrence of a repeatable MINISIS fixed field to the record.

It functions in much the same way as the ADD command. However before being prompted for the elements of the fixed field, you are shown the existing occurrences of the field and asked

PLEASE SELECT ONE OF THE OCCURRENCES.

Select the occurrence number you want the new occurrence to have. IPFIXED will then prompt for elements of the fixed field as explained under the ADD command above. If the occurrence selected already exists, the new data will be placed into that occurrence and all subsequent occurrences will have their occurrence numbers incremented by one.

4.2.2.3 DEL

The DEL command can be used to:

- delete a specific element from a fixed field;
- delete all elements from a fixed field.

Enter the command DEL followed by the MINISIS tag or mnemonic of the fixed field. IPFIXED will then prompt

ENTER FIXED FIELD IDENTIFIER -

To delete a specific element from the fixed field, reply with the two-character identifier of the element you wish to delete. The identifier must be entered in upper case if it has been defined in upper case in the MARC table, or in lower case if it is in lower case in the MARC table. You will then see displayed the name of the element to be deleted, the value to be deleted, and then the following message:

**FIELD xx DELETED

where xx is the two-character identifier for the fixed field element.

To delete the entire fixed field, reply to the prompt ENTER FIXED FIELD IDENTIFIER - with "@", the "wild card" identifier. All of the elements in the fixed field will be deleted; you will receive the following message:

** FIELD xnnn DELETED

where xnnn is the MINISIS tag of the fixed field.

4.2.2.4 CHA

The CHange command can be used to replace a specific element of a fixed field. It cannot be used to:

- change all occurrences of a given value in the fixed field as a whole;
- change character strings within a data element, either by substituting one string for another, or adding strings to the beginning, middle or end of an element; or
- change a value of a specific element to blanks (for this use the DEL command).

To replace an element in an existing fixed field, enter the CHA command followed by the (MINISIS) tag or (MINISIS) mnemonic of the fixed field. You will then be prompted:

ENTER FIXED FIELD IDENTIFIER -

Where the MINISIS field is repeatable, you will first be asked to select one of the occurrences, and then be prompted for the FIXED FIELD IDENTIFIER.

Enter the two character identifier of the element you wish to replace. Note that the matching of identifiers is "case sensitive" - you must enter identifiers in upper case if they have been entered into the MARC table in upper case. Also note that you may not enter "@", the "wild card" identifier if you wish to change all of the fixed field elements. If this is the intention, you must address each element separately. Once the identifier has been correctly entered, IPFIXED will will then display the name of the element, the value that is presently in that element, and the IPFIXED prompt "-". Enter the new value for the field, followed by a carriage return. IPFIXED will then display the new value of the fixed field as a whole.

Note that it is not possible to enter only blanks as a new value for a field. If you enter only blanks followed by a carriage return, the old value will remain in the field unchanged. To replace the element

value with blanks, use the DEL command to delete the element from the fixed field. Then the fill characters as specified in the MARC Table for that element (normally blanks) will be used to fill up the number of character positions assigned to that element.

4.2.2.5 TRA or TRAS

The TRA or TRAS commands are not supported for fixed fields. If the command is used, it will be performed on the two MINISIS elementary fields. No verification against the MARCTBLE file will be done.

4.2.2.6 REP

The REP command can be used to replace the entire fixed field; it cannot be used to replace a specific element within a fixed field.

To replace the entire fixed field, enter the REP command followed by the tag or mnemonic for the fixed field. IPFIXED will reply with the prompt

ENTER FIXED FIELD IDENTIFIER -

Reply with the "wild card" identifier @. Then all elements in the existing fixed field will be deleted. IPFIXED will then prompt for the various fixed field elements as in UPDATE; it will successfully write the field to the record, effectively replacing the previous values.

5.0 PRINT

Special considerations must be given to the creation of print formats for both fixed and subfielded MARC fields. Fixed fields may be handled with the standard MINISIS PRINT processor and do not require special exits (see section 5.2). For the display of subfields, however, special exits have been written by IDRC. Each case is described below.

5.1 Printing Subfielded MARC Fields

The user may print the MARC subfielded fields in a data base using the standard MINISIS PRINT processor. However unless the user provides some special processing, the field will be displayed in the same form as it has been entered, e.g. with indicators, subfield identifiers, and data displayed as one continuous string of characters. The indicators and subfield identifiers will be printed along with the data, and there will be no break between subfield identifiers and subfield data, or between the end of the data in one subfield and the subfield identifier of the next subfield.

Alternatively the MARC print exit developed by IDRC may be used to select all or some subfields from a MARC subfielded field for display, and to massage the data in the subfielded field to permit a clearer, more user-friendly display. The global exit USER'DISPLAY is used to call the routine MARCPRNT'FUNC1. (There is no special significance to the FUNC1 part of the name of this routine; many different function codes can be used with this one routine.)

In order to use the MARC print exit, the data base manager must ensure that:

- the name of the MARC Table file has been given as the NAME OF THE PARAMETER FILE in the data definition;
- an entry in the MARC table has been made for for every subfield to be printed;
- the entry in the MARC Table for each subfield to be printed must have Y in the PRINT column (position 38);
- the entry or entries for the subfielded field in the MINISIS print format file must have a non-zero function code in response to the prompt FUNCTION CODE OF USER-DEFINED EXIT.

The choice of subfields to be printed, and the choice of the function code require some further explanation.

Only subfields which have a Y in the PRINT column of the MARC Table will be displayed when the MARC print exit is called. For example, you may choose to display the $a and $c subfields of a subfielded field by entering a Y in the PRINT column (position 38) of the entries for subfields $a and $c, but eliminate printing of the $b subfield, by entering only a space in that column in the record for the $b subfield. Of course, these parameters in the MARC Table can be changed at any time. For efficient execution of the UNIMARC

exits, all of the subfields from one subfielded field should be grouped together in the MARC parameter files, although this is not a requirement. The subfields will be printed in the order that they appear in the data.

The choice of the function code associated with each MARC subfielded field in the PRINT format file determines the kind of special processing that will take place on the field before it is displayed. The user can choose from among a range of different types of display with one of several different modes. There are nine different types of processing that can be done by the MARCPRNT'FUNC1 exit. Each of these are briefly described below, along with the function code which should be supplied in PRINT to invoke the processing type concerned.

Processing Mode	Effect on subfielded field
1	Replaces subfield identifiers of MARC subfielded fields with subfield identifier replacement strings defined in the MARC table. The first subfield identifier appearing in the data, and its replacement string, do not print.
2	Converts all field characters into upper case characters using the UPSHIFT'N'STRIP intrinsic.
4	Removes all slashes (i.e. "/"), from the field. Used mainly for fields with term processing.
8	Adds an Arabic occurrence number as a prefix to each occurrence of a repeatable field.
16	Adds the occurrence number in Roman numerals (to a maximum of XX - twenty) as a prefix to each occurrence of a repeatable field. Used for printing subject headings in certain formats.
32	Adds underscore character (octal 137, hex 1F) as both a single character prefix and suffix to the field. (A terminal handler, not included with the MARC exits, can then be used to underline entire fields.)
64	Adds five hyphens (-----) to character positions 80 to 84 of the field, where character 1 is found at position 0. This processing is performed when the field is less than 80 characters in length. It is used under special circumstances by users who wish to indent subsequent lines in a different fashion than the first line.

128 - Expands the authority code. This function is currently incomplete.

256 - If control characters are specified in the MARCTBLE in positions 58-59 (M130) for a subfield, then these 2 characters will be removed before printing the subfield.
Only the first pair, the first being in the first postion of the subfield, will be removed.
Example:01$a/The /Westview studies in insect biology becomes:The Westview studies in insect biology

The function code required for a given MARC-type subfielded field is calculated by adding the modes associated with each different type of processing desired for that subfielded field. For example, a function code of 5 will remove slashes and print subfield identifier replacement strings (function 1 + function 4).

The following examples illustrate some of the various possibilities available to users by combining the different function codes. These examples assume that repeatable field A100 contains the following two occurences:-

04$aThe /economics/ of /fish farming/$bEast Asia
00$a/Computer program/ming for /agricultural research/

Function 1, with an appropriate MARC table, would give

The /economics/ of /fish farming/; East Asia
/Computer program/ming for /agricultural research/

Function 2:-

04$ATHE /ECONOMICS/ OF /FISH FARMING/$BEAST ASIA
00$A/COMPUTER PROGRAM/MING FOR /AGRICULTURAL RESEARCH/

Function 3:-

THE /ECONOMICS/ OF /FISH FARMING/; EAST ASIA
/COMPUTER PROGRAM/MING FOR /AGRICULTURAL RESEARCH/

Function 4:-

04$aThe economics of fish farming$bEast Asia
00$aComputer programming for agricultural research

Function 5:-

The economics of fish farming; East Asia
Computer programming for agricultural research

Function 6:-

04$ATHE ECONOMICS OF FISH FARMING$BEAST ASIA
00$ACOMPUTER PROGRAMMING FOR AGRICULTURAL RESEARCH

Function 7:-

THE ECONOMICS OF FISH FARMING; EAST ASIA
COMPUTER PROGRAMMING FOR AGRICULTURAL RESEARCH

Function 8:-

1. 04$aThe /economics/ of /fish farming/$bEast Asia
2. 00$a/Computer program/ming for /agricultural research/

Function 9:-

1. The /economics/ of /fish farming/; East Asia
2. /Computer program/ming for /agricultural research/

Function 16:-

I. 04$aThe /economics/ of /fish farming/$bEast Asia
II. 00$a/Computer program/ming for /agricultural research/

Function 21:-

I. The economics of fish farming; East Asia
II. Computer programming for agricultural research

The user should also be aware of some of the interactions that take place between the standard MINISIS PRINT parameters associated with each field, and the special USER'GENKEY routine.

EQUAL SUPPRESSION checking is performed before the USER'DISPLAY exit is called. Therefore, if the MINISIS field is defined with equal supression, and you have a record with the field value equal to the previous record's field, the field will be suppressed by PRINT and the USER'DISPLAY exit will not be called for this field.

Also, the presence or absence of data in the subfielded field will modify the performance of the USER'DISPLAY exit. If a subfielded field is not present in a record, but its subfields are defined in the MARC table, the PRINT exit will not be called, and nothing will be displayed. Similarly if there are one or more subfields defined in the MARC table, but none of these subfields exist in the MINISIS field, the MINISIS field will not be printed.

On the other hand, If a MINISIS field is defined with display controlled by the USER'DISPLAY exit, but no subfields are defined for that field in the MARC table, the whole MINISIS field will be printed as if the field's printing was not controlled by the exit.

If CONDITIONAL DISPLAY is N for the MINISIS field, printing is controlled by the exit, one or more subfield entries exist for the field, but none of these defined subfields exist in the existing MINISIS field, nothing will be printed. But, with these same conditions except that the MINISIS field does not exist, its literal will be printed.

5.2 MARC Fixed Fields

As was mentioned previously, fixed field data elements may be displayed using the standard MINISIS PRINT processor capabilities. Fixed field elements may be isolated for display using the DISPLACEMENT INTO THE FIELD and MAXIMUM NUMBER OF CHARACTERS PRINT format field attributes. There should be one entry in the print format for each fixed field element to be displayed, meaning that a MINISIS field will have entries in the print format for each fixed field element to be displayed from it.

Consider, for example, MINISIS field B110 which has been defined to hold UNIMARC field 111 - Coded Data Field: Serials - Physical Attributes. This field has two blank indicators, a subfield indicator ($a), and two one character fixed field elements: Physical Medium Designator and Form of Reproduction Code. If the value of the Physical Medium Designator were "e" (indicating a newspaper) and the value of the Form of Reproduction Code were "a" (indicating microfilm), the contents of the field might look as below:

```
--$aea
```

where the dashes indicate blanks and the $ represents octal 37, the unit separator.

Two entries would be made in the print format for these elements. The first would be to display the Physical Medium Code and would have DISPLACEMENT INTO THE FIELD equal to 4 and MAXIMUM NUMBER OF CHARACTERS equal to 1. The second, which would display the Form of Reproduction Code, would have DISPLACEMENT INTO THE FIELD equal to 5 and MAXIMUM NUMBER OF CHARACTERS equal to 1. Note that the DISPLACEMENT INTO THE FIELD values are identical to the offset defined in the MARC table for the fixed field element. Note also that the first position of this displacement is 0 (zero).

If the above two elements were given the literals 111 - PHYSICAL MEDIUM and 111 - FORM REPRODUCTION, respectively, they could be displayed as shown below:

```
111 - PHYSICAL MEDIUM: e
111 - FORM REPRODUCTION: a
```


6.0 Sorting MARC Records

MARC records may be sorted within MINISIS on both fixed and subfielded field values. The sorting of records on fixed fields is straightforward and fairly simple. The sorting of records on values in MARC subfields is, however, somewhat more complicated and involves the use of special exits written specifically for that task. Details regarding the sorting of MARC records on both fixed and subfields are provided below.

6.1 Sorting Records Using MARC Subfielded Fields

The standard MINISIS INDEX processor may be used without any extension to sort records based on the content of MARC subfielded fields. However the indicators and the subfield identifiers will be included in the key used by INDEX to sort the records. In the case of the following two subfielded fields

```
10$aIntroduction to MINISIS$eM. Campbell$gD.F. Thompson

01$aProceedings$fMINISIS Users' Group
```

the second would file before the first because of the initial character of the indicator, even though the title proper would normally file after the first file.

In order to assist users in sorting records and producing printed indexes, IDRC has developed six user-written exit routines to sort records on MARC subfielded fields. These exits allow the user to exclude indicators and subfield identifiers from sort keys which have been generated from MARC subfields. In addition, they allow the user to generate a sort key from each MARC subfield within a MINISIS field; to exclude specified characters from the sort key; and to generate a sort key from each word in a MARC subfield.

The exit name MARCINDX'FUNC1 has been renamed to WHOLE'FIELD, and MARCINDX'FUNC2 has been renamed to SUBFIELD. Either the old or new names can be used, though the following documentation will refer to the new names, WHOLE'FIELD and SUBFIELD.

Four more user-written exit routines have been added to sort MARC records. They are PRIMARY'WHOLE, PRIMARY'SUBFLD, SECOND'WHOLE, and SECOND'SUBFLD. They will be described in section 6.1.4.

6.1.1 Subfielded field as key (WHOLE'FIELD,MARCINDX'FUNC1)

The WHOLE'FIELD exit was designed to allow sorting on data in the entire MARC subfielded field, or a selected subset of the subfields in the MARC subfielded field. The exit builds sort keys from those MARC subfields which have Y in column 36 (MARCTBLE RD field M060) of the MARC table. Indicators and subfield identifiers are not included as data in the key, although indicators may be used to specify characters which are to be excluded from the key. Any subfield not having Y in the index column will be ignored in creating the key,

and its value and subfield identifier will be removed from the key. Any remaining subfield identifiers will be removed and replaced with a space.

Consider for example the following MARC subfielded field:

00$aOf animal motivation$eexperimental studies on the albino rat$fby C.J. Warden

If the subfield $a in the MARC Table has a Y in the INDEX column, but subfields $e and $f do not, then WHOLE'FIELD would strip the indicators, and take the $a subfield for the key, which would be:

OF ANIMAL MOTIVATION

If, on the other hand, $a and $f have Y in the INDEX column, but $e does not, the key would be:

OF ANIMAL MOTIVATION BY C.J. WARDEN

The INDEX specifications for this field might look as below:

KEY=TITLE,LENGTH=500,KEEP=NO,EXIT=WHOLE'FIELD
FIELD=C000

Note that the exit is specified in the KEY specification. The KEEP=NO option would allow for this sort key to be displayed if the Y010 field were specified in a print format (not upshifted, since UPSHIFT defaults to NO) as shown below:

Of animal motivation by C.J. Warden

Note that the length which should be specified for the sort key should be the length of the entire MINISIS field and not only the length of the subfield to be included in the key. This is not critical if the only field to be included is the first subfield, but where more than one subfield from the field are to be included, then the length specified must be large enough to include the last character of the last field.

If the above field (C000-$a) had the second indicator position specified as containing the number of characters to ignore in generating the sort key (columns 56-57 or MARCTBLE RD field M130), as shown below with a 3 in indicator position 2:

03$aOf animal motivation$eexperimental studies on the albino rat$fby C.J. Warden

then the first 3 characters in the subfield would be omitted from the sort key and the resulting key would be:

animal motivation by C.J. Warden

In order to generate MARC subfield sort keys, the exit looks for MARC table entries for the MINISIS field which has been entered at the INDEX specifications FIELD level (above C000). It then inspects all entries for that field in the MARC table for the occurrence of the unit separator, octal 37. The exit then looks in the MARC Table to determine if the subfield should be included in the key: if the INDEX column for that subfield has a Y, it will be included; if it does not it will not be included. MARCINDX then looks for the next subfield identifier that is identified in the MARC Table. If it is found, then the entire string from the end of the first subfield identifier to the beginning of the second subfield identifier is used to build a key. If it is not found, then the entire string from the end of the first subfield identifier to the end of the field will be used.

6.1.2 Treatment of Non-Filing Characters

The MARCINDX exits support two different types of designation for characters to be ignored in sorting. The indicator value may contain the number of characters to be ignored in filing at the beginning of the field, or the characters to be ignored may be enclosed within a pair of control characters.

6.1.2.1 Indicator Characters

Many MARC formats use a value in the indicator to denote the number of leading characters in the first subfield to be ignored in filing, i.e. the number of characters that should not be used in creating the sort key. If the FILING INDICATOR column in the first subfield in the MARC Table has a 1, then the value of the first indicator will be used to determine the number of characters in the first subfield to be removed from the key. If the FILING INDICATOR column has a 2, then it is the value in the second indicator which will be used for this purpose. In each case, the designated character of the indicator must be an ASCII character between 0 and 9: no more than 9 characters may be stripped from the resultant key. Note that if the first subfield is not included in the key, the indicated number of characters will be stripped from the first subfield to be included in the key, whether it is the first subfield in the field or not.

6.1.2.2 Control Characters

Other MARC formats use a pair of control characters to delimit the characters which are to be ignored in filing If these characters are given in the FILING INDICATOR POSITION (56-57) of the subfield defintion in the MARC Table, then all characters between these two characters will be stripped from the key. Note that this applies only to the first subfield in a MARC subfielded field. If the second and subsequent subfield has characters bracketed by these special characters, the special characters and the characters between will all be used as part of the sort key.

Since both the indicator position and control characters are specified in the same MARC table columns, it is of course not possible to strip the field using both control characters and a number in one of the indicator positions.

The WHOLE'FIELD exit creates a key for each occurrence of repeatable MINISIS fields in the record. It is not possible to limit the number of occurrences with the OCC command of INDEX. Similarly, keys will be generated from each occurrence of a subfield if the MARC subfielded field contains more then one occurrence of a subfield.

6.1.3 Subfield processing (SUBFIELD, MARCINDX'FUNC2)

The SUBFIELD exit supports sorting using the value of each selected subfield in the MARC subfielded field as a separate key. If a subfielded field contains more than one subfield, then a key will be generated for each subfield selected for sorting. This exit, like WHOLE'FIELD, is a local exit, called by the EXIT command at KEY level in the INDEX specifications.

Subfields which are to be used to generate keys for sorting are indicated by a Y in the INDEX column of the subfield entry in the MARC Table. Any subfield which has a Y in the INDEX column of the MARC Table will be used to generate a key. Subfields not having a Y in the index column will not. Subfields which do not occur in the subfielded field will not generate a blank key; the BLANK parameter at key level in the INDEX specifications is ignored.

Let us return to the example used above to explain the WHOLE'FIELD processing. If the same record with C000 is used, with the $e and $f fields having Y in the INDEX column, a value of 3 in the second indicator position, and SUBFIELD specified as the exit, the INDEX specifications would look as below:

```
KEY=TITLE,LENGTH=500,KEEP=NO,EXIT=SUBFIELD
FIELD=C000
END
*** 
```

The result will be the two sort keys shown below:

```
ANIMAL MOTIVATION
BY C.J. WARDEN
```

and two Y010 fields (again, not upshifted because UPSHIFT defaults to NO):

```
Animal motivation
by C.J. Warden
```

Again, the LENGTH parameter supplied with the INDEX specifications should be the length of the entire MARC subfielded field, including indicators and subfield identifiers.

6.1.4 Word processing (GENKEY'FUNC1)

The MARC exits also support word processing which may be used to produce KWOC (Key Word out of Context) indexes. A key is generated for each word in a MARC subfielded field, where a word is any string of characters delimited by blank spaces, subfield identifiers, or the end of the field. Indicators and subfield identifiers will be excluded from the keys. Note that, unlike the WHOLE'FIELD and SUBFIELD exits, the word processing facility is provided by the global exit, USER'GENKEY, which in turn calls the MARC exit routine GENKEY'FUNC1. The exit is called by the user with the FUNC command at the field level of the INDEX specifications and a function code of 1.

Keys may be extracted from all subfields in the subfielded field or only selected subfields. Selection of subfields to be used for generating key words is done by the USER'GENKEY parameter in the MARC table. Any MARC subfield having Y in that column (position 40, RD field M080) will be processed; any others will not. In addition, word extraction requires that a Y has been specified in the WORD PROCESSING column for the MARC subfield (position 42, RD field M090), otherwise the entire subfield will be used as the key.

Consider the same sample record used above to illustrate the MARCINDX exits. The MARC table entry for field C000 now has a Y in the USER'GENKEY and WORD PROCESSING columns for the $a and $f MARC subfields, the following field contents:

```
03$aOf animal motivation$eenvironmental studies of the
albino rat$fby C.J. Warden
```

would generate the following keys:

```
ANIMAL
BY
C.J.
MOTIVATION
OF
WARDEN
```

Note that whether the subfield has Y in the MARC table INDEX column has no effect on whether they are selected for word processing. It is only the GEN'KEY parameter that is used, since it is the global exit USER'GENKEY which is being called by MINISIS.

Note in the above example that the word "Of", which was excluded from the MARCINDX-produced sort keys, has been left in by USER'GENKEY. This is because USER'GENKEY does not inspect the MARC table or field indicators for characters to be stopped. Those users who wish to have stopwords removed from key words should build and use stopword files for this purpose.

The INDEX specifications for the above sort were:

```
KEY=TIWORD,LENGTH=40
FIELD=C000,FUNC=1
END
***
```

The actual value of the sort definition FUNC is significant. The value is used by the global exit USER'GENKEY to decide which user-supplied key generation routine to call. The user currently can call FUNC=1, 2 or 3 in his sort key definition. FUNC=1 will extract any subfields indicated in the MARCTBLE for GENKEY (and WORD PROCESSING), and having a space in column 44 for Primary or Secondary key extraction.

FUNC=2 can be specified in the sort definition of the primary key, with a 1 in column 44 of the subfield entries in MARCTBLE (M200 Primary or secondary key extraction -), that are to be extracted for the primary key only. This applies to both subfield and word processing.

FUNC=3 can be specified in the sort definition of any other key level, with a 2 in column 44 of the subfield entries that are to be extracted for key levels other than primary. This applies to both subfield and word processing.

Note that whichever FUNC code you choose, in the field definition of the subfielded field in the MINISIS RD database, the function code of the user defined extraction routine will be 1.

Note that the INDEX KEY level LENGTH parameter must be long enough to accommodate the longest word in any of the subfields flagged for word extraction. Using word processing, keys will be generated for non-filing characters as indicated by the use of special characters or an indicator value (see the descriptions of position 58-59 in the MARC Table). The GENKEY'FUNC1 routine will not use these values. The special characters, if any, should be stripped from the key, and unwanted keys eliminated by means of a stopword file.

GENKEY'FUNC1 processes all occurrences of a repeatable subfielded field. The OCC command, if specified in the INDEX specification, will be ignored.

Note that the INDEX FIELD level parameter MAXKEY operates here at the MINISIS field level: MAXKEY should be large enough to accommodate all of the keys which will be generated from the MINISIS field - i.e. the total number of keys from all of the MARC subfields in the MINISIS field which have been flagged for word procesing.

6.1.5 Sorting selected subfields (PRIMARY'WHOLE,PRIMARY'SUBFLD, SECOND'WHOLE,SECOND'SUBFLD)

In some applications, the user may wish to create keys from selected subfields in an order not necessarily the order that they appear in the subfielded field. The two exits, PRIMARY'WHOLE and PRIMARY' PRIMARY'SUBFLD, allow you to select subfields of a subfielded field

that will be extracted at the primary key level. The two exits, SECOND'WHOLE and SECOND'SUBFLD, allow other subfields of the same subfielded field to be extracted for any level other than the primary level.

The exits, PRIMARY'WHOLE and SECOND'WHOLE, will form composite keys much the same way as the exit WHOLE'FIELD. Except, PRIMARY'WHOLE will extract only those subfields that appear in the MARCTBLE with a character 1 in column 44 - Primary or Secondary Key Extraction. EXIT=PRIMARY'WHOLE will be stated in your sort key definition of INDEX for the primary key. SECOND'WHOLE will form a composite key, extracting only those subfields that appear in the MARCTBLE with a character 2 in column 44. EXIT=SECOND'WHOLE will be stated in your sort key definition of INDEX in your 2nd, 3rd, 4th, or 5th key levels. For example: If you had a subfielded field AUTHOR that had the following subfields

```
$a first name
$b middle name
$c surname

02$aJean$bDominique$bSebastien$cBoucher
```

and sort definition

```
key=prim,length=50,upshift,keep=no,exit=PRIMARY'WHOLE
field=G010
end
key=secn,length=40,upshift,keep=no,exit=SECOND'WHOLE
field=G010
end
***
```

and subfields $a and $b had column 44 defined as 2; and $c had column 44 defined as 1. Pseudo field Y010 would be created as

BOUCHER

Pseudo field Y020 would be created as

JEAN DOMINIQUE SEBASTIEN

In this case, the index file would be sorted by surname first, then by the first and second names.

Your print format could have the Y010 and Y020 fields, inserting the comma as a literal:

BOUCHER, JEAN DOMINIQUE SEBASTIEN

as compared to the printing of G010 subfields with MARCPRNT'FUNC1

JEAN DOMINIQUE SEBASTIEN BOUCHER

The exits, PRIMARY'SUBFLD and SECOND'SUBFLD, will form keys from subfields, similar to the GENKEY exit SUBFIELD. PRIMARY'SUBFLD will extract the first subfield that is indicated in MARCTBLE with a character 1 in column 44 - Primary or Secondary Key Extraction. EXIT=PRIMARY'SUBFLD will be stated in your sort key definition of INDEX for the primary key. SECOND'SUBFLD will extract the subfield that has the character 2 in column 44 of MARCTBLE for any subsequent key levels that call the SECOND'SUBFLD exit.

These two exits will extract only the first subfield for each key level specified in the sort definition. The reason for this can be shown in the following example.

Consider subfielded field G010 Personal author, with the MARCTBLE indicating that $c was primary, $a was a secondary key. The field contained:

02$aJoyce$cTait$aMara$cOliva

If the exit allowed all the occurrences of primary and secondary subfields to be extracted, the result would be meaningless:

Oliva Joyce
Oliva Mara
Tait Joyce
Tait Mara

These two exits are really suited to non-repeatable subfields.

6.2 Sorting On Fixed Field Values

The sorting of records on fixed field values does not require the intervention of special exits. The user needs simply to take advantage of the features already present in the MINISIS INDEX processor. Specifically, at the KEY level, the LENGTH specification should be the length of the fixed field element on which sorting will be performed. At the FIELD level, the DISP specification should be used so that INDEX will begin the key extraction process at the appropriate offset within the field. For fixed field B050 having the values shown below

--$adcc

where the intention is to sort on the second value in the field (ignoring the two blank indicators and $a subfield identifier), which in this case is the letter d, the dialog with INDEX might look as below:

```
OUTPUT=FIXOUT
KEY=FIXKEY,LENGTH=1
FIELD=B050,DISP=5
```


Note that the offset (DISP=5) is identical to that specified for the fixed field element in the MARC table.

7.0 Fast access on MARC subfielded fields.

The MARC exits support special fast access searching on MARC subfielded fields. Keys used for searching may consist of whole MARC subfields or of words extracted from subfields (where words are character strings separated by spaces). All subfields in a subfielded field may be used for fast access searching, or certain subfields only may be selected. As with the standard version of MINISIS, inversion may take place on-line, on release or offline.

7.1 On-line inversion

To flag a field for on-line inversion, you must

- reply Y to the INVERSION and ONL to TYPE OF INVERSION, and 1 to FUNCTION CODE OF USER EXTRACTION when defining the MINISIS MARC subfielded field in DATADICT
- define an entry for each MARC subfield in the parameter file (MARC table)
- indicate Y for the GENKEY parameter (position 40) in the MARC table entry for each MARC subfield to be inverted. Different subfields in a MARC subfielded field may have different inversion criteria, i.e. one subfield may have word processing, another may use the whole subfield as a key. Where WORD PROCESSING is desired, a Y must be entered at position 42 (RD field M090) in the MARC table entry for the field. Where WORD PROCESSING has not been so specified, the entire subfield will be taken as the key. Note that, where the MINISIS field is repeating, keys will be extracted from each repetition of the MARC subfields within it. Similarly, where non-repeating MINISIS fields have MARC subfields which repeat within them, keys will be extracted from each occurrence of the MARC subfield within the MINISIS field.

If all these steps have been taken, then whenever the MARC subfielded field is entered or modified, MINISIS will call the USER'GENKEY routine. The USER'GENKEY routine supplied with the MARC exits will examine the function code supplied by the field definition, and if the function code is 1, will call the GENKEY'FUNC1 routine. This routine will extract keys from each subfielded field with Y in the GENKEY column of the MARC Table: words if WORD PROCESSING is Y in the entry for a given subfield, or the whole subfield if there is no Y in the WORD PROCESSING column for that subfield. Note that where word processing is specified, duplicate keys will not be written to the inverted file - e.g. if the word "Agriculture" occurs in more than one MARC subfield defined for inversion within a MINISIS field, it will only be entered once into the inverted file (i.e. P=1).

The indicators and subfield identifiers will not form part of the key and the key will be stripped according to the stripping parameters found in the MINISIS database field definition before

being written to the inverted file indicated in the MINISIS field definition.

7.2 Inversion on release

Inversion on RELEASE takes place when the record is released for RETrieval in the RELEASE processor. The same procedure is, followed for on-line inversion, except that you reply REL to TYPE OF INVERSION. When the record is released, the USER'GENKEY exit and GENKEY'FUNC1 routine are called to extract keys and write them to the appropriate inverted file according the specifications provided n the field definition of the MINISIS data base, and the subfield entry in the MARC Table for that data base.

7.3 Off-line inversion

Subfields from a MARC subfielded field may also be flagged for off-line inversion. Off-line inversion is normally chosen when the data base is updated only at infrequent intervals and when the slower response time of on-line inversion is not desirable, especially with some types of inverted files. (See section III.4 of the Data Base Manager's Guide for further explanation). With off-line inversion, however, the inverted files are not automatically updated every time a change is made to a MINISIS data base. It is not possible, for example, to do a fast access search for a record which has just been added to a data base.

In the field definition of the MINISIS data base, you must reply Y to INVERT, OFF to TYPE OF INVERSION, 1 to FUNCTION CODE OF USER EXTRACTION, and supply the length of key, stripping parameters and name of inverted file as required. Reply with a carriage return to TYPE of EXTRACTION.

In the entry in the MARC Table for each subfield to be used for fast access searching, you must:

- Indicate Y in the GENKEY parameter (position 40) for each subfield to be used for fast access searching. USER'GENKEY is called by INDEX (with FUNC=) and QUERY to process the users' search strategy. If this parameter is not Y, then a search on the specific subfield will not be successful.
- Optionally, indicate Y in the WORD PROCESSING parameter (position 42) for each subfield for which word processing is required. Note that, where WORD PROCESSING is required, both USER'GENKEY and WORD PROCESSING must be Y.

Note that the presence or absence of a Y value in the INDEX column of the subfield entry has no effect on off-line inversion since it is the global exit USER'GENKEY, and not the local INDEX exit, which is called to extract keys n the INDEX job.

INDEX must then be used to extract keys from the records in the data base, and INVERT used to update the inverted file. It is important to ensure that the INDEX specifications match the specifications

provided in the field definition of the MINISIS data base and the entries for each subfield in the MARC Table.

OFFLINE inversion may be accomplished as performed for regular MINISIS fields; the sorted INDEX output file should be produced as per the instructions in section 6. A sample dialog with INDEX is provided below for OFFLINE WORD inversion of a MARC subfielded field. Note that the field must be defined for inversion in DATADICT and the inverted file must have been built beforehand.

```
OUTPUT=TITLE
KEY=TIWORD,LENGTH=40,UPSHIFT=YES,KEEP=NO
FIELD=C000,FUNC=1,STRIP=XB,MAXKEY=50
END
***
```

Note that in the KEY specification, UPSHIFT must be YES so that upshifted characters will be present in the index for matching by QUERY. KEEP is NO so that the stripped values (STRIP=XB) will be retained in the output file.

7.4 Special Inversion Functions

Most MINISIS special inversion functions are supported for the inversion of MARC subfielded fields, although ADJacency searching is not. Among the supported functions are LEFT truncation searching and DOT searching (BEFORE=; BRKSEQ=;SUFFIX=;PREFIX=; etc.). In addition, common inversions (many fields into the same inverted file) are possible. Of course, all MARC subfields within a MINISIS field are inverted into the same inverted file since it is not possible to define more than one inverted file per MINISIS field.

付 - 44

8.0 Correspondence Definitions and ISOCONV

Instructions are provided below for setting up correspondence definitions for the exchange of UNIMARC data between sites. A sample CD is also provided in appendix A.

8.1 Header

The following considerations are important in setting up the UNIMARC CD header:

Generally, the defaults should be taken when responding to CD header prompts. This means that the following values will apply:

ISO TYPE - ISIS
LENGTH OF RECORD LEADER - 24
LENGTH OF ISO TAG - 3
LENGTH OF DISPLACEMENT FIELD - 5
LENGTH OF LENGTH FIELD - 4
TAG OF SUBRECORD DIRECTORY - <NONE - CARRIAGE RETURN>
DISPLACEMENT RELATIVE TO START OF RECORD - V
LENGTH OF RECORD SEPARATOR - 1
LENGTH OF FIELD SEPARATOR - 1

Other responses such as those which supply information about blocking factors, value representations and file types, will of course be application dependent.

In addition to the above header information, special ISO tags may be used to DUMP information from the leader of an ISO record to MINISIS fields, or to LOAD information from MINISIS fields to the leader. These are listed below:

Leader Information	Offset	Length	CD ISO Tag
Record Status	5	1	RST
Record Type	6	1	TOR
Bibliographic Level	7	1	BIL
Hierarchical Level	8	1	HIL
Encoding Level	17	1	ECL
Record Label	18	1	RLB

These fields must be defined as elementary fields in the MINISIS database so that the correct correspondence may be set up in the CD. These fields are fixed length in nature and may be defined in the MARC table so that entry can be performed via IPFIXED for the purposes of validation and length checking.

Further information on the structure of the ISO record leader and CD headers may be found in the MINISIS Database Managers guide, sections III.5 and III.2.1.7, respectively.

8.2 Field Correspondences

Field correspondences should be defined at the UNIMARC field-MINISIS elementary field level. That is, no correspondences may be set up in which a UNIMARC subfield is related to a MINISIS field or vice versa, with the exception of cases where there are less than 10 subfields. In this latter case, such a correspondence may be set up, although this techgnique eliminates the possibility of directly addressing indicators.

In the space below is presented an example for UNIMARC field COUNTRY OF PUBLICATION which has ISO tag 102 and subfields $a and $b. If MINISIS field B020 were defined to hold those subfields, the correspondence set up for data exchange would be between ISO fields 102 and B020, not between, for example, 102-$a and B021.

8.3 CONVCHAR Exit

Because the use of control characters during data entry makes field and record verification somewhat difficult, many users prefer to use a regular ASCII character such as a dollar sign ($) in subfield identifiers, instead of non-printing characters such as the octal 37. This however presents the problem that, during record exchange, the octal 37 character will be expected by the sites to whom MARC records will be sent. To mitigate this problem, an ISOCONV exit called CONVCHAR is provided in the MINISIS user-contributed library. This exit will perform data character conversions during the LOADing and DUMPing of MINISIS databases. Further information may be found in the CONVCHAR documentation in the user-contributed library.

APPENDIX A - UNIMARC Data Definitions

The UNIMARC RD

FIELD NAME	MNEMONIC	TAG	OFFSET	LENGTH	REPEAT	SUBFIELD	PROM
RECORD STATUS	RST	L050	-1	1			Y
TYPE OF RECORD	TOR	L060	-1	1			Y
BIBLIOGRAPHIC LEVEL	BIL	L070	-1	1			Y
HIERARCHICAL LEVEL	HIL	L080	-1	1			Y
ENCODING LEVEL	ECL	L170	-1	1			Y
RECORD LABEL	RLB	L180	-1	1			Y
Record identifier	RECID	A100	-1	20			Y
Desc. cat. form	DSFORM	A150	-1	1			Y
ISBN	ISBN	B100	-1	100	Y	Y	Y
ISBN number	ISBNNO	B101	-1	13			Y
ISBN Qualific.	ISBNQ	B102	-1	35			Y
ISBN Term/avail.	ISBNT	B103	-1	35			Y
ISBN Erroneous no.	ISBNEN	B104	-1	13			Y
ISSN	ISSN	B120	-1	100	Y	Y	
ISSN Number	ISSNNO	B121	-1	9			Y
ISSN Qualification	ISSNQ	B122	-1	37			Y
ISSN Terms/avail.	ISSNT	B123	-1	37			Y
ISSN Erroneous no.	ISSNEN	B124	-1	9			Y
National Bibliography no.	NBN	B130	-1	50	Y	Y	Y
NBN country code	NBNCC	B131	-1	2			Y
NBN number	NBNNO	B132	-1	20			Y
NBN Erroneous number	NBNEN	B133	-1	20			
Legal deposit number	LEGDEP	B140	-1	50	Y	Y	
Legal deposit country code	LEGCC	B141	-1	2			Y
Legal deposit number	LEGNO	B142	-1	20			Y
Erroneous legal deposit no.	LEGEN	B143	-1	20			Y
Gov't Publication number	GOVPUB	B150	-1	50	Y	Y	
Govt pub country code	GOVCC	B151	-1	2			Y
Gov't pub number	GOVNO	B152	-1	20			Y
Gov't pub erroneous no.	GOVEN	B153	-1	20			Y
CODEN	CODEN	B160	-1	12	Y	Y	
CODEN code	CODENM	B161	-1	6			Y
CODEN Erroneous code	CODENE	B162	-1	6			Y
CDF:General	CDFG	C100	-1	39			Y
Language	LANGIT	C110	-1	100			Y
Country of publication	COUN	C120	-1	100			Y
CDF:Books	CDFB	C130	-1	17			Y
CDF:Books:Physical	CDFBP	C140	-1	5			Y
CDF:Serials	CDFS	C150	-1	15			Y
CDF:Serials:Physical	CDFSP	C160	-1	6			Y
CDF:Projected and Video	CDFF	C170	-1	20			Y

DATA BASE: UNIMARC

FIELD NAME	MNEMONIC	TAG	OOFFSET	LLENGTH	RREPEAT	SSUBFIELD	PPROMPT
CDF:Maps	CDFM	C180	-1	17			Y
CDF:Maps:Physical	CDFMP	C190	-1	13			Y
Situation date	SITDAT	C200	-1	50	Y		Y
Scale and Coordinates	SCALE	C210	-1	200	Y		Y
Maps:SMD	MPSMD	C220	-1	25	Y		Y
CDF:Sound recordings	CDFSR	C230	-1	200			Y
CDF:Sound recordings:Physical	CDFSOP	C240	-1	25			Y
CDF:Microforms	CDFMI	C250	-1	16	Y		Y
Title & stment of responsibility	TITL	D100	-1	500			Y
General material des.	GMD	D110	-1	70	Y		Y
Edition statement	EDN	D120	-1	150	Y		Y
Mathematical Data Area	MATH	D130	-1	100	Y	Y	
Math data area (subfield)	MATHSF	D131	-1	100			Y
Serials numbering	SNDATE	D140	-1	100	Y		Y
Musical Presenation	MUPRES	D150	-1	100			Y
Imprint	IMP	D160	-1	250			Y
Projected publication date	PROJ	D170	-1	20			Y
Physical description	PHYS	D180	-1	100	Y		Y
Series	SER	D190	-1	200	Y		Y
General note	NOTGEN	E100	-1	150	Y		
Bibliography note	NOTBIB	E110	-1	150	Y		
Index Availability note	NOTIND	E120	-1	150	Y		
Credits note	NOTCRE	E130	-1	150	Y		
Cast note	NOTCAS	E140	-1	150	Y		
Facsimile note	NOTFAC	E150	-1	150	Y		
Frequency	FREQ	E160	-1	150	Y	Y	
Freq. subfield	FREQSF	E161	-1	75			
Dates of frequency	FREDAT	E162	-1	75			
Contents note	NOTCON	E170	-1	500	Y	Y	
Contents ind	CONIND	E171	-1	2			
Contents note	CONT	E172	-1	498			
Dissertation note	NOTDIS	E180	-1	150	Y		
Summary or Abstract note	NOTABS	E190	-1	500	Y		
Personal name used as subject	PERSU	G100	-1	100	Y		Y
Personal name, primary resp.	PERSPI	H100	-1	100			
Series Embedded	SEREMB	S410	-1	150	Y		
z970	CONTIN	Z970	-1	5			Y
Continuation isn for large record	CISN	Z980	-1	10	Y		

* - specify IPFIXED as the special user exit for this field
  - PROMPTING CONTROLLED BY EXIT should be Y

\+ - specify 1 for FUNCTION CODE OF USER EXTRACTION for this field

The UNIMARC CD

CD NAME - UNIMARCC

** HEADER INFORMATION **
DATA MODEL NAME - DMUNMARC
DATABASE NAME - UNIMARCC
DATA BASE CLASS - CD
ISO TYPE (ISIS/AGRIS/UNISIST) - ISIS
LENGTH OF RECORD LEADER - 24
LENGTH OF ISO TAG - 3
LENGTH OF DISPLACEMENT FIELD - 5
LENGTH OF LENGTH FIELD - 4
TYPE OF DISPLACEMENT (C/B/P) - C
TYPE OF LENGTH FIELD (C/B/P) - C
TAG OF SUBRECORD DIRECTORY -
TYPE OF INPUT FILE (A/E) - A
TYPE OF OUTPUT FILE (A/E) - A
RANGE CHECK FIELD TYPE (C/B/P) - C
DISPLACEMENT RELATIVE TO BEGINNING OF RECORD (V/B) - V
LENGTH OF RECORD SEPARATOR - 1
LENGTH OF FIELD SEPARATOR - 1
UNBLOCKED TAPE (Y/N) - Y

CD NAME - UNIMARCC

MINISIS TAG	ISO TAG	MAX. LGTH	+---- D A T A D E F I N I T I O N
A100	001	20	
B100	010	100	DISPLACEMENT OF "FROM" FIELD - -> 2 # OF SUBFIELD IDENTIFIERS - -> 4 SUBFIELD IDENTIFIERS -> abdz SPECIAL EXIT INDICATOR -> N
B120	011	100	DISPLACEMENT OF "FROM" FIELD - -> 2 # OF SUBFIELD IDENTIFIERS - -> 4 SUBFIELD IDENTIFIERS -> abdz SPECIAL EXIT INDICATOR -> N
B130	020	50	DISPLACEMENT OF "FROM" FIELD - -> 2 # OF SUBFIELD IDENTIFIERS - -> 3 SUBFIELD IDENTIFIERS -> abz SPECIAL EXIT INDICATOR -> N
B140	021	50	DISPLACEMENT OF "FROM" FIELD - -> 2 # OF SUBFIELD IDENTIFIERS - -> 3 SUBFIELD IDENTIFIERS -> abz SPECIAL EXIT INDICATOR -> N
B150	022	50	DISPLACEMENT OF "FROM" FIELD - -> 2 # OF SUBFIELD IDENTIFIERS - -> 3 SUBFIELD IDENTIFIERS -> abz SPECIAL EXIT INDICATOR -> N
B160	040	12	DISPLACEMENT OF "FROM" FIELD - -> 2 # OF SUBFIELD IDENTIFIERS - -> 2 SUBFIELD IDENTIFIERS -> az SPECIAL EXIT INDICATOR -> N
C100	100	39	SPECIAL EXIT INDICATOR -> N
C110	101	100	SPECIAL EXIT INDICATOR -> N
C120	102	100	SPECIAL EXIT INDICATOR -> N
C130	105	17	SPECIAL EXIT INDICATOR -> N
C140	106	5	SPECIAL EXIT INDICATOR -> N
C150	110	15	SPECIAL EXIT INDICATOR -> N
C160	111	6	SPECIAL EXIT INDICATOR -> N

CD NAME - UNIMARCC

MINISIS TAG	ISO TAG	MAX. LGTH	+---- D A T A D E F I N I T I O N
C170	115	20	SPECIAL EXIT INDICATOR -> N
C180	120	17	SPECIAL EXIT INDICATOR -> N
C190	121	13	SPECIAL EXIT INDICATOR -> N
C200	122	50	DISPLACEMENT OF "FROM" FIELD - -> 4 SPECIAL EXIT INDICATOR -> N
C210	123	200	SPECIAL EXIT INDICATOR -> N
C220	124	25	SPECIAL EXIT INDICATOR -> N
C230	125	200	SPECIAL EXIT INDICATOR -> N
C240	126	25	SPECIAL EXIT INDICATOR -> N
C250	130	16	SPECIAL EXIT INDICATOR -> N
D100	200	500	SPECIAL EXIT INDICATOR -> N
D110	204	70	DISPLACEMENT OF "FROM" FIELD - -> 4 SPECIAL EXIT INDICATOR -> N
D120	205	150	SPECIAL EXIT INDICATOR -> N
D130	206	100	# OF SUBFIELD IDENTIFIERS - -> 1 SUBFIELD IDENTIFIERS -> a SPECIAL EXIT INDICATOR -> N
D140	207	100	SPECIAL EXIT INDICATOR -> N
D150	208	100	DISPLACEMENT OF "FROM" FIELD - -> 4 SPECIAL EXIT INDICATOR -> N
D160	210	250	SPECIAL EXIT INDICATOR -> N
D170	211	20	DISPLACEMENT OF "FROM" FIELD - -> 4 SPECIAL EXIT INDICATOR -> N
D180	215	100	SPECIAL EXIT INDICATOR -> N
D190	225	9999	SPECIAL EXIT INDICATOR -> N
E100	300	150	SPECIAL EXIT INDICATOR -> N

CD NAME - UNIMARCC

MINISIS TAG	ISO TAG	MAX. LGTH	+---- D A T A D E F I N I T I O N
E100	301	150	SPECIAL EXIT INDICATOR -> N
E100	302	150	SPECIAL EXIT INDICATOR -> N
E100	303	150	SPECIAL EXIT INDICATOR -> N
E100	304	150	SPECIAL EXIT INDICATOR -> N
E100	305	150	SPECIAL EXIT INDICATOR -> N
E100	306	150	SPECIAL EXIT INDICATOR -> N
E100	307	150	SPECIAL EXIT INDICATOR -> N
E100	308	150	SPECIAL EXIT INDICATOR -> N
E100	310	150	SPECIAL EXIT INDICATOR -> N
E100	311	150	SPECIAL EXIT INDICATOR -> N
E100	312	150	SPECIAL EXIT INDICATOR -> N
E100	313	150	SPECIAL EXIT INDICATOR -> N
E100	314	150	SPECIAL EXIT INDICATOR -> N
E100	315	150	SPECIAL EXIT INDICATOR -> N
E110	320	150	SPECIAL EXIT INDICATOR -> N
E120	321	150	SPECIAL EXIT INDICATOR -> N
E130	322	150	SPECIAL EXIT INDICATOR -> N
E140	323	150	SPECIAL EXIT INDICATOR -> N
E150	324	150	SPECIAL EXIT INDICATOR -> N
E160	326	150	DISPLACEMENT OF "FROM" FIELD - -> 2 # OF SUBFIELD IDENTIFIERS - -> 2 SUBFIELD IDENTIFIERS -> ab SPECIAL EXIT INDICATOR -> N
E170	327	500	# OF SUBFIELD IDENTIFIERS - -> 2 SUBFIELD IDENTIFIERS -> a

CD NAME - UNIMARCC

MINISIS TAG	ISO TAG	MAX. LGTH	+---- D A T A D E F I N I T I O N
E180	328	150	SPECIAL EXIT INDICATOR -> N
E190	330	500	SPECIAL EXIT INDICATOR -> N
G100	600	100	SPECIAL EXIT INDICATOR -> N
H100	700	100	SPECIAL EXIT INDICATOR -> N
S410	410	500	SPECIAL EXIT INDICATOR -> N
ISN	999	10	SPECIAL EXIT INDICATOR -> N
Z970	997	5	SPECIAL EXIT INDICATOR -> N
Z980	998	10	SPECIAL EXIT INDICATOR -> N
L050	RST	1	SPECIAL EXIT INDICATOR -> N
L060	TOR	1	SPECIAL EXIT INDICATOR -> N
L070	BIL	1	SPECIAL EXIT INDICATOR -> N
L080	HIL	1	SPECIAL EXIT INDICATOR -> N
L170	ECL	1	SPECIAL EXIT INDICATOR -> N
L180	RLB	1	SPECIAL EXIT INDICATOR -> N

NO. OF CORRESPONDENCE DEFINITIONS - 69

Note the special CD field tags for loading and dumping information in the ISO leader. They are:

RST - Record Status
TOR - Type of Record
BIL - Bibliographic Level
HIL - Hierarchical Level
ECL - Encoding Level
RLB - Record Label

The UNIMARC DS

This Data Submodel performs a chain join to link split records in a UNIMARC data base, assuming that the first record contains the ISN of the second record in field Z980, and the second record contains the value CONT in field Z970 (see also the UNIMARC program in SOURCE.MINLIB). This structure is useful when running pre-G.00 MINISIS, since version G.00 and later can support records of up to 64K bytes.

```
DATABASE NAME - UNIMARCD

** HEADER INFORMATION **
DATA MODEL NAME - DMUNMARC
DATABASE NAME - UNIMARCD
DATA BASE CLASS - DS
FILE TYPE  (MASTER/KSAM/ANY/THES) - MASTER
GROUP NAME - PUB
DEFAULT QUERY FIELD TAG - G100

INITIAL RESTRICTION - = ISN 1/2000 AND NOT Z970 CONT

NAME OF PARAMETER FILE - MARCTBLE
DEFAULT PRINT FORMAT FILENAME - PUNIMARC
LOGID NAME -
NAME OF EXIT FOR VALIDATION  (MAX 8 CHAR) -

DATABASE NAME - UNIMARCD

 FIRST    PRECED   JOIN        CURRENT   CURRENT
 COMP     TAG      TYPE          TAG       COMP

 UNIMARC                                            TYPE -> RD

          Z980   LEFTOUTER      ISN       UNIMARC   TYPE-> RD

NO. OF PROJECTED FIELDS - 0
```


APPENDIX B

The MARCTBLE RD

This RD can be used to set up your MARC parameter file, instead of using EDITOR. If you set up this data base and enter the required parameters for each field in your UNIMARC RD, you can then use the job JOUTFL00 (En) or JOUTFL01 (Fr) and the print format PMARCT00 (En) or PMARCT01 (Fr) to copy this information to an ASCII-format disc file which will serve as your MARC table file (see Section 2.3.3.2 of this document).

The PMARCT00 and PMARCT01 print format files can be found in EXAMPLE.MINLIB in the MINISIS User-contributed Library.

DATA BASE: MARCTBLE

FIELD NAME	MNEMONIC	TAG	OFFSET	LENGTH	NUMERIC	DEPIL	REPEAT
MINISIS Tag	TAG	M000	-1	4			
Subfield/Fixed field identifier	SUBID	M010	-1	2			
Field name	FLDNAM	M020	-1	15			
Fixed field length	FIXLEN	M030	-1	3			
Fixed field offset	FIXOFF	M040	-1	3			
Fixed field,subfield prompting?	DATENT	M050	-1	1			
Sort key generation? (Y/N)	SORTGN	M060	-1	1			
Subfield printing? (Y/N)	SUBPRN	M070	-1	1			
Inverted key generation? (Y/N)	INVERT	M080	-1	1			
Word processing of subfield? (Y/N)	WORDSB	M090	-1	1			
Primary/2nd key extraction(/1/2)?	PRIKEY	M200	-1	1			
Prompt for field if MONOGRAPH?	PRMMON	M100	-1	1			
Prompt for field if ANALYTIC?	PRMANA	A100	-1	1			
Prompt for field if COLLECTIVE?	PRMCOL	C100	-1	1			
Prompt for field if SERIAL?	PRMSER	S100	-1	1			
Right justify fixed field ? (Y/N)	FIXJUS	M110	-1	1			
Fixed field fill character	FIXFIL	M120	-1	1			
File cntrl char/file indic pos	INDICS	M130	-1	2			
Default value for fixed field?	FIXDEF	M140	-1	10			
Default Indicator	DEFIND	M210	-1	2			
Subfield identifier replacement	SUBREP	M150	-1	10			
Delimiter for subfield string	SUBDEL	M190	-1	1			
Suppress full stop if duplicate?	SUPRES	M220	-1	1			
Post literal (10 characters)	POSLIT	M230	-1	10			
Root name of authority file	ROOTNM	M160	-1	4			
Authority file key length	AUTHKL	M170	-1	3			
Valid values of the fixed field	FIXVAL	M180	-1	20			Y

The SUBFIELD PS

This PS on the MARCTBLE RD will prompt you only for MARC subfielded fields.

DATA BASE: SUBFIELD

FIELD NAME	MNEMONIC	TAG	OFFSET	LENGTH	NUMERIC	DEC PL	REPEAT
MINISIS Tag	TAG	M000	-1	4			
Subfield/Fixed field identifier	SUBID	M010	-1	2			
Field Name	FLDNAM	M020	-1	15			
Fixed field,subfield prompting?	DATENT	M050	-1	1			
Sort key generation? (Y/N)	SORTGN	M060	-1	1			
Subfield printing? (Y/N)	SUBPRN	M070	-1	1			
Inverted key generation? (Y/N)	INVERT	M080	-1	1			
Word processing of subfield? (Y/N)	WORDSB	M090	-1	1			
Primary/2nd key extraction(/1/2)?	PRIKEY	M200	-1	1			
Prompt for field if MONOGRAPH?	PRMMON	M100	-1	1			
Prompt for field if ANALYTIC?	PRMANA	A100	-1	1			
Prompt for field if COLLECTIVE?	PRMCOL	C100	-1	1			
Prompt for field if SERIAL?	PRMSER	S100	-1	1			
File cntrl char/file indic pos	INDICS	M130	-1	2			
Default Indicator	DEFIND	M210	-1	2			
Subfield identifier replacement	SUBREP	M150	-1	10			
Suppress full stop if duplicate?	SUPRES	M220	-1	1			
Post literal (10 characters)	POSLIT	M230	-1	10			

The FIXEDFLD PS

This PS on the MARCTBLE RD will prompt you only for information related to fixed fields.

DATA BASE: FIXEDFLD

FIELD NAME	MNEMONIC	TAG	OFFSET	LENGTH	NUMERIC	DEC PL	REPEAT
MINISIS Tag	TAG	M000	-1	4			
Subfield/Fixed field identifier	SUBID	M010	-1	2			
Field Name	FLDNAM	M020	-1	15			
Fixed field length	FIXLEN	M030	-1	3			
Fixed field offset	FIXOFF	M040	-1	3			
Fixed field,subfield prompting?	DATENT	M050	-1	1			
Prompt for field if MONOGRAPH?	PRMMON	M100	-1	1			
Prompt for field if ANALYTIC?	PRMANA	A100	-1	1			
Prompt for field if COLLECTIVE?	PRMCOL	C100	-1	1			
Prompt for field if SERIAL?	PRMSER	S100	-1	1			
Fixed field justification? (Y/N)	FIXJUS	M110	-1	1			
Fixed field filler (1 character)	FIXFIL	M120	-1	1			
Default value for fixed field?	FIXDEF	M140	-1	10			
Root name of authority file	ROOTNM	M160	-1	4			
Authority file key length	AUTHKL	M170	-1	3			
Valid values of the fixed field	FIXVAL	M180	-1	20			Y

APPENDIX C

Sample print formats

The following sample print formats are distributed in the group EXAMPLE.MINLIB in the User-contributed Library:

- PMARCTBL
  - used to create a MARC parameter file by sending output from the MARCTBLE data base to a disc file (see Section 4 of this document)

- PMARCE00 (En), PMARCE01 (Fr)
  - used to print output from MARCTBLE data base on terminal. Calls DISPLAY FUNCTION to display escape sequences. Includes headings and ISN

- PMARCH00 (En), PMARCH01 (Fr)
  - like PMARCESC, but does not show escape sequences

付 - 51

APPENDIX D

The MARC messages (MARCMES0.MESSAGE.MINLIB)

The following messages, which can be found in the MARCMES0 (En) and MARCMES1 (Fr) files in MESSAGE.MINLIB, should be added to your message file at the appropriate line numbers, if you want to use the MARC exits described in this document.
Refer to section 2.1 for more information about adding these messages to the MINISIS message file.

```
$$ FAILURE TO READ INPUT FROM TERMINAL\
** FIELD TOO LONG BY ! - RIGHTMOST CHARACTERS ARE TRUNCATED\
** ! NOT VALIDATED\
** ! NOT VALIDATED - SELECT ONE OF ABOVE VALUES\
** INVALID FIELD VALUE\
THE VALID VALUES ARE:\
ENTER FIXED FIELD IDENTIFIER - \
** UNKNOWN FIXED FIELD IDENTIFIER\
$$ FAILURE TO OPEN PARAMETER FILE !\
$$ FAILURE TO OBTAIN EXTRA DATA SEGMENT TO STORE MARC TABLE\
** INVALID PARAMETER FOUND IN THE ABOVE LINE\
$$ PROGRAM TERMINATED DUE TO INVALID PARAMETERS\
YES\
NO\
M\   <<MONOGRAPH>>
A\   <<ANALYTIC >>
C\   <<COLLECTIVE>>
S\   <<SERIAL    >>
BI\  <<BIBLIOGRAPHIC MINITAG>>
INVALID MESS00 MESSAGE NUMBER OFFSET (M2392)\<<CONVERS,MARC>>
CONVMARC.EXAMPLE.MINLIB\
$$ FAILURE TO OPEN ASCII CONVERSION TABLE FILE \
$$ FAILURE TO OBTAIN EXTRA DATA SEGMENT FOR CONVERSION TABLE\
```

APPENDIX E

Job JOUTFL00 (JOUTFL01) For Creating MARC Table

The job listed below will create a MARC Table from a MARCTBLE RD by running PRINT and using the appropriate print format file. Users running in languages other than English should add the appropriate PARM value, USER, ACCOUNT and GROUP, and print format file (PMARCTBL).

```
!JOB JOUTFL00,user.account,group
!FILE OUTFL;DEV=DISC;DISC=1000;REC=-255,1,F,ASCII;SAVE;NOCCTL
!RUN PRINT.PUB.MINISIS;LIB=P;PARM=nn
MARCTBLE
PMARCTBL
ALL
END
!LISTF OUTFL,2
!PURGE MARCTBLE
!EDITOR
T OUTFL
CQ1 TO "/" IN ALL
CQ "/" TO "" IN ALL
L1/10
K MARCTBLE,UNN
E
!EOJ
```

付属資料4　欧文報告書出力例

1. ORION からの出力フォーマット例

ID : 10019693
GC1 : 000
JD1 : 28.1
AD : IIC
LA : ENG
DS : IIC
TI1 : Japan's industrialization and human resources development : the rold and c
haracteristics of in-house training. --
PP : [Tokyo] :
PU : Institute for International Cooperation, Japan International Cooperation A
gency,
YP : 1985, 3.
PG : 143 p.
SI : 28 cm. + 1 sound cassette, 1 filmstrip (94 fr.)
ID : 10416006
GC1 : 122
JD1 : 21.3
AD : IIC
LA : ENG
DS : IIC
TI1 : Study report on Human Resources Development. Summary. --
PP : Tokyo :
PU : Institute for International Cooperation : Japan International Cooperation
Agency,
YP : 1987.
PG : 41 p. ;
SI : 30 cm.

2. MINISIS 入力用に変換後フォーマット

```
!DB=BIBLIC
!CHANGE STRIP=YES
!REC-ID 001
!b100!$a10019693
$d000
$e28.1
$fIIC
!b110!$fENG
!b120!$bIIC
!b130!$aJapan's industrialization and human resources development : the rold a
nd characteristics of in-house training. --
!b140!$a[Tokyo] :
$bInstitute for International Cooperation, Japan International Cooperatio
n Agency,
$d1985, 3.
!b150!$a143 p.
$b26 cm. + 1 sound cassette, 1 filmstrip (94 fr.)
!REC-ID 002
!b100!$a10416006
$d122
$e21.3
$fIIC
!b110!$fENG
!b120!$bIIC
!b130!$aStudy report on Human Resources Development. Summary.--
!b140!$aTokyo :
$bInstitute for International Cooperation : Japan International Cooper
ation Agency,
$d1987.
!b150!$a41 p. ;
$b30 cm.
```

付属資料5　他機関提供データベース利用許可申請書およびその回答

INSTITUTE FOR INTERNATIONAL COOPERATION, JICA

International Cooperation Centre Bldg.
10-5, Ichigaya Honmura-cho, Shinjuku-ku, Tokyo
162 Japan

Telephone:03-269-3201
Facsimile:03-269-2054
Telex:22271 JICAHDQ

December 1, 1989

Mr. Kenneth Lee White
Technical Information Specialist
Development Information and Utilization Services
Bureau for Science and Technology
Agency for International Development
PPC/CDIE/DI
Washington, D.C. 20523

Dear Mr. White,
Subject : Request of Your Permission to Search the USAID's Bibliographic Data Base AID.

The Information Division of our Institute is a user of the Development Data Bases service provided by the Library of the International Development Reserch Centre in Ottawa, Canada.
Our Division has been given on-line search access to the IDRC's data bases, including IDRIS and BIBLIOL.
We are a contributor to the IDRIS data base, and a user of the MINISIS software system.

We would like to request your permission to search the USAID's bibliographic data base AID on the IDRC's computer. We feel that this data base will be a valuable source of information for us.

We would like to thank you in advance for your cooperation in this matter, and to assure you of our continiued interest in sharing and exchanging information within the development community.

Sincerely yours,

Inohiko Kosuga
Director
Information Division.

P.S.
The latest issue of 'List of JICA publications' is enclosed for your reference.

C.C.
Ms. Margo B. Hawley
Reference Specialist
IDRC Library
Tel.: (613) 236-6163, ext. 2258

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

Mr. Inohiko Kosuga
Director Information Division
Institute for International Cooperation, JICA
International Cooperation Centre Bldg.
10-5, Ichigaya Honmura-cho, Shinjuku-ku, Tokyo
162 Japan

December 20, 1989

Dear Mr. Kosuga,

Thank you for your letter concerning access to our database through IDRC. A.I.D. will grant you permission to access the A.I.D. database on MINISIS through IDRC under the following conditions:

1) No commercial use or release to third parties of the database contents will be made. The information accessed will be used only in support of JICA programs. Access to the database will be limited to authorized JICA employees, or their representatives, in the conduct of official business.

2) If JICA wishes to use any information accessed from the A.I.D. database for demonstration or use in circumstances other than those covered in paragraph one above, JICA will first refer the matter to A.I.D. and act only if it receives approval in writing.

I would also at this time like to request your permission to access your new database on development survey programs and your database on the JICA library. The information in these databases would be of much interest to A.I.D. staff.

By copy of this letter, IDRC will be informed that JICA has permission to access the A.I.D. database through IDRC, under the terms described above. Also, I would like to thank you in advance for your cooperation concerning A.I.D. access to your MINISIS databases.

Sincerely,

Lee White
Deputy Chief
Center for Development
Information & Evaluation
Bureau for Program Policy
and Coordination

cc: IDRC, MHawley

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

VIENNA INTERNATIONAL CENTRE
P.O. BOX 300, A-1400 VIENNA, AUSTRIA
TELEPHONE: 26 310 TELEGRAPHIC ADDRESS: UNIDO VIENNA TELEX: 135612 UNO a FAX: 232156

2 January 1990

Dear Mr. Kosuga,

Reference is made to your letter dated 1 December 1989 requesting permission to search UNIDO's Industrial Development Abstracts (IDA) data base installed at IDRC computer system.

It is our great pleasure to grant permission in accessing UNIDO IDA data base through IDRC computer system and we encourage the development institutes to exploit maximum utilization of the data base for the benefits of the developing countries. In addition, the Industrial and Technological Information Section of UNIDO is actively engaged with the sharing and exchanging information within the Member States. If you are interested to receive information related to technology demand, offer and joint venture opportunities from the developing countries, please do not hesitate to contact us. On the other hand, we would much appreciate it if you could send to us data on 105 projects of project-type technical cooperation in order to identify suitable projects for joint collaboration between JICA and UNIDO/INTIB. In addition, we would like to request you to send us additional programmes of project-type technical cooperation, your new data base on 500 development survey programmes and new data base on JICA library at your earliest convenience.

Attached herewith, please find introductory materials about INTIB operations and activities. After your careful examination of these documents, you may kindly indicate to us your areas of interest so that we could propose joint projects and programmes to be implemented in 1990.

We look forward to hearing from you soon.

Season's greetings.

Yours sincerely,

V. Podshibyakin
Chief
Industrial and Technological
Information Section

Mr. Inohiko Kosuga
Director, Information Division
Institute for International Cooperation
International Cooperation Centre Bldg.
10-5, Ichigaya Honmura-cho
Shinjuku-ku
Tokyo, Japan

united nations educational, scientific and cultural organization
organisation des nations unies pour l'éducation, la science et la culture

7, place de Fontenoy, 75700 Paris
1, rue Miollis, 75015 Paris

adresse postale : B.P. 3.07 Paris
téléphone : national (1) 568.10.00
international + (33.1) 568.10.00
télégrammes : Unesco Paris
télex : 204461 Paris
270602 Paris

référence : IPS/UIS/90

30 January 1990

Dear Mr. Kosuga,

With reference to your letter dated 1 December 1989 addressed to Mr. Del Bigio, I have pleasure in sending you a copy of the authorization to the IDRC to allow the Information Division of your Institute to search the Unesco data base.

I hope this will provide valuable information to you. Finally, please note that the Division of the Unesco Library, Archives and Documentation Services has been renamed Division of Unesco Information Services.

Should you have any further questions, please do not hesitate to get in touch with me.

Yours Sincerely

A. Bousso
Chief, Division of the Unesco
Information Services

Mr. I. Kosuga
Director, Information Division
Institute for International Cooperation
10-5, Ichigaya Honmura-cho,
Shinjuku-ku, Tokyo, 162
Japan

联合国粮食及农业组织
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET L'AGRICULTURE
ORGANIZACION DE LAS NACIONES UNIDAS PARA LA AGRICULTURA Y LA ALIMENTACION
منظمة الأغذية والزراعة للأمم المتحدة

Via delle Terme di Caracalla, 00100 Rome, Italy — Cables: FOODAGRI ROME — Telex: 610181 FAO I — Facsimile: 6799563 — Telephone: 57971

Our Ref.: Your Ref.:

14 December 1989

Dear Mr. Kosuga,

Thank you for your letter of 1 December 1989 requesting permission to access the FAO database mounted at the International Development Research Centre (IDRC) in Canada.

I am pleased to inform you that you may access our database at IDRC with the restriction that data extracted from our files be not used for commercial purposes (resold to a third party). By a copy of this letter I also inform IDRC that you are authorised to access FAO documentation.

Besides being accessible online through IDRC facilities FAO documentation is also available on magnetic tape in ISO 2709 standard communication format. If you have access to the necessary computer facilities and are interested in receiving the tape, I would be pleased to send you more information.

The David Lubin Memorial Library also produces annual cumulative indexes on COM (computer output microfiche) consisting of 5 sequences (bibliographical list, author, subject, geographic and division/project indexes).

Should our products be of interest to you please contact me.

Looking forward for further collaboration, I remain

yours sincerely

Gabriel Stergiou
Documentation Systems Officer
Documentation Processing Section
DAVID LUBIN MEMORIAL LIBRARY

Enclosing: 1. FAO documentation
2. Order form COM products

Mr. Inohiko Kosuga
Director, Information Division
Institute for International Cooperation, JICA
International Cooperation Centre Bldg.
10-5, Ichigaya Honmura-cho, Shinjuku-ku
Tokyo JAPAN

INTERNATIONAL LABOUR OFFICE
BUREAU INTERNATIONAL DU TRAVAIL
OFICINA INTERNACIONAL DEL TRABAJO

4, route des Morillons
CH-1211 GENÈVE 22

Télégrammes INTERLAB GENEVE
Télex 415647 ilo ch
Fac-similé (22) 798 86 85

Téléphone direct (22) 799 8676
central (22) 799 61 11

Réf. BIT/ILO LIB 9.8.3/1 KW/bj
LIB 11.6.1
Votre réf.

Mr. Inohiko Kosuga
Director
Information Division
Institute for International
Cooperation, JICA
10-5, Ichigaya Honmura-cho,
Shinjuku-ku,
Tokyo 162
(Japan)

December 13, 1989

Dear Mr. Kosuga,

Thank you for your letter of December 1 requesting access to the ILO's LABORDOC data base through IDRC. Unfortunately IDRC is only entitled to provide such service to users in Canada. LABORDOC can, however, be searched through a number of other hosts which are listed on the attached sheet.

Yours sincerely,

Kate Wild

Kate Wild,
Director,
Labour Information and
Statistics Department.

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

CENTRE DE RECHERCHES POUR LE DÉVELOPPEMENT INTERNATIONAL

CANADA

January 10, 1990

File: 867-01

Mr. Inohiko Kosuga
Director Information Division
Institute for International
Cooperation, JICA
International Cooperation Centre Bldg.
10-5, Ichigaya Honmura-cho
Shinjuku-ku, Tokyo
162 JAPAN

Dear Mr. Inohiko Kosuga:

I am pleased to inform you that, upon receiving a copy of US AID, FAO and UNIDO's letters granting you permission to access their data base, we have just modified your user profile to add their respective AID, FAO and UNIDO databases to the list of available searchable files.

Should you have any questions or comments regarding this matter, please do not hesitate to contact me.

Yours sincerely,

Alain Lamirande
Coordinator - Regional
Information Services
IDRC Library

c.c.: Mary Campbell

AL:sc

Head Office/Siège social: 250 Albert St./rue Albert, P.O. Box/C.P. 8500, Ottawa, Canada K1G 3H9
Tel./Tél.: (613) 236-6163 • Cable/Câble: RECENTRE • Telex/Télex: 053-3753

付属資料6　先進国援助機関データベース検索例

先進国援助機関提供データベース検索例

1. UNIDO

```
ENTER DATA BASE NAME OR EXIT - UNIDO
TYPE 'HELP' FOR VALID COMMANDS

> =ENVIRONMENT AND WATER AND ISN 1801/3000
     1 :    P=1      T=1

Q> B

LITTLE AH
UNIDO  EXPERT GROUP MEETING ON NEW TECHNIQUES IN WET-PROCESSING OF TEXTILES,
  MANCHESTER, 1975
     MODERN METHODS OF EFFLUENT DISPOSAL.
     Vienna, 1975. 14 p.

     lang: ENGL     date: 1975
     doc #: UNIDO-ID/WG.205/6     isn: 2135
```

2. FAO

```
ENTER DATA BASE NAME OR EXIT - FAO
TYPE 'HELP' FOR VALID COMMANDS

> =RICE AND ISN 1101/1200
     1 :    P=1      T=1

Q> B

REDDY DB
     PLANT PROTECTION - TWELFTH SESSION OF IRC WORKING PARTY ON RICE
       PRODUCTION AND PROTECTION - PARADENIYA, CEYLON, 9-14 SEP 1968.
     FAO REGIONAL OFFICE, BANGKOK, THAILAND, 1969 - PLANT PROTECTION COMMITTEE
       FOR THE SOUTH EAST ASIA AN

     accession #: 10161     ref symbol: PL-PPC/SEAP     lang: EN
     date: 69     isn: 156
```

3. USAID

```
ENTER DATA BASE NAME OR EXIT - AID
TYPE 'HELP' FOR VALID COMMANDS

> =POVERTY AND ISN 1/30
    1 :    P=1      T=1

Q> B

Shinawatra, Benchaphun
Krongkaew, Medhi
Thai University Research Association  Bangkok   TH
U.S. Agency for International Development. Bureau for Asia. Thailand  Bangkok
  TH
     Summary report of the workshop on raising agricultural income and
       productivity of poor farmers.  Mar 1980. 40p.
        (Raising Agricultural Income and Productivity of Poor Farmers, Chieng
       Mei, 8-10 Feb 1980).

     lang: En       date: 1980-03     docid: PN-AAK-007     isn: 27     ARDA
     ref: 10/3/314
          ntis #: PB84-242197
```

4. UNESCO

```
ENTER DATA BASE NAME OR EXIT - UNESCO
RELOP (E621) ** DATA BASE UNESCO NOT DEFINED IN USER PROFILE
** INVALID DATA BASE - TRY AGAIN  (M344)
```

１９９０年２月１４日現在、検索不能。検索許可の通知が UNESCO から IDRC ライブラリーに届いていないのが原因と考えられる。

付属資料7　IDRCにおけるMINISIS開発体制

付属資料 IDRCにおける MINISIS Version H の開発体制

「IDRCにおける MINISIS Version H の開発体制」は、Bulletin MINISIS Newsletter October 1989 より "Introducing...The Computer Systems Group MINISIS Version H" を訳したものです。MINISIS 開発スタッフの紹介とともに、個人の役割分担を明確化し MINISIS ユーザーの広範囲な要求に答えていこうとする IDRC の姿勢が読みとれます。

IDRC 情報科学部(Information Sciences Division) のシステム開発グループ(Computer Systems Group : CSG) は、現在、MINISIS Version H の開発を進めています。この要件を満たすため CSG はメンバーを増員し、現有スタッフに新しい責務を割り当てました。

Terry Gavin は、CSG の Associate Directer であり、１３年間 IDRC に在籍しています。MINISIS オリジナル版の開発メンバーの一人でもあります。

Ed Brandon は、MINISIS Resource Centre プロジェクトの Computer System Officer です。Infomation Tools と Methods の Program Officer でもありました。IDRC 在籍歴は５年です。

MINISIS Systems Managerment

MINISIS Application Analyst であった Andre Roberge は、MINISIS Systems Management Group のヘッドとなりました。以前、Andre は、CIDA のマネージメントコンサルタントとして働いていました。

May Ko は、Andre の代わりの MINISIS Application Analyst でありグループの新メンバーです。May は、Systems Analyst として２年間働いていた Hong Kong Productivity Council でベテランの MINISIS ユーザーとなりました。

Lorraine Vinette は、１１年間 IDRC の多くの部門で働いてきました -- Terminal Operator、secretary、Computer Operator -- 現在は、Computer Systems Management Coordinator です。

Valrose Ogle は、Computer Operator/Secretary として CSG の一員となりました。Valrose は、オタワの Algonquin College で Computer Programming の学位を ２年間で修得しています。

MINISIS Future System

Future System のヘッドである Richard Lee は、１３年間 IDRC に在籍しています。Richard は、MINISIS オリジナル版開発チームで、Programmer-Analyst として働きました。

Ellen Ruygrok は、IDRC で９年の経験をもつ、Senior Programmer-Analyst です。

Bill Swift は、５年間 IDRC で働いています。Bill は、Programmer-Analyst として Future System の一員となる前に、２年間、Computer System Coordinator として MINISIS System Management で作業をしていました。

Senior Programmer-Analyst の Allan McDonald は、Ontario Municipal Employees Rstirement Board (OMERS) から IDRC に移籍しました。Allan は、ロンドン、University of Western Ontario からコンピュータサイエンスと数学分野で名誉学位を受けました。

John Pilgrim は、 Algonquin College で Computer Science コースの学位を３年間で修得し、Programmer-Analyst として、グループの一員となりました。

Ruth Richmond は、新しい Programmer-Analyst です。Ruth は、以前、Statistics Canada の Production Officer であり、Computer Engineering の経験を持っています。

Mary Gampbell は、Database Specialist そして IDRIS Project Coordinator です。Mary は、MINISIS 訓練とユーザーサポートを担当し、IDRC で１２年間働いています。

Senior Information Sysytems Officer である Nick Cop は、７年間 IDRC に在籍しています。Latin America 地域を対象に MINISIS 訓練とユーザーサポートを担当しています。

インドからオタワに戻ってきた Bob McKercher は、東南アジア地域担当の MINISIS Outreach Officer です。以前は、Computer Documentaintion specialist として活動し、IDRC 在籍歴は３年です。

Richard Palmer は、アフリカの MINISIS Outreach Officer として、カメルーンにいます。Richard は、以前、MINISIS Management Group のヘッドであり、３年間 IDRC で働いています。

Kathie DeLoria は、Senior Technical Writer として、MINISIS Outreach に参加しています。Kathie は、University of New York から精神学により、学位をそして Algonquin College から Technical Writer の学位を受けています。

Algonquin College の Techhnical Writer コースの卒業生である WandaJane Phillips は、Computer Documentation Specialist として、CSG に参加しています。

Support Staff

Francoise Massin は、Administrative Secretary として５年間 IDRC で働いています。

Virginia Medina は、３年間 MINISIS Outreach Group の Secretary として働いています。

Louise Pavely は、Secretary として CSG に加わりました。Louise は、Public and Investor Relations で Mitel Corporation の Administrative Assistant として３年間働き、かつ、いくつかの連邦政府機関のための作業を行いました。

MINISIS Version H プロジェクトのため、Computer Systems Group は、それぞれのグループにリーダーを定め、Core Group を体系化しました。

Project Leader - Terry Gavin
Scondary Project Leader - Richard Lee
Application Specification Group - Bob McKercher
Documentation/Training Group - Nick Cop
System Groupe - Richard Lee
Testing Groupe - Andre Roberge
User Interface Groupe - Allan McDonald

CSG にくわえて、Hong Kong Productivity Council からの 2 人のプログラマーがプロジェクトに参加する予定です。

付属資料8　Geographical Distribution of Financial Flows to Developing Countries

これはOECDより毎年刊行されている"Geographical Distribution of Financial Flows to Developing Countries"の磁気テープ版であるが、HP3000を用いての出力は次ページ以降に示す部分のみであった。

***	BEGINNING OF THE DOCUMENTATION			***				
Switzerland	-45.0	-37.2	-0.1	0.3	0.5	0.4	-0.1	0.3
IFAD	-	-	-	-	-	-	-	-
TOTAL	200.6	219.4	391.5	783.7	23.6	8.4	29.8	36.8
Germany. Fed. Rep.	3.3	5.4	1.6	32.2	-	-	0.5	0.0
AF.D.F.	-	-	-	-	-	-	-	-
UNDP	5.0	5.4	4.6	6.0	5.0	5.4	4.6	6.0
BOTSWANA	BOTSWANA						2.2	2.2
Netherlands	17.7	13.7	17.7	26.9	17.7	13.7	16.4	27.6
E.E.C.	10.0	9.5	11.2	10.2	10.0	9.5	11.2	10.2
WFP	2.5	4.8	1.6	3.9	2.5	4.8	4.6	3.9
Canada	1.8	2.6	0.4	0.8	1.8	2.6	0.4	0.8
Switzerland	-16.6	14.6	0.3	5.6	0.1	0.1	0.3	5.6
IFAD	-	0.3	0.6	0.9	-	0.3	0.6	0.9
TOTAL	0.7	1.0	0.9	1.4	0.7	1.0	0.9	1.4
Germany. Fed. Rep.	3.6	1.9	-0.1	0.8	0.1	0.0	0.1	0.2
AF.D.F.	-	0.8	2.8	5.4	-	0.8	2.8	5.4
UNDP	1.9	1.4	1.1	1.4	1.9	1.4	1.1	1.4
EL SALVADOR	EL SALVADOR						0.3	0.2
Netherlands	9.2	8.0	6.4	6.8	9.2	8.0	8.4	6.8
E.E.C.	5.4	5.8	4.5	4.1	2.6	5.0	1.7	1.5
WFP	14.2	10.5	17.0	14.3	14.2	10.5	17.0	14.3
Canada	-0.8	-0.2	-0.9	1.1	1.5	1.6	0.9	1.1
Switzerland	-7.1	-5.6	5.9	0.4	0.3	0.3	5.9	0.4
IFAD	-	-	-	0.5	-	-	-	0.5
TOTAL	227.1	138.9	67.9	34.8	114.8	64.9	43.7	35.9
Germany. Fed. Rep.	245.1	25.5	82.8	17.3	92.9	86.9	126.1	61.8
AF.D.F.	-	-	-	-	-	-	-	-
UNDP	1.5	2.2	2.5	1.7	1.5	2.2	2.5	1.7
KENYA	KENYA						0.2	0.4
Netherlands	4.1	17.1	50.7	-41.9	1.0	0.5	0.6	0.8
E.E.C.	-1.9	6.2	0.8	0.1	0.7	6.2	5.8	6.6
WFP	-	0.9	0.7	1.3	-	0.9	0.7	1.3
Canada	0.3	78.4	18.6	7.6	1.0	3.0	2.5	3.8
Switzerland	1.2	0.8	0.0	0.1	1.2	0.8	0.0	0.1
IFAD	-1.3	0.6	0.5	2.8	-1.3	0.6	0.5	2.8
TOTAL	242.8	390.1	101.5	437.0	31.2	63.2	41.0	36.9
Germany. Fed. Rep.	11.0	10.9	23.8	26.6	10.3	10.6	21.3	26.7
AF.D.F.	-	-	-	-	-	-	-	-
UNDP	7.3	5.7	6.4	3.9	7.3	5.7	6.4	3.9
PACIF. ISL.(TRUST TR.)	PACIF. ILES (TR. TUTL)						-	-
Netherlands	-6.4	20.6	1.2	126.7	0.4	0.4	0.4	0.5
E.E.C.	1.4	0.1	2.6	0.1	1.4	0.1	2.6	0.1
WFP	1.8	2.7	4.5	1.4	1.8	2.7	4.5	1.4
Canada	24.2	13.8	17.1	25.5	24.5	13.9	18.0	25.9
Switzerland	0.0	0.1	0.0	-	0.0	0.1	0.0	-
IFAD	-	0.0	0.5	0.6	-	0.0	0.5	0.6
TOTAL	158.9	146.1	157.7	172.4	144.4	145.0	160.6	173.4
Germany. Fed. Rep.	0.1	1.4	0.2	0.2	-	0.0	0.1	0.0
AF.D.F.	-	-	-	-	-	-	-	-
UNDP	2.2	0.9	1.0	1.3	2.2	0.9	1.0	1.3
THAILAND	THAILANDE						71.8	75.2
Netherlands	-	-	-	-	-	-	-	-
E.E.C.	2.9	3.6	8.7	5.5	0.5	3.6	0.6	0.3
WFP	0.6	3.3	0.5	0.9	0.6	3.3	0.5	0.9
Canada	6.5	2.6	1.7	2.1	6.5	2.6	1.7	2.1
Switzerland	-	-	-	-	-	-	-	-
IFAD	-	-	-	-	-	-	-	-
TOTAL	65.3	65.7	72.5	52.0	56.3	60.3	57.8	57.3
Germany. Fed. Rep.	114.0	35.4	31.2	49.3	26.1	20.0	39.7	52.3

AF.D.F.	0.6	3.2	3.1	1.9	0.6	3.2	3.1	1.9
UNDP	131.3	142.8	172.0	183.3	131.3	142.8	172.0	183.3
UNALLOCATED	NON VENTILE						6.1	7.4
Netherlands	561.7	416.8	904.5	971.1	531.0	440.3	732.9	885.5
TOTAL	1.2	-	0.0	0.0	-8.1	-3.3	-16.3	-11.4
Belgium	-	-	-	-	-	-	-	-
France	4.9	4.6	5.9	14.7	4.9	4.6	5.9	14.7
Japan	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-
TOTAL	0.1	2.5	1.6	0.7	0.0	2.5	1.6	0.7
TOTAL	-	-	6.6	0.9	-39.0	-22.5	-59.4	-47.7
Belgium	-	-	-	-	-	-	-	-
France	1.1	1.7	1.2	3.3	1.0	1.5	1.1	3.2
Japan	0.8	3.4	7.2	47.4	0.4	-0.1	-0.4	43.4
Sweden	-	-	-	-	-	-	-	-
TOTAL	15.1	37.5	37.1	42.6	2.3	19.6	17.1	20.8
TOTAL	-	-	-	-	-0.6	-0.8	-0.9	-1.2
Belgium	-	-	-	-	-	-	-	-
France	-	-	-	-	-1.7	-2.2	-1.2	-1.8
Japan	21.7	13.9	37.3	22.6	19.3	11.5	33.9	17.1
Sweden	-	-	-	-	-	-	-	-
TOTAL	30.2	11.5	22.7	15.0	24.7	8.1	18.8	12.0
TOTAL	140.3	171.9	137.5	115.8	135.7	161.7	128.5	106.5
Belgium	-	1.3	0.4	-	-	1.3	-0.1	-
France	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-
TOTAL	166.6	245.8	542.7	292.7	126.4	224.2	402.7	273.1
TOTAL	1.9	4.4	13.7	9.4	1.7	4.0	13.0	8.6
Belgium	-	-	-	-	-	-	-	-
France	3.5	1.7	1.4	1.2	3.4	1.6	1.4	1.2
Japan	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-
TOTAL	209.2	129.6	258.2	429.7	69.7	7.5	95.1	278.4
TOTAL	0.2	1.0	5.3	4.4	-5.9	-5.3	-0.6	-1.4
Belgium	-	-	-	-	-	-	-	-
France	0.7	0.0	2.3	0.4	0.7	0.0	2.3	0.4
Japan	445.2	470.8	819.1	752.8	368.5	404.6	611.5	643.1
Sweden	-	-	8.3	-	-	-	8.3	-
United States	7.0	51.0	39.0	43.0	-6.0	39.0	27.0	24.0
E.E.C.+ MEMBERS	-	12.0	40.4	20.8	-	12.0	40.4	20.8
Austria	-	-	-	-	-	-	-	-
Finland	0.0	0.0	0.4	0.2	0.0	0.0	0.4	0.2
Italy	1.6	3.8	6.2	5.1	1.6	3.8	6.2	5.1
Norway	-	-	-	-	-	-	-	-
United States	156.0	132.0	101.0	49.0	116.0	94.0	54.0	14.0
E.E.C.+ MEMBERS	17.8	49.9	52.1	33.5	16.9	49.6	48.7	33.5
Austria	-	-	-	-	-	-	-	-
Finland	0.1	-	0.6	0.2	0.1	-	0.6	0.2
Italy	0.6	0.7	0.3	21.3	0.0	-0.2	-0.7	18.5
Norway	-	-	0.0	0.0	-	-	0.0	0.0
United States	3.0	2.0	3.0	4.0	3.0	2.0	3.0	4.0
E.E.C.+ MEMBERS	4.5	4.5	5.1	6.5	3.8	4.2	4.7	6.1
Austria	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2
Finland	13.4	13.3	9.0	14.5	13.4	13.3	9.0	14.5
Italy	2.3	5.1	5.9	15.3	2.3	5.1	5.9	15.3
Norway	-	0.5	0.0	0.2	-	0.5	0.0	0.2
United States	2.0	6.0	4.0	5.0	1.0	5.0	4.0	4.0
E.E.C.+ MEMBERS	119.7	219.0	191.4	334.4	106.7	203.4	170.1	303.5
Austria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Finland	-	-	-	-	-	-	-	-
Italy	0.2	0.3	0.4	0.3	0.0	0.3	0.2	0.3
Norway	0.3	-	-	0.2	0.3	-	-	0.2
United States	112.0	-	-	1.0	56.0	-53.0	-184.0	1.0
E.E.C.+ MEMBERS	1.3	1.4	3.0	3.5	1.2	1.3	2.7	3.3
Austria	-	-	0.0	0.0	-	-	0.0	0.0
Finland	0.4	0.2	0.4	0.6	0.4	0.2	0.4	0.6
Italy	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-
United States	-	1.0	1.0	1.0	-	1.0	1.0	1.0
E.E.C.+ MEMBERS	5.1	10.4	2.7	12.0	5.1	10.4	2.7	10.5
Austria	5.6	7.3	7.7	8.5	2.0	6.0	5.2	5.7
Finland	13.4	17.3	33.0	53.3	13.4	17.3	33.0	53.0
Ireland	-	-	-	-	-	-	-	-
AF.D.B.	-	-	-	-	-	-	-	-
UNTA	0.1	0.2	0.1	0.0	-	-	-	-
Australia	0.1	0.0	0.0	-	-	0.0	-	-
New Zealand	0.0	0.1	0.2	0.1	0.0	0.1	0.1	0.1
IBRD	-	-	-	-	-	-	-	-
UNHCR	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-
United Kingdom	1.1	1.3	4.3	7.7	0.8	0.9	10.7	1.5
I.F.C.	-	-	-	-	-	-	-	-
ARAB COUNTRIES	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-
AF.D.B.	-	-	-	-	-	-	-	-
UNTA	0.7	0.7	0.8	1.0	-	-	-	-
Australia	-	-	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-
IBRD	-	-	-	-	-	-	-	-
UNHCR	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-
United Kingdom	2.8	2.9	2.9	2.7	2.4	2.8	2.9	2.7
I.F.C.	-	-	-	-	-	-	-	-
ARAB COUNTRIES	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-
AF.D.B.	-	-	-	-	-	-	-	-
UNTA	0.7	0.8	0.5	1.0	-	-	-	-
Australia	2.2	2.6	1.8	1.5	2.6	2.3	1.1	1.6
New Zealand	-	-	-	-	-	-	-	-
IBRD	-	-	-	-	-	-	-	-
UNHCR	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-
United Kingdom	-	-	0.0	0.1	-	-	0.0	0.1
I.F.C.	-	-	-	-	-	-	-	-
ARAB COUNTRIES	0.2	-	-	-	-	-	-	3.2
Ireland	-	-	-	0.0	-	-	-	0.0
AF.D.B.	-	-	-	-	-	-	-	-
UNTA	-	0.0	0.0	-	-	-	-	-
Australia	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1
New Zealand	-	-	-	-	-	-	-	-
IBRD	-	-	-	-	-	-	-	-
UNHCR	-	-	-	-	-	-	-	-
Denmark	0.2	0.1	0.1	0.2	0.1	0.2	0.2	1.4
United Kingdom	0.1	0.1	0.1	7.6	0.1	0.1	0.2	7.6
I.F.C.	-	-	-	-	-	-	-	-
ARAB COUNTRIES	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-
AF.D.B.	-	-	-	-	-	-	-	-
UNTA	1.8	2.1	1.9	3.0	-	-	-	-

Australia	0.0	0.1	0.1	0.0	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-
IBRD	-	-	-	-	-	-	-	-
UNHCR	-	-	-	-	-	-	-	-
Denmark	0.0	10.0	0.9	5.8	-	9.4	0.1	-
United Kingdom	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
I.F.C.	-	-	-	-	-	-	-	-
ARAB COUNTRIES	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-
AF.D.B.	-	-	-	-	-	-	-	-
UNTA	0.2	0.5	0.7	0.7	-	-	-	-
Australia	-	-	-	-	-	-	-	-
New Zealand	0.0	0.0	-	-	-	0.0	-	-
IBRD	0.5	0.4	-	-	-	-	-	-
UNHCR	60.9	53.6	50.7	52.0	-	-	-	-
Denmark	227.9	218.0	497.0	526.7	288.5	340.1	479.6	415.7
United Kingdom	274.6	335.0	351.7	424.6	250.7	275.7	365.9	504.5
ANGUILLA	ANGUILLA						-	-
Canada	4.9	-	-	-	-	0.1	-	-
Germany. Fed. Rep.	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Netherlands	1.9	2.0	4.1	5.1	1.9	1.7	2.4	2.9
Switzerland	1.3	3.3	10.7	2.7	0.8	0.8	0.7	1.3
MULTILATERAL	24.3	19.5	20.3	19.2	13.1	9.2	12.7	12.6
COMORDS	COMORES						-	-
Canada	3.7	4.2	2.6	6.4	-	1.9	-	-
Germany. Fed. Rep.	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.4
Netherlands	1.7	1.7	4.3	4.0	0.7	0.8	2.6	2.2
Switzerland	0.1	0.1	0.1	0.6	0.0	0.1	0.1	0.1
MULTILATERAL	1.8	2.5	1.8	1.8	0.3	0.3	0.7	0.6
GUYANA	GUYANA						3.0	2.0
Canada	21.7	20.8	31.0	39.9	-	3.2	-	-
Germany. Fed. Rep.	9.2	9.7	16.7	33.9	9.2	9.7	16.3	33.9
Netherlands	20.8	18.4	47.4	57.3	11.2	8.9	15.5	21.4
Switzerland	1.0	0.4	1.0	2.3	0.0	0.0	0.0	0.1
MULTILATERAL	24.5	17.9	24.9	43.5	10.2	7.7	10.8	17.6
MEXICO	MEXIQUE						7.0	5.0
Canada	-	-	-	-	-	-	-	-
Germany. Fed. Rep.	14.4	21.0	20.9	20.7	7.7	8.6	11.4	13.5
Netherlands	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.3
Switzerland	0.8	0.6	0.7	0.8	0.3	0.1	0.1	0.1
MULTILATERAL	28.6	36.6	33.7	36.0	13.6	19.2	14.3	17.0
SOLOMON ISLANDS	SALOMON. ILES						2.0	2.0
Canada	2.1	0.9	0.9	3.8	-	1.2	-	-
Germany. Fed. Rep.	0.7	1.3	1.3	2.8	0.6	1.3	1.3	2.7
Netherlands	4.2	4.7	7.3	9.1	2.7	2.6	4.2	5.5
Switzerland	0.1	0.1	0.1	0.1	-	0.0	-	-
MULTILATERAL	0.2	0.2	0.6	0.8	0.1	0.1	0.2	0.6
VIRGIN ISLANDS	VIERGES. ILES						-	-
Canada	0.0	-	-	-	-	-	-	-
Germany. Fed. Rep.	440.5	602.8	598.5	698.3	199.5	190.3	246.7	306.4
Netherlands	131.0	121.6	176.4	221.4	82.4	69.6	90.2	130.8
Sweden	-	-	-	-	-	-	-	-
TOTAL	-	13.3	18.5	5.6	-	13.3	17.7	4.5
TOTAL	49.6	50.0	43.3	4.8	49.2	48.8	42.2	-29.1
Belgium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
France	0.5	0.3	-	-	0.5	-0.2	-0.3	-
Japan	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-0.4	-	-0.3	-
TOTAL	13.3	24.6	174.2	165.7	5.5	18.4	170.3	157.8
TOTAL	58.3	25.4	19.4	27.3	55.1	18.7	13.7	1.9

Belgium	1.4	0.1	1.0	2.0	1.4	0.1	1.0	2.0
France	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-
TOTAL	1.0	0.0	0.0	-	-1.0	-2.0	0.0	-1.0
TOTAL	1432.4	1084.2	1201.4	3311.8	1166.3	742.7	746.7	2032.9
Belgium	-	-	-	0.1	-	-	-	0.1
France	-	-	-	-	-	-	-	-
Japan	-	-	-	10.8	-	-	-	-1.9
Sweden	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-
TOTAL	2.4	3.6	-	0.1	2.4	3.5	-0.3	0.1
Belgium	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-
Japan	61.9	3.6	34.6	165.0	60.7	3.6	15.3	46.5
Sweden	-	-	-	-	-	-	-	-
TOTAL	1.3	3.9	85.6	-	0.2	3.8	85.6	-18.5
TOTAL	0.1	0.8	0.0	-	0.1	0.8	0.0	-
Belgium	0.9	0.7	0.0	0.5	0.9	0.7	0.0	0.5
France	-	-	-	-	-	-	-	-
Japan	16.5	15.2	16.8	105.5	-8.4	-9.0	-26.7	13.1
Sweden	-	2.0	6.2	-	-0.2	2.0	5.9	-
TOTAL	0.1	0.9	0.2	-	-0.2	0.6	-0.4	-0.6
TOTAL	873.4	140.2	353.6	341.8	613.6	82.0	204.7	239.5
Belgium	40.8	48.0	24.8	60.3	35.3	40.5	15.8	55.1
France	475.6	214.5	190.2	132.2	434.0	177.4	99.6	74.3
Unspecified	-	-	-	-				
Economic Infra.	-	-	-	-				
Programme Assistance	8	12	11	4				
Unspecified	-	0	-	0				
Economic Infra.	76	11	6	20				
Programme Assistance	2	25	28	34				
Unspecified	-	1	-	0				
Economic Infra.	27	8	18	6				
Programme Assistance	24	40	27	24				
Unspecified	-	-	-	-				
Economic Infra.	8	5	8	-				
Programme Assistance	15	9	40	42				
Unspecified	0	0	0	-				
Economic Infra.	-	-	-	-				
Programme Assistance	42	8	8	7				
Unspecified	-	-	-	-				
Economic Infra.	19	22	15	22				
Denmark	-	-	-	-				
Ireland	-	-	-	-				
New Zealand	100.0	100.0	100.0	100.0				
United Kingdom	100.0	100.0	100.0	100.0				
ARAB COUNTRIES	61.3	100.0	-	-				
Australia	-	-	-	-				
Denmark	85.3	86.9	86.1	-				
Ireland	-	-	-	-				
New Zealand	-	-	-	-				
United Kingdom	100.0	100.0	100.0	100.0				
ARAB COUNTRIES	54.7	40.0	100.0	-				
Australia	-	-	100.0	100.0				
Denmark	-	100.0	-	-				
Ireland	-	-	-	-				
New Zealand	-	-	-	-				
United Kingdom	100.0	100.0	100.0	69.1				
ARAB COUNTRIES	28.6	100.0	-	-				

Australia	100.0	-	-	-
Denmark	100.0	78.7	100.0	-
Ireland	-	-	-	-
New Zealand	-	-	-	-
United Kingdom	-	-	-	-
ARAB COUNTRIES	-	-	-	-
Australia	-	-	-	-
Denmark	-	100.0	-	100.0
Ireland	-	100.0	-	100.0
New Zealand	-	-	-	-
United Kingdom	-	-	-	-
ARAB COUNTRIES	-	-	-	-
Australia	-	-	-	-
Denmark	-	-	-	-
Ireland	-	-	-	-
New Zealand	-	100.0	-	-
United Kingdom	76.9	84.0	100.0	96.4
ARAB COUNTRIES	72.9	73.9	80.7	76.0
COMMITMENTS				
Portfolio Investment	-167.3	319.8	196.5	461.2
Contractual Lending	-2.0	-16.4	8.1	-9.6
GROSS:				
ODA Loans	94.5	311.1	59.9	184.3
TOTAL MULTILATERAL	49.0	116.0	79.5	94.3
COMMITMENTS				
Portfolio Investment	141.2	-76.2	453.7	-267.6
Contractual Lending	-0.2	-0.2	-0.1	-
GROSS:				
ODA Loans	1.0	5.4	3.2	26.8
TOTAL MULTILATERAL	676.8	462.2	374.8	180.4
COMMITMENTS				
Portfolio Investment	661.6	221.1	1.2	413.6
Contractual Lending	3.0	12.1	17.4	25.5
GROSS:				
ODA Loans	0.4	0.1	-	0.3
TOTAL MULTILATERAL	10.9	15.4	13.5	24.1
COMMITMENTS				
Portfolio Investment	1298.6	1215.7	113.7	-1672.7
Contractual Lending	-0.2	14.4	2.8	0.4
GROSS:				
ODA Loans	71.2	103.2	76.8	130.3
TOTAL MULTILATERAL	0.1	1.4	0.6	1.9
COMMITMENTS				
Portfolio Investment	62.1	-212.1	-418.3	115.8
Contractual Lending	4.8	-24.7	-4.9	-12.0
GROSS:				
ODA Loans	223.0	93.6	524.3	494.1
TOTAL MULTILATERAL	106.5	70.0	262.3	451.8
COMMITMENTS				
Portfolio Investment	-	0.1	-	-
Contractual Lending	-0.3	3.4	0.0	-9.0
GROSS:				
ODA Loans	36.1	62.1	73.3	82.1
TOTAL MULTILATERAL	5.9	48.7	244.5	2.3
COMMITMENTS				
Portfolio Investment	17.1	6.3	6.6	-11.6
Contractual Lending	-5.8	-7.0	-19.9	71.7
GROSS:				
ODA Loans	4580.5	3051.9	4151.1	5077.1
TOTAL MULTILATERAL	7685.0	10190.8	10161.6	10103.9
COMMITMENTS				

付属資料9　World Development Indicators

これは世界銀行により毎年刊行される"World Development Report"(世界開発報告)の巻末に含まれるWorld Development Indicators(世界開発指標)をフロッピィディスクによって供給されるものであり、以下の項目が含まれている。

Table 1. Basic indicators

Population □ Area □ GNP per capita □ Inflation □ Life expectancy

Table 2. Growth of production

GDP □ Agriculture □ Industry □ Manufacturing □ Services

Table 3. Structure of production

GDP □ Agriculture □ Industry □ Manufacturing □ Services

Table 4. Growth of consumption and investment

General government consumption □ Private consumption □ Gross domestic investment

Table 5. Structure of demand

General government consumption □ Private consumption □ Gross domestic investment □ Gross domestic savings □ Exports of goods and nonfactor services □ Resource balance

Table 6. Agriculture and food

Value added □ Cereal imports □ Food aid □ Fertilizer consumption □ Food production per capita

Table 7. Structure of manufacturing

Value added in manufacturing □ Share of value added in food and agriculture □ in textiles and clothing □ in machinery and transport equipment □ in chemicals □ in other manufacturing

Table 8. Manufacturing earnings and output

Growth rates of earnings per employee □ Index of earnings per employee □ Total earnings as percentage of value added □ Gross output per employee

Table 9. Commercial energy

Growth of energy production □ Growth of energy consumption □ Energy consumption per capita □ Energy imports as percentage of merchandise exports

Table 10. **Growth of merchandise trade**

Export values ▫ Import values ▫ Growth of exports ▫ Growth of imports ▫ Terms of trade

Table 11. **Structure of merchandise exports**

Fuels, minerals, and metals ▫ Other primary commodities ▫ Machinery and transport equipment ▫ Other manufactures ▫ Textiles and clothing

Table 12. **Structure of merchandise imports**

Food ▫ Fuels ▫ Other primary commodities ▫ Machinery and transport equipment ▫ Other manufactures

Table 13. **Origin and destination of merchandise exports**

Industrial market economies ▫ Nonreporting nonmember economies ▫ High-income oil exporters ▫ Developing economies

Table 14. **Origin and destination of manufactured exports**

Value of manufactured exports ▫ Industrial market economies ▫ Nonreporting nonmember economies ▫ High-income oil exporters ▫ Developing economies

Table 15. **Balance of payments and reserves**

Current account balance ▫ Receipts of workers' remittances ▫ Net direct private investment ▫ Gross international reserves ▫ in months of import coverage

Table 16. **Total external debt**

Long-term public and publicly guaranteed debt ▫ Long-term private nonguaranteed debt ▫ Use of IMF credit ▫ Short-term debt ▫ Total external debt

Table 17. **Flow of public and private external capital**

Public and publicly guaranteed and private nonguaranteed long-term loans ▫ disbursements ▫ repayment of principal ▫ net flow

Table 18. **Total external public and private debt and debt service ratios**

Total long-term debt disbursed and outstanding ▫ as percentage of GNP ▫ Total interest payments on long-term debt ▫ Total long-term debt service as percentage of GNP ▫ as percentage of exports of goods and services

Table 19. **External public debt and debt service ratios**

External public debt outstanding and disbursed ▫ as percentage of GNP ▫ Interest payments on external public debt ▫ Debt service as percentage of GNP ▫ as percentage of exports of goods and services

Table 20. **Terms of external public borrowing**

Commitments ▫ Average interest rate ▫ Average maturity ▫ Average grace period ▫ Variable interest rates on public loans as percentage of public debt

Table 21. **Official development assistance from OECD and OPEC members**

Amount in dollars □ as percentage of donor GNP □ in national currencies □ Net bilateral flows to low-income economies as percentage of donor GNP

Table 22. **Official development assistance: receipts**

Net disbursements □ per capita □ as percentage of GNP

Table 23. **Central government expenditure**

Defense □ Education □ Health □ Housing and community amenities; social security and welfare □ Economic services □ Other □ Total expenditure as percentage of GNP □ Overall surplus/deficit as percentage of GNP

Table 24. **Central government current revenue**

Tax revenue □ Nontax revenue □ Total current revenue as percentage of GNP

Table 25. **Money and interest rates**

Monetary holdings, broadly defined □ Average annual inflation □ Nominal interest rates of banks

Table 26. **Income distribution**

Percentage share of household income, by percentile groups of households

Table 27. **Population growth and projections**

Population growth □ Population size □ Hypothetical size of stationary population □ Assumed year of reaching net reproduction rate of 1 □ Population momentum

Table 28. **Demography and fertility**

Crude birth rate □ Crude death rate □ Total fertility rate □ Percentage of married women using contraception

Table 29. **Life expectancy and related indicators**

Life expectancy □ Infant mortality rate □ Child death rate

Table 30. **Health-related indicators**

Population per physician □ per nursing person □ Daily calorie supply per capita

Table 31. **Education**

Number enrolled as percentage of age group □ in primary school □ in secondary school □ in higher education

Table 32. **Labor force**

Population of working age □ Labor force in agriculture □ in industry □ in services □ Growth of labor force, past and projected

Table 33. Urbanization

Urban population as percentage of total population = Growth of urban population = Percentage in largest city = in cities of over 500,000 persons = Number of cities of over 500,000 persons

Box A.1 Basic indicators for U.N. and World Bank member countries with populations of less than 1 million

Box A.2 Gross product per capita by ICP and *Atlas* methods

Table 1. Basic indicators

	Population (millions) mid-1985	Area (thousands of square kilometers)	GNP per capita ¥a Dollars 1985	GNP per capita ¥a Average annual growth rate (percent) 1965-85	Average annual rate of inflation ¥a (percent) 1965-80	Average annual rate of inflation ¥a (percent) 1980-85	Life expectancy at birth (years) 1985
Low-income economies	2,439.4 t	32,547 t	270 w	2.9 w	4.5 w	7.5 w	60 w
China and India	1,805.5 t	12,849 t	290 w	3.5 w	2.7 w	4.4 w	63 w
Other low-income	633.9 t	19,698 t	200 w	0.4 w	11.4 w	18.9 w	52 w
1 Ethiopia	42.3	1,222	110	0.2	3.3	2.6	45
2 Bangladesh	100.6	144	150	0.4	14.9	11.5	51
3 Burkina Faso	7.9	274	150	1.3	6.5	7.2	45
4 Mali	7.5	1,240	150	1.4	..	7.4	46
5 Bhutan	1.2	47	160	..	..	..	44
6 Mozambique	13.8	802	160	..	..	25.8	47
7 Nepal	16.5	141	160	0.1	7.8	8.4	47
8 Malawi	7.0	118	170	1.5	7.3	11.4	45
9 Zaire	30.6	2,345	170	-2.1	24.5	55.3	51
10 Burma	36.9	677	190	2.4	8.7	2.6	59
11 Burundi	4.7	28	230	1.9	8.4	6.6	48
12 Togo	3.0	57	230	0.3	7.1	6.9	51
13 Madagascar	10.2	587	240	-1.9	7.7	19.4	52
14 Niger	6.4	1,267	250	-2.1	7.5	8.5	44
15 Benin	4.0	113	260	0.2	7.4	9.7	49
16 Central African Rep.	2.6	623	260	-0.2	8.4	10.8	49
17 India	765.1	3,288	270	1.7	7.4	7.8	56
18 Rwanda	6.0	26	280	1.8	12.5	7.6	48
19 Somalia	5.4	638	280	-0.7	10.1	45.4	46
20 Kenya	20.4	583	290	1.9	7.3	10.0	54
21 Tanzania	22.2	945	290	(.)	9.6	19.6	52
22 Sudan	21.9	2,506	300	(.)	11.5	31.7	48
23 China	1,040.3	9,561	310	4.8	(.)	2.4	69
24 Haiti	5.9	28	310	0.7	7.3	7.0	54
25 Guinea	6.2	246	320	0.8	2.8	8.3	40
26 Sierra Leone	3.7	72	350	1.1	7.8	25.0	40
27 Senegal	6.6	196	370	-0.6	6.5	9.7	47
28 Ghana	12.7	239	380	-2.2	22.8	57.0	53
29 Pakistan	96.2	804	380	2.6	10.2	8.1	51
30 Sri Lanka	15.8	66	380	2.9	9.5	14.7	70
31 Zambia	6.7	753	390	-1.6	6.4	14.7	52
32 *Afghanistan	..	648	..	..	4.9	..	..
33 *Chad	5.0	1,284	..	-2.3 *	6.2	..	45
34 *Kampuchea, Dem.	..	181	..	..	..	..	..
35 *Lao PDR	3.6	237	..	..	..	..	45
36 *Uganda	14.7	236	..	-2.6 *	23.8	..	49
37 *Viet Nam	61.7	330	..	..	..	..	65
Middle-income economies	1,242.1 t	38,071 t	1,290 w	3.0 w	21.1 w	57.4 w	62 w

	Lower middle-income	674.6 t	16,090 t	820 w	2.6 w	22.2 w	22.3 w	58 w
38	Mauritania	1.7	1,031	420	0.1	7.5	8.1	47
39	Bolivia	6.4	1,099	470	-0.2	15.7	569.1	53
40	Lesotho	1.5	30	470	6.5	8.6	11.4	54
41	Liberia	2.2	111	470	-1.4	6.5	1.6	50
42	Indonesia	162.2	1,919	530	4.8	34.3	10.7	55
43	Yemen, PDR	2.1	333	530	..	..	5.7	46
44	Yemen, Arab Rep.	8.0	195	550	5.3 *	..	9.7	45
45	Morocco	21.9	447	560	2.2	5.8	7.8	59
46	Philippines	54.7	300	580	2.3	11.8	19.3	63
47	Egypt, Arab Rep.	48.5	1,001	610	3.1	7.5	11.0	61
48	Cote d'Ivoire	10.1	322	660	0.9	9.2	10.0	53
49	Papua New Guinea	3.5	462	680	0.4	8.1	5.5	52
50	Zimbabwe	8.4	391	680	1.6	5.7	13.2	57
51	Honduras	4.4	112	720	0.4	6.3	5.4	62
52	Nicaragua	3.3	130	770	-2.1	8.9	33.8	59
53	Dominican Rep.	6.4	49	790	2.9	6.6	14.6	64
54	Nigeria	99.7	924	800	2.2	14.5	11.4	50
55	Thailand	51.7	514	800	4.0	6.8	3.2	64
56	Cameroon	10.2	475	810	3.6	9.0	11.8	55
57	El Salvador	4.8	21	820	-0.2	7.0	11.6	64
58	Botswana	1.1	600	840	8.3	8.0	5.2	57
59	Paraguay	3.7	407	860	3.9	9.2	15.8	66
60	Jamaica	2.2	11	940	-0.7	12.6	18.3	73
61	Peru	18.6	1,285	1,010	0.2	20.5	98.6	59
62	Turkey	50.2	781	1,080	2.6	20.8	37.1	64
63	Mauritius	1.0	2	1,090	2.7	11.8	8.5	66
64	Congo, People's Rep.	1.9	342	1,110	3.8	7.1	12.6	58
65	Ecuador	9.4	284	1,160	3.5	11.3	29.7	66
66	Tunisia	7.1	164	1,190	4.0	6.7	10.0	63
67	Guatemala	8.0	109	1,250	1.7	7.1	7.4	60
68	Costa Rica	2.6	51	1,300	1.4	11.2	36.4	74
69	Colombia	28.4	1,139	1,320	2.9	17.5	22.5	65
70	Chile	12.1	757	1,430	-0.2	129.9	19.3	70
71	Jordan	3.5	98	1,560	5.8 *	..	3.9	65
72	Syrian Arab Rep.	10.5	185	1,570	4.0	8.4	6.1	64
73	*Lebanon	..	10	..	..	9.3	..	..
	Upper middle-income	567.4 t	21,981 t	1,850 w	3.3 w	20.5 w	74.7 w	66 w
74	Brazil	135.6	8,512	1,640	4.3	31.6	147.7	65
75	Uruguay	3.0	176	1,650	1.4	57.7	44.6	72
76	Hungary	10.6	93	1,950	5.8	2.7	5.6	71
77	Portugal	10.2	92	1,970	3.3	11.7	22.7	74
78	Malaysia	15.6	330	2,000	4.4	4.9	3.1	68
79	South Africa	32.4	1,221	2,010	1.1	9.9	13.0	55
80	Poland	37.2	313	2,050	..	..	35.2	72
81	Yugoslavia	23.1	256	2,070	4.1	15.2	45.1	72
82	Mexico	78.8	1,973	2,080	2.7	13.2	62.2	67
83	Panama	2.2	77	2,100	2.5	5.5	3.7	72
84	Argentina	30.5	2,767	2,130	0.2	78.5	342.8	70
85	Korea, Rep. of	41.1	98	2,150	6.6	18.7	6.0	69

86 Algeria	21.9	2,382	2,550	3.6	9.9	6.9	61
87 Venezuela	17.3	912	3,080	0.5	8.7	9.2	70
88 Greece	9.9	132	3,550	3.6	10.3	20.6	68
89 Israel	4.2	21	4,990	2.5	25.2	196.3	75
90 Trinidad and Tobago	1.2	5	6,020	2.3	14.2	7.6	69
91 Hong Kong	5.4	1	6,230	6.1	8.1	7.9	76
92 Oman	1.2	300	6,730	5.7	20.5	4.9 *	54
93 Singapore	2.6	1	7,420	7.6	4.8	3.1	73
94 *Iran, Islamic Rep.	44.6	1,648	..	..	15.2	..	60
95 *Iraq	15.9	435	..	..	..	..	61
96 *Romania	22.7	238	..	..	..	..	72
Developing economies	3,681.5 t	70,618 t	610 w	3.0 w	16.8 w	44.2 w	61 w
Oil exporters	523.3 t	12,785 t	1,060 w	3.1 w	15.3 w	28.9 w	58 w
Exporters of manufactures	2,098.3 t	22,473 t	520 w	4.0 w	13.3 w	47.7 w	64 w
Highly indebted countries	554.5 t	21,213 t	1,410 w	2.5 w	26.6 w	89.0 w	62 w
Sub-Saharan Africa	418.0 t	21,874 t	400 w	1.0 w	12.7 w	16.7 w	50 w
High-income oil exporters	18.4 t	4,012 t	9,800 w	2.7 w	16.6 w	-2.5 w	63 w
97 Libya	3.8	1,760	7,170	-1.3	15.4	-0.3 *	60
98 Saudi Arabia	11.5	2,150	8,850	5.3	17.6	-3.2	62
99 Kuwait	1.7	18	14,480	-0.3	14.1	-3.6 *	72
100 United Arab Emirates	1.4	84	19,270	..	..	-1.4	70
Industrial market economies	737.3 t	30,935 t	11,810 w	2.4 w	7.6 w	5.8 w	76 w
101 Spain	38.6	505	4,290	2.6	12.2	12.6	77
102 Ireland	3.6	70	4,850	2.2	11.9	10.8	74
103 Italy	57.1	301	6,520	2.6	11.2	14.2	

付属資料10　ACCISプロジェクトデータベース