



METHODOLOGY

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Methodology Part 1: PRELIMINARY QUESTIONNAIRES

In July 2001, MAF mailed a short, preliminary questionnaire (see *Reference Documents, Preliminary Questionnaire*) to the senior leadership of 500 mission agencies throughout North America, South America, and Europe.

MAF selected agencies whose input would be valuable in identifying regions of the world where transportation and communications barriers prevent or impede access to the Gospel and to Kingdom resources necessary to sustain spiritual and temporal ministries.

The purpose of the preliminary questionnaire is threefold:

1. Uncover areas of greatest agency interest for potential surveys, either because agencies are engaged in some present activities or planning future work.
2. Obtain referrals to schedule survey interviews.
3. Identify regions potentially needing MAF services.

A follow-up phone call was placed to most agencies approximately one month after each received the preliminary questionnaire (see *Reference Documents, List of Participating Agencies*). Overall response rate was 70%. Information from preliminary questionnaires assisted MAF in prioritizing regions of the world where surveys should be conducted.

Methodology Part 2: SECTOR SURVEYS

Extracted from the training workshop conducted
For Research Associates, June 2002

GLOSSARY OF TERMINOLOGY

INTENT

This survey intends to identify and assess transportation and communications barriers that prevent or impede access to the Gospel and to sustained Kingdom resources. In addition, this survey briefly scans the status of ministry in each sector. The survey instrument consists of two major sections, *Barrier Assessment* (section 1) and *Ministry Scan* (section 2).

Barrier Assessment

Although the *Barrier Assessment* focuses primarily on transportation and communications, it briefly scans economic, social, political, and religious factors as well. It does so, however, purely for the purpose of placing transportation and communications barriers in context. It does not intend to examine the entire panorama of social issues such as education, health care, economic development, etc.

Ministry Scan

The intent of the *Ministry Scan* is to develop a framework for assessing the impact of ministry efforts and establish a base line for measuring MAF impact and the progress of Kingdom values over time. The *Ministry Scan* also could serve as a tool to help ministries evaluate their own effectiveness, should they wish to do so.

The *Ministry Scan* is not intended to evaluate or quantify all known forms of ministry but to observe, to the extent possible, how communities in a specific sector are being transformed according to biblical standards.

A COMPASS FOR THE FUTURE

The outcome of this research will help determine the future direction of MAF for the next 15 to 20 years. Through this global survey, MAF is discovering and analyzing the scope and nature of the needs for its services. Also, Operation *ACCESS!* is a mechanism to sensitize the global missions community to pockets of forgotten people groups scattered across remote regions of the world.

A FIRST STEP

This survey is the first step in determining and prioritizing possible areas of future MAF ministry. Prior to opening new programs or introducing new services, formal feasibility studies will be conducted to determine constraints, facilitating conditions and needed resources to initiate and sustain programs in new locations.

PRE-PLANNING PROCESS

1. All countries of the world are grouped in one of the six (6) geographic regions defined by the UN (see *Reference Documents, Table of Countries & Regions*).
2. Ministries and agencies to be surveyed were selected as per predetermined criteria (see *Criteria and Parameters*, page 13).
3. From the data gathered by the preliminary questionnaires, MAF prioritized areas to be surveyed (see *Reference Documents, Prioritized List of Survey Countries*).

2. WHY THIS SURVEY METHODOLOGY WAS SELECTED

The importance of this global research to the future of MAF, as well as its usefulness to the missions community, necessitates that we conduct the surveys professionally. To be effective, research must follow established methodologies and proven practices. The data must be gathered in a consistent manner and the interviewer's personal bias must be avoided.

That means that the same questions must be asked of every person interviewed, and all questions must be asked every time. The survey interviewer should not introduce additional questions not asked on the survey instrument unless they are asked to clarify a point.

It also means that the interviewer should not influence responses. Unless it is necessary for the purpose of clarifying a point or assisting in the translation, the interviewer should not "put words into the respondent's mouth" nor answer the questions for him/her.

To ensure consistency and prevent bias, this survey employs a guided-answers technique: questions offer pre-determined answer options.

We selected this method for three additional reasons. First, placing check marks next to appropriate answers is a more efficient interviewing method than writing prose. Second, because a number of research associates will be conducting surveys, we need to avoid multiple interpretations of the survey questions and interview answers. Third, guided answers greatly facilitate an accurate analysis of data and the generation of useful reports. The instrument does provide the means for including the interviewer's personal observations when necessary.

Lastly, this survey is designed to be administered through personal interviews and only by trained survey interviewers. The advantages of a face-to-face interview are clear. It offers the opportunity to clarify any question for the respondent, answers his/her questions, and ensures that all survey questions are answered, even if the answer is "I don't know."

Although a face-to-face interview is by far the preferred mode of conducting these surveys, we recognize that there may be exceptional occasions when it may not be possible to do so. In such situations, an interview may be conducted over the phone or via email. However, do not distribute any survey instruments to be completed by respondents on their own.

RECAP: *Consistency, absence of interviewer bias, ease of interviewing, thoroughness, multiple interviewers, accurate analysis, clear conclusions, and useful reports* are the key factors that determined the methodology utilized by Operation ACCESS!

3. HOW THE SURVEY INSTRUMENT WAS DESIGNED

The survey instrument was developed with expert input on content and format. Input from research consultants, more than 20 MAF field staff, and several experienced mission leaders ensured that the survey asks the most appropriate questions.

Question phraseology, flow and sequence, as well as answer choices and layout are based on proven survey techniques. To ensure clarity and ease of use, the instrument was tested in Nepal, Malaysia, and with seasoned field personnel at the MAF-US headquarters in California. Appropriate revisions were made at every stage.

4. CRITERIA & PARAMETERS

- Survey Country:**
- Developing nation
 - Remote and isolated regions

- Survey Agency:**
- National and expatriate agency/ministry
 - Great Commission ministry focusing on *evangelism*, and/or *nurture & discipleship*, and/or *social action*
OR
Humanitarian or government agency focusing on social action (where no mission agency is engaged in the area). Agency must be working in, or wanting to work in remote areas.

- Survey Sector:**
- Remote geographic area defined by:
 1. Boundaries of ministry activity, planned or current
 2. Similarity of topographical features
 - Any number of remote sectors may be surveyed within a country. Within vast countries, such as China and Russia, the number of potential survey sectors may be substantial. In such cases, a representative sampling of sectors may be surveyed during this project, leaving additional sectors open for future surveys.

- Sector Identifier:**
- Alphanumeric decimal label prefaced by a two-letter country identifier, FIPS code (see *Reference Documents, Sector Label job aid and locating FIPS Code job aid*).

5. CONDUCTING SURVEYS—OVERVIEW

5.1 Each Research Associate has been given an initial list of contacts based on preliminary questionnaires sent to 500 mission agencies in North and South America as well as throughout Europe. As you conduct your survey interviews, there will be additional local agencies/ministries you will want to add to your contact list for survey interviews.

5.2 Develop a quarterly plan of all your contacts. Group them by location and proximity to each other. Then plan your contacts monthly.

5.3 Schedule appointments with each contact. Briefly describe the purpose of the survey and how the data will be used and distributed. Explain that the interview will take approximately an hour-and-a-half to two hours. Ascertain if an interpreter will be needed.

5.4 Prepare a weekly schedule (two weeks ahead) of all your activities: letters, phone calls, e-mail, travel, meetings, survey interviews, etc.

5.5 Purchase aviation (ONC) and tourist maps of all the countries and regions you will be surveying. These will serve as useful supplements to your *Encarta* software whenever you need to locate provinces, as *Encarta* does not delineate provincial boundaries on all countries. Upon request, Operation *ACCESS!* administration will supply you with maps as well.

6. BEFORE CONDUCTING A SURVEY INTERVIEW

6.1 Before you schedule your first interview, carefully review your materials and determine which translation of the survey you will use: English, French, Portuguese, or Spanish.

6.2 Reconfirm your appointment time and place the day before. Commit your interview into the hands of our Heavenly Father.

6.3 From *Encarta*, select and print the map(s) you will use to define the sector(s) you will survey during the interview.

6.4 Gather all the materials you will need for your interview: survey instruments, pens, map(s), markers/highlighters, and dictionary.

6.5 To speed up the interview process, you may wish to fill out any information you already know about the agency in the “Agency Information” section.

7. DURING THE SURVEY INTERVIEW

7.1 Thank the respondent for taking the time to meet with you and participate in this unique project. Again, remind him/her that the interview should take approximately an hour-and-a-half to two hours. Briefly review why you are conducting the survey and how the results will be used. Remind the respondent that the survey results will be made available to his/her organization.

7.2 Briefly explain the process: First, you and the respondent will define the sector to be surveyed; then you will draw its outline on a map. The survey questions will apply to that sector exclusively.

7.3 Show the survey instrument and explain that each question will be covered and that each question offers specific answer choices. You may use questions 3 and 4 as examples. Indicate that there is room for additional comments when appropriate.

7.4 Open the map and, based on the respondent’s input, draw the imaginary boundaries around the sector you are surveying.

7.5 Give your respondent, and the interpreter if present, a copy of the survey so they can read the questions as you ask them. Remember to collect these additional copies at the end of the interview.

7.6 Write the sector name and a brief description. You may elect to enter the centroid coordinates after you return to your office/hotel (refer to your “*Centroid Coordinates*” and “*Locating FIPS Codes*” job aids).

7.7 Explain that all the survey questions, except for the “*Agency Information*” section, apply exclusively to the sector, and NOT to the agency and its work nor to the entire country or province/region. It is human nature to want to present the best possible image of one’s agency of affiliation. For that reason, during an interview, some people may tend to exaggerate if they believe that the questions will reflect on the quality or effectiveness of their work or that of their agency. Since accurate information is needed, it is important for the respondent to know that his answers will not reflect on him/her or the agency but will merely describe the current situation in that particular sector.

7.8 Begin your interview with the “*Agency Information*” section. Cover EVERY question, leave none blank.

7.9 Cover each question in sequence. Do not skip around various sections of the survey. If the respondent brings up a topic that you will cover later in the interview, ask him/her to hold that comment until you reach that question.

7.10 When you reach “*Section 2: MAF Ministry Scan*”, help prevent exaggerated answers. Pause for a moment to remind the respondent that, again, all the questions in that section apply to the geographic sector only and NOT to the agency itself.

7.11 If a respondent doesn’t know the answer to a question, check the “*Don’t Know*” box.

7.12 Periodically, remind your subject of points 7 and 11 above.

7.13 If for some reason an emergency interrupts an interview, reschedule another appointment and take the survey with you. Do not leave the survey behind for respondents to fill out on their own.

7.14 At the conclusion of your interview, thank the respondent again for meeting with you. Be sure to ask if there are other people and agencies he/she recommends that you interview. Whenever you obtain agency referrals, request contact names, addresses, phone numbers, and/or email addresses and forward them weekly to Operation *ACCESS!* administration to update the contact database.

7.15 A FEW TIPS

Do...

- ...Use a PEN with blue or black ink to enter the data on the survey.
- ...Begin your interview at the TOP of the survey and ask each question in its proper sequence.
- ...Make your respondent feel AT EASE but avoid making him/her feel “special” or you may help produce responses that are artificial or slanted.
- ...CLARIFY any question but avoid suggesting answers.
- ...Bring a DICTIONARY to help the interpreter if he/she is unable to clearly translate certain words.
- ...Write CLEARLY and LEGIBLY. Block letters are preferred. Remember that the data entry clerk will not be able to guess your intent.

DON'T...

- ...Distribute surveys to be filled out by a respondent on his/her own.
- ...Use a LAPTOP to conduct your interviews, unless a respondent prefers it, as it could act as a barrier between the two of you.
- ...Use PENCILS or COLORED INK to complete the survey instrument, as fax machines do not reproduce these very well.
- ...Let the respondent introduce QUESTIONS that are NOT ON THE SURVEY. Additional comments may be entered in the appropriate "Comments" section of each question or on page 11 of the survey instrument.
- ...ANSWER questions FOR the respondent.
- ...Inadvertently ENCOURAGE "RESPONSE SETS" such as a pre-disposition to agree with positive statements or questions. Avoid comments or facial expressions that may "manipulate" the respondent's answers.
- ...Let your own subtle BIASES show.
- ...INTIMIDATE or annoy a respondent with inadvertent racial, ethnic, or socio-economic comments.
- ...Let yourself be vulnerable to personality CONFLICTS.
- ...SUMMARIZE any FINDINGS uncovered by any other survey. To do so with a respondent could influence his/her responses. However, do advise respondents that the findings will be published and distributed to their agency.
- ...SUPPRESS individual differences.
- ...FOSTER conformity.
- ...INTENSIFY group loyalties and polarize opinions by your facial expressions.

CAUTION...

- ...Watch for an over-rated or under-rated respondent bias. Some people tend to give consistently high or low ratings.
- ...Be aware that your mannerisms and personal biases can trigger an unduly favorable, or unfavorable, pattern of response from a respondent.
- ...Avoid letting yourself be manipulated by the biases of a skillful respondent.
- ...Even among Christians, there can be a tendency to exaggerate positive results and effects. If you sense that your respondent may be exaggerating, note it in the appropriate comment section.

8. AFTER THE SURVEY INTERVIEW

- 8.1 Send a thank-you note to your respondent using the most appropriate format (letter, post card, or e-mail.)
- 8.2 Enter the centroid coordinates on the survey if you have not already done so.

8.3 Double check the survey to ensure that you have filled every field on the cover page and that all questions have been answered. If for some reason you have missed a question, contact your respondent at once and complete the survey.

8.4 Make a photocopy of the completed survey for your records.

8.5 Fax or mail the original survey to Operation *ACCESS!* administration along with the sector map linked to that particular survey. You will receive a confirmation that the survey has been received in its entirety. Likewise, you will be alerted if something is amiss and needs to be submitted again.

8.6 If for some reason a survey is lost or destroyed before you have had an opportunity to make a copy, contact your respondent at once and attempt to schedule another interview. **DO NOT** attempt to fill out a replacement survey yourself based on your recollection of the respondent's answers. If you are unable to repeat the survey interview, advise Operation *ACCESS!* administration of the situation. You will need to provide the sector name and coordinates as well as the name of the organization and that of the respondent.

8.7 Do not discard any survey even if you strongly disagree or doubt the accuracy of the respondent's answers. Indicate any valid concern in the question's comment section or on page 11.

9. GLOSSARY OF TERMINOLOGY

ASSESSMENT

The evaluation of the nature and character of barriers that prevent or impede access to the Gospel and sustained ministry.

BARRIER

An obstacle that restrains or obstructs access to the Gospel and to sustained ministry. Operation *ACCESS!* is assessing five barriers:

Comprehensive assessment: TRANSPORTATION and COMMUNICATIONS

Assessment of predominant factors: SOCIAL & ECONOMIC, POLITICAL & RELIGIOUS, and AGENCY RESOURCES.

CENTROID COORDINATES

The center point of a sector expressed in longitudinal and latitudinal degrees and reflected in decimals.

CHRISTIAN

“Any who profess to be Christians. The term embraces all traditions and confessions of Christianity. It is no indicator of the degree of commitment or theological orthodoxy.”¹

In Operation *ACCESS!* research, survey questions relating to such things as the “number of Christians” or “number of Christian churches” refers to Protestant denominations only and excludes Roman Catholic and Orthodox traditions.

CHURCH

“With a capital ‘C’: a particular denomination, or the universal visible Church at a national or worldwide level. With a lower case ‘c’: a local fellowship of believers....The starting of churches is termed *church planting*.”²

CONTACT

Person to be interviewed through a survey instrument, or sources of interview contacts. Contacts are obtained in one of two ways:

1. Identified by agencies in response to preliminary questionnaires.
2. Uncovered by Research Associates (RAs) in the field.

CONTACT DATABASE

Microsoft SQL database specifically designed for Operation *ACCESS!* Captures contact and agency data from preliminary questionnaires and surveys. To assist RAs in tracking and managing their contacts, the database offers 20 pre-formatted lists and reports:

LISTS:

- Agencies
- Contacts
- Countries
- Sectors
- Surveys
- Reports

REPORTS: *Contacts by...*Affiliates • Agency • Country • Region • Sub-region.
*Sectors by...*Country • Research Associate (RA)
*Surveys by...*Country • Research Associate (RA) • Agencies Requesting Survey Results
*MAF Services Requested by...*Country • Service Type
*Data by...*Preliminary Questionnaire • Survey

CREATIVE-ACCESS NATION

“A country which limits or forbids the entry of Christian missionaries and for which alternative legal means of entry are required to enable Christians to live for Christ.”³

CROSS-CULTURAL MISSIONARIES

“Full time Christian workers sent by their churches to work among peoples of a different culture, either within their own nations or abroad.”⁴

ENCARTA WORLD ATLAS (MICROSOFT)

One of the most detailed interactive atlas software available. Allows you to spin the globe, zoom in for more detail, then select maps of interest and print what you see on your screen. Allows for the importation of maps into other documents such as Word, Power Point, etc.

EVANGELICALS

Much has been written to define evangelical Christians. The term is so broad that it would not be useful to employ it in the context of *Operation ACCESS!* It is a point of interest however, to see how *Operation World* deals with this term.

“evangelical (with a small ‘e’). A term not used in *Operation World*. Now used by the 2001 *World Christian Encyclopedia* to signify all those likely to be interested in the fulfillment of the Great Commission.... It is synonymous with the term ‘Great Commission Christian’ which is also not used in this book.”⁵

“Evangelicals are largely Protestant, Independent or Anglican, but some are Catholic or Orthodox.... This is a theological and not an experiential definition. It does **not** mean that all Evangelicals...are actually born-again.... However, it does show how many people align themselves with churches where the gospel is being proclaimed.”⁶

FIPS CODES

The Federal Information Processing Standard (FIPS) coding system is the most widely used alpha-numeric system of identifying geographic regions. If the territory occupied by a country changes, the former code is retired and a new code is assigned.

FIPS codes include a two-letter country identifier followed by a two-digit identifier for the province. *Operation ACCESS!* uses FIPS codes for sector labeling thus ensuring compatibility with Global Mapping International (GMI) and the Harvest Information System (HIS) database.

FIPS codes are preferred over ISO codes, a system frequently used by mission organizations.

The ISO code is a code for “names” of countries. The territory represented by a code can change radically without the code changing. In recent history, the ISO code DEU has been used to represent both East Germany and the combined Germany, and the code YUG has been used to represent both greater Yugoslavia and the current Serbia and Montenegro that claim the use of the name Yugoslavia. This makes it nearly impossible to correctly code any historical statistics using ISO codes.

GUIDED-ANSWER QUESTION

Also known as a forced-choice question, prompts the person being interviewed to respond to predetermined answer options important to the research at hand. Proven to be the most accurate and consistent survey technique.

GIS

“Geographic Information System (GIS) is an information system that is designed to work with data references by special or geographic coordinates. A GIS is both a database system with specific capabilities for spatially-referenced data, as well as a set of operations for working with the data. GIS is an integrated package for the input, storage, analysis, and output of special information...analysis being the most significant.”⁷

ArcView GIS is the GIS software utilized by MAF in *Operation ACCESS!* This commercial software is produced by Environmental Systems Research Institute (ESRI) in Redlands, California. *ArcView* is designed to handle geography in the form of special data applications

as well as data from other database software such as Microsoft Access. Also, *ArcView* will function with various image formats commonly found in satellite images and aerial photography.

IN-COUNTRY REGION

Geographic regions within a country as identified by mission leaders (western or national) on the Operation *ACCESS!* preliminary questionnaire.

MISSIONARY

“The Christian missionary is one commissioned by a local church to evangelize, plant churches and disciple people away from his home area and often among people of a different race, culture or language.”⁸

PEOPLE GROUP

“A significantly large sociological grouping of individuals who perceive themselves to have a common affinity with one another. From the viewpoint of evangelization, this is the largest possible group within which the gospel can be spread without encountering barriers of understanding or acceptance. Dr. Ralph Winter of The Center For World Missions refers to these as “unimax” groups and estimates there are approximately 24,000 worldwide.

“There are basically three types of people groups:

Ethno linguistic people group—defines a person’s identity and primary loyalty according to language and/or ethnicity.

Sociological people group—a grouping defined by its long-term relation to the rest of society, such as migration or traditional occupation or class, but not having a self-contained culture or identity as an ethnic group.

Incidental people groups—casual associations of individuals which may be temporary and usually the result of circumstances rather than personal choice. Examples of such groups are high-rise flat dwellers, drug addicts, occupational groupings, commuters, etc.”⁹

PRELIMINARY QUESTIONNAIRE

A short questionnaire mailed to the senior leadership of mission agencies. The purpose of the preliminary questionnaire is three-fold: (1) Uncover areas of greatest agency interest for potential surveys, either because agencies are engaged in some present activities or planning future work. (2) Obtain referrals to schedule survey interviews. (3) Identify future areas for potential MAF services.

RESEARCH ASSOCIATE (R.A.)

Trained survey interviewer, responsible for conducting Operation *Access!* surveys and for supervising field research assistants.

REACHED/UNREACHED

“A term that is widely used today to describe people groups and areas that have or have not responded to the preaching of the gospel.... Strictly, it should be a measure of the exposure of a people group to the gospel and not a measure of the response.”¹⁰

REGION

One of the six large geographic regions of the world as defined by the United Nations: Africa, Asia, Europe, Latin America & Caribbean, Northern America, Oceania.¹¹

RESEARCH

Research is the diligent and systematic investigation into a subject in order to discover or revise facts, theories, applications, characteristics, etc. Research involves the gathering of data (information) that is later analyzed for the purpose of decision-making. To aid in the analysis, data is frequently quantified numerically.

- **Data:** Facts, statistics, or items of information.
- **Statistics:** The scientific collection of theories and methods applied for the purpose of understanding data. Often statistics provide the rationale behind planning, decision-making, and strategic planning.

RESPONDENT

Person being interviewed (in this context, with the use of the Operation *ACCESS!* the survey instrument.)

RESTRICTED-ACCESS COUNTRY

“States that limit or prevent Christian ministry by expatriates as missionaries. Alternatively they are called creative-access nations, where expatriates must seek secular avenues of entry—business, medical work, teaching, as house servants and other means. Most countries in this category have been Communist or Muslim, but today are predominantly Muslim.”¹²

UNREACHED PEOPLE

“An ethno linguistic people among whom there is no viable indigenous community of believing Christians with adequate numbers and resources to evangelize their own people without outside (cross-cultural) assistance. Other researchers have adopted the terms ‘hidden people’ or ‘frontier people group.’ ”¹³

SECTOR

A small geographic area within a country presenting barriers to transportation and communications. During interviews, sectors are identified by respondents for the purpose of conducting surveys. Sector boundaries are then defined according to one or both parameters: (1) similarity of barriers and topographical features; (2) boundaries of ministry activity, planned or current. Any number of remote sectors may be surveyed within a country. Some sectors may overlap and some may cut across country boundaries. Within vast countries, such as China and Russia, the number of potential survey sectors may be substantial.

SECTOR LABEL

An exclusive alpha-numeric identifier permanently assigned to a surveyed sector. Sector labels allow for ongoing tracking and analyses on barriers and ministry status.

SUB-REGION

Smaller geographic regions within the six continental regions of the world—20 geographic sub-regions have been defined by the United Nations:¹⁴

AFRICA	ASIA	EUROPE
1. Eastern Africa	1. Eastern Asia	1. Eastern Europe
2. Middle Africa	2. South-Central Asia	2. Northern Europe
3. Northern Africa	3. South-Eastern Asia	3. Southern Europe
4. Southern Africa	4. Western Asia	4. Western Europe
5. Western Africa		

LATIN AMERICA & CARIBBEAN	NORTHERN AMERICA	OCEANIA
1. Caribbean	(no sub-regions)	1. Australia/New Zealand
2. Central America		2. Melanesia
3. South America		3. Micronesia
		4. Polynesia

SURVEY

Formal examination to ascertain and measure the conditions, values, and character of a sector. Operation *ACCESS!* surveys examine barriers to the Gospel that can be overcome through transportation, communications and related technology. The surveys also examine the degree of Gospel penetration through a ministry scan.

SURVEY INSTRUMENT

The document with which survey data is captured; it includes all the data fields being researched and ensures completeness and consistency throughout all interviews.

TARGET COUNTRIES

The 124 countries of the world targeted for Operation *ACCESS!* surveys on the basis of the high probability of finding pockets of forgotten people in their remote areas. All will not be surveyed initially. The initial focus will first center on the countries of greatest interest to mission agencies and of highest priority to MAF.

1-6, 8-10, 12-13. *Operation World*

7. U.S. Census Bureau website

11, 14. U.N. website: The State of the World Population 2000

Methodology Part 3: Statistical Analysis

The following notes and explanations are provided to ensure that all of the coding decisions are documented for future reference. These notes should be sufficient for reproducing any of the values found in the summary data for the Operation *ACCESS!* project.

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Question 12

“Yes” items received a value of 1 and “no” items received a value of “2”. Missing items were also given a value of “2” since they were clearly not “yes” answers. All of the items across all 108 boxes were summed. The average was 182 with a standard deviation of about 17. Each case score was then converted into a z-score (units of standard deviation from the mean) and then converted into a standard score in which the mean was 3.0. (Thus a sector with an average score received a value of 3.0 on the scale.) Those sectors with the best transportation received scores less than 3.0 and those with the worst transportation received scores above 3.0. Any standardized score less than 1.0 was converted to a 1.0 and any standard score above 5.0 was converted to 5.0 (so that there would be no values less than 1 nor more than 5.)

Question 13

This item was recoded so that “few/none” became 5 and “most/all” became 1.

Question 14

The first part of the question was given a value of no=5, yes=1, don’t know=5. Planned dirt roads were given a value of 3 and planned paved roads were given a value of 1. Expected within 2 years was given a value of 1, planned in 3-5 years was given a value of 3, and planned more than 5 years out was given a value of 5. Very likely was given a value of 1, somewhat likely a value of 3, and not likely a value of 5. These items were added together (range of 5 to 25 points), averaged and sector scores were first converted to z scores and then standardized to a 5-point scale. The lower the value the more likely that roads are planned, they will be paved, they will be built sooner, and are more likely to actually be built.

Questions 16-17

This is perhaps the most complicated data in the survey to quantify meaningfully. To begin, I assigned a base value to each of the modes of transportation so that motor vehicles and aircraft received a base score of 1.0; ferry/boat/ship and public transportation received a base score of 2.0; canoes, small motor boats, bicycles/motorcycles received a base score of 3.0, and walking and beasts of burden received a base score of 4.0. The distance, time, local cost, an US\$ cost was really too sporadic to be very helpful--lots of missing data and lack of clarity/consistency regarding the numbers (was distance in miles or kilometers for example and was time in minutes, hours, or days--the numbers simply weren’t clear enough to be useful).

However, the difficulty of the journey was an opportunity to add points to the base score. An easy journey received an additional .25 (though perhaps it shouldn't have added anything); a hard journey added a score of .50; a very hard journey added a score of .75; and the need for a guide added an additional .25 to the total score. So, for example, a journey that was typically done by walking (base of 4.0) and the journey was considered very hard (add .50) and required a guide (add .25) was given a total score of 4.75.

The other complication was that some journeys require the use of more than one mode of transportation to complete. For those journeys, only the most difficult portion was used in assigning a value regarding the difficulty of the typical journey. For example, if a typical journey involved a motor vehicle ride that was hard (score of 1.50) followed by a small motor boat ride that was easy but required a guide (score of 3.25) the "typical journey" was assigned the value of 3.25 representing the most difficult part of the journey. There were a number of cases in which this question on the survey was omitted (probably 20 out of the 400 cases). For those locations I assigned the value of 3.0 since that is the mid-point on the scale of 1 to 5. This may or may not be the case for that location, but to assign no value would invalidate everything else on that survey.

Question 17 was treated the same way.

Question 18

For Question 18 the 7 items were added together to provide a sum that ranged from 0 to 7. This sum was recoded so that a sum of 0 or 1 was given a value of 1; a sum of 2 was given a value of 2; a sum of 3 or 4 was given a value of 3; a sum of 5 was given a value of 4; and a sum of 6 or 7 was given a value of 5.

Questions 19 and 20

These items needed to be recoded so that "almost never" was given a value of 5 and "almost always" was given a value of 1.

Question 21

Question 21 was already coded properly so that "almost always" had a value of 5 and "almost never" had a value of 1.

Question 22

This variable was manipulated to provide a sum of the total number of threats. If the "none" box was checked, the sector was given a value of 0. If one threat was identified, the sector was given a value of 1, if two threats then it was given a value of 2, and so forth. The maximum was 5 identified threats, so the value for this variable ranges from 0 to 5.

Question 23

This question was already coded so that "almost always" received a value of 5 and "almost never" received a value of 1.

Question 24

Question 24 was already coded so that "prevents any work" received a value of 5 and "negligible" received a value of 1.

Questions 25 and 26

All of the data for these variables were recoded so that any checked boxes were given a value of 1 and unchecked boxes were given a value of 0. All 56 boxes for each question were simply summed. The average number of boxes for question 25 was about 8 with the range being from 0 to 40. The average number of boxes checked in question 26 was almost 19 with a range of 0 to 51. These sums were then converted to a 5-point scale so that the more boxes checked, the lower the overall value for the question. For question 25 the value assigned on the 5 point scale was as follows:

1-4 = 5.0

5-8 = 4.5

9-12 = 4.0

13-16 = 3.5

17-20 = 3.0

21-24 = 2.5

25-28 = 2.0

29-31 = 1.5

32 and higher = 1.0

A similar process was used for question 26 though the scale ranged from 0 to 50 and 5-point intervals were used rather than 4-point intervals.

Question 27

The first part of question 27 was given a value of “5” for “no” and “don’t know” and a value of “1” for “yes.” The second part of the question considered when and how likely improvements were expected. If improvements were expected in 1-2 years a value of “1” was assigned; if 3-5 years, a value of “3” was assigned; and if more than 5 years, a value of “5” was assigned. Likewise, if improvements were “not likely” the response was given a value of 5; if improvements were “somewhat likely” the response was given a value of “3,” and if improvements were “very likely” a value of “1” was assigned. These values were then averaged, first for each type of communications (postal service, phone/fax, etc.) and then averaged across the 7 types of communication. This “total average” across all 7 types of communication was then averaged equally with the value assigned to the first part of the question (yes, no, don’t know) for a total value for question 27.

Questions 28-31

These questions were fairly easy to code since all were already on a 5-point scale. Questions were recoded so that 5 represented the “lower” end of each scale (“nearly destitute” in question 28, etc.) and 1 represented the “upper” end of the scale. In question 29, the overall literacy rate and the literacy rate for women were averaged to create a single value for the literacy situation.

Question 32

The responses for each of the four categories in this question were coded so that “not important” was given a value of 5 and “strategic” was given a value of 1. These values were averaged across all 4 categories (developmentally, economically, politically, militarily) to create a single value for question 32.

Questions 33-35

All three of these questions were coded so that “hostile” was assigned a value of 5 and “very receptive” a value of 1.

Question 36

This question was coded so that “impossible” was assigned a value of 5 and “easy” a value of 1. The “score” for foreign NGOs and Christian agencies was averaged to create a single value for question 36.

Questions 37 and 38

These questions were coded so that the more red tape and bribery were present the higher the value (5 represented “all pervasive” red tape and “almost always” prevalent bribery).

Question 39

The level of cooperation was coded so that “little/none” was assigned a value of 5 and “much/frequent” a value of 1. These values were averaged for the two parts of the question to create a single score for Question 39.

Question 40

A value of “5” was assigned to “severe lack” and a value of “1” was assigned to “ample.” These values were averaged across the 4 categories of Question 40.

Question 41

This question turned out to be a bit more complicated than it would appear at first glance. Since only a few sectors reported anything in the “other” space, only the first 5 areas were considered in calculations. These five were ranked from 1 (most important) to 5 (least important). These rankings were reversed so that the most important issue was given a value of 5 and the least important issue was given a ranking of 1. The barrier assessments were already on a 5-point scale, but the scale had to be reversed so that the more overwhelming the barrier the higher the point value. The ranking was multiplied times the barrier assessment (so that if the most important issue was perceived as an overwhelming barrier, that would result in a total value of 25, or 5 times 5). This was done for each of the five issues. All of these results were summed and divided by 25 to get an average across all of the issues and the degree to which each was perceived as a barrier. This resulted in an “average” that did not have an extremely wide range (averages ranged from more than 2 to less than 4. To help “spread out” the scores across the range of 1 to 5, these average scores were converted to standardized scores in which 3 was the mean and 0.5 was the standard deviation. This resulted in greater distribution with the scores ranging from 1.28 to 4.36. I think this is a good representation of the question. The lower that value the less overwhelming the barriers; the higher that score the more overwhelming the barriers. Missing data and scores of 0 were all converted to a value of 3.

Averages and Weights

The values for the questions were averaged and weighted according to formulas provided by MAF.

Methodology Part 4:

Survey Questions Importance Ranking

A panel comprised of the senior MAF leadership and seasoned members of the operations team gathered to review and evaluate the importance of each barrier and ministry scan factor as well as each question asked in sections one and two on the survey instrument.

Following a briefing (appendix, page 33), each factor was reviewed and assessed in relative importance. When views differed, panel members discussed their views then reached agreement on relative importance, either unanimously or by majority.

Once relative importance was determined for each factor, the process was repeated for each question. Relative importance was expressed in percentages. The odd number of panel members prevented any ties.

The relative importance of each barrier factor was determined to be equal. Likewise for the ministry scan factors.

Next, the panel determined the relative importance of each question within each factor. For example, if five questions represent 100% of what MAF is surveying about a specific factor, then the panel allocated a percentage to each of the questions.

On questions 32 through 39, each panel member assigned a rank on the relative importance of each question (1 representing the highest importance; 8 representing the lowest). Total scores was tabulated to determine the panel's importance ranking.

The panel's decisions on the relative importance of factors and questions were forwarded to Dr. Dennis Sheridan and served as the basis for creating factor indices as well as composite indices for barriers and ministry.

PANEL MEMBERS:

Kevin Swanson, President and Chief Executive Officer

Dennis Fulton, Vice President and Chief Operating Officer
(Dennis Fulton was COO at that time. Today, Dave Bochman performs that role.)

Dave Wunsch, Director of Operations Support

Dave Rask, Manager of Safety

Rolland Trempert, Manager of Aviation Services

SECTION 1: BARRIER ASSESSMENT

FACTOR RANKING FOR COMPOSITE BARRIER INDEX

From Surveys:	14.3%	Transportation & Travel (Q12-24)
	14.3%	Communications (Q 25-27)
	14.3%	Social & Economic (Q 28-31)
	14.3%	Political & Religious (Q 32-39)
	14.3%	Agency Resources & Barrier Comparison (Q 40-42)



From GIS:	14.3%	Road Access: 1. Road Density (km per sq km) – 2. Area Unreached by Roads (sq km) – 3. Population Unreached by Roads
	14.3%	Geography: 1. Mean Slope (terrain) – 2. Avg. Population per sq km – 3. Area (sq km) – 4. Population

QUESTION RANKING FOR BARRIER FACTORS INDICES

SECTION 1B: SECTOR TRANSPORTATION/TRAVEL

Overall weight of questions 12-17 as a group, relative to Transportation & Travel factor: 40%

<u>Weight of questions 12-17 relative to this sub-group</u>	
15%	12. In this sector, what are the typical modes of transportation used for people and cargo?
40%	13. Estimated number of communities within this sector with year-round access by road suitable for motorized vehicles or by navigable waterway?
15%	14. Are there any plans to develop roads in this sector?
0	15. In this sector, WHERE do you travel now and/or what areas is your agency most interested in?
15%	16. Please define HOW you travel during a <i>typical</i> journey between two of the points listed above.
15%	17. Please define HOW you travel during a <i>worst case</i> journey between two of the points listed above.

● **SUPPLIES & EQUIPMENT**

Overall weight of questions 18-20 as a group, relative to Transportation & Travel factor: 10%

<u>Weight of questions 18-20 relative to SUPPLIES & EQUIPMENT</u>	
10%	18. What types of supplies, equipment, and material do you need to transport In order to do your work in this sector?
40%	19. Do unaccompanied supplies shipped or received in this sector reach their destination ON TIME?
50%	20. Do unaccompanied supplies shipped or received in this sector reach their destination IN GOOD CONDITION?

● SAFETY & SECURITY

Overall weight of questions 21-23 as a group, relative to *Transportation & Travel* factor: 30%

<u>Weight of questions 21-23 relative to SAFETY & SECURITY</u>	
60%	21. Usually, when traveling in this sector using the typical mode(s) of travel, how frequent are incidences of illness, disease, or injury requiring professional medical attention?
10%	22. Usually, when traveling or shipping supplies throughout this sector, what type of hindrances or threats do you face?
30%	23. How frequent are occurrences of such hindrances or threats?

● AFFORDABILITY

Overall weight of question 24 relative to *Transportation & Travel* factor: 20%

<u>Weight of questions 24 relative to AFFORDABILITY</u>	
100%	24. In this sector, how does the cost of travel impact your work?

SECTION 1C: SECTOR COMMUNICATIONS

Weight of questions 25-27 relative to *Communications* factor:

- | | |
|-----|---|
| 50% | 25. What communication options are available in the RURAL AREAS of this sector? |
| 25% | 26. What communication options are available in the POPULATED CENTERS of this sector? |
| 25% | 27. Are there any plans to improve communications in this sector? |

SECTION 1D: SECTOR SOCIAL & ECONOMIC FACTORS

Weight of questions 28-31 relative to *Social & Economic* factor:

- | | |
|-----|--|
| 30% | 28. In this sector, how would you describe the economic conditions of the general population? |
| 20% | 29. In this sector, how would you describe the literacy situation?
Overall: Women: |
| 25% | 30. In this sector, how would you describe the mortality rate for children under age 5? |
| 25% | 31. In this sector, how would you describe the level of health care services available from modern, medical professionals? |

SECTION 1E: SECTOR POLITICAL & RELIGIOUS FACTORS

Rank of questions 32-39 relative to *Political & Religious* factors:

- #6 32. Overall, how does the government view this sector?
Developmentally Politically Economically Militarily Equal weight for all 4 areas
- #4 33. In this sector, how receptive are RELIGIOUS LEADERS to work by CHRISTIAN AGENCIES?
- #1 34. How receptive are LOCAL POLITICAL LEADERS to work by CHRISTIAN AGENCIES?
- #2 35. How receptive are LOCAL POLITICAL LEADERS to work by FOREIGN, NON-RELIGIOUS agencies?
- #5 36. How difficult is it to obtain government permits/permission?
Foreign NGOs: Christian Agencies: Equal weight for both agency types
- #8 37. In this sector, how extensive is the government “red tape”?
- #7 38. In this sector, how prevalent are bribery and dishonest practices?
- #3 39. In this sector, how much cooperation is there between agencies?
Between National and Foreign NGOs
Between the National Church and Expatriate Mission Agencies

Breakdown of Panel Rankings of Questions 32-39

Q No.	DF	RT	DW	DR	KS	Panel Score	Importance Ranking 1=Highest 8=Lowest	Assigned % Weight
32	8	6	8	6	5	33	6	5%
33	1	4	6	4	4	19	4	15%
34	2	2	2	1	1	8	1	25%
35	3	1	3	2	2	11	2	20%
36	5	3	4	3	8	23	5	11%
37	7	8	5	8	7	35	8	4%
38	6	7	7	7	6	33	7	5%
39	4	5	1	5	3	18	3	15%

SECTION 1F: SECTOR AGENCY RESOURCES

Weight of questions 40-42 relative to *Agency Resources AND Barrier Comparison* factors:

- 30% 40. How would you describe the level of resources available TO YOU to carry out your work IN THIS SECTOR?
Agency Personnel Equipment & Supplies Local Helpers Funding Equal weight for all 4 resources

SECTION 1G: SECTOR BARRIER COMPARISON

- 70% 41. Overall, how would you rate the impact of the following factors as barriers that impede or prevent your CURRENT and/or FUTURE WORK in this sector?
Transportation
Communications
Social & Economic Conditions
Political & Religious Conditions
Organizational Issues
Other: _____
- 0 42. In this sector, are there any barriers to your ministry not addressed by this survey?

SECTION 2: MAF MINISTRY SCAN

FACTOR RANKING FOR OVERALL MINISTRY SCAN INDEX

- 20% Critical resources in place (Q 43-49)
 - 20% Lives won to Christ (Q 50-52)
 - 20% Churches planted & growing (Q 53-56)
 - 20% Leaders identified & trained (Q 57-60)
 - 20% Communities transformed (Q 61-63)
-

SECTION 2A: MINISTRY RESOURCES FOR SECTOR

POTENTIAL MAF IMPACT

Weight of question 43 relative to *MFA Impact* factor:

- 0% 43. MAF Not present in Sector
- 0% MAF Present in Sector

CRITICAL RESOURCES IN PLACE

Weight of questions 44-49 relative to *Critical Resources* factor:

- 16.66% 44. Scriptures Available in Understandable Form — *translation projects, Gospel recordings, etc.*
- 16.66% 45. People as an Incarnational Presence — *Christian workers, missionaries (expatriate & national), etc.*
- 16.66% 46. Evangelism Tools & Methods — *JESUS film, printed tracts, church Planting strategies, radio broadcasts, etc.*
- 16.66% 47. Training Tools & Methods—*Bible schools, seminaries, correspondence courses, TEE strategies, DE resources, etc.*
- 16.66% 48. Social Transformation Tools & Methods — *primary health care programs, hospitals, literacy programs, agriculture projects, etc.*
- 16.66% 49. Linkage to Global Christian Community — *short-term expatriate visits, printed matter, e-mail, two-way radio, networks, conferences, etc.*

SECTION 2B: MINISTRY RESULTS FOR SECTOR

LIVES WON TO CHRIST AND GROWING IN MATURITY

Weight of questions 50-52 relative to *Lives Won to Christ* factor:

- 25% 50. What percentage of Christians make up the general population?
- 25% 51. What is the growth rate among Christians over the past two years?
- 50% 52. To what degree are individual Christians or Christian families maturing in their faith and becoming change agents? (*Ex.: transformed by prayer; demonstrating forgiveness, compassion, personal holiness, etc.*)

CHURCHES—PLANTED, GROWING AND REPRODUCING THEMSELVES

Weight of questions 53-56 relative to *Churches planted, growing, reproducing* factor:

- 10% 53. What percentage of the population has access to a local church?
- 30% 54. How many of the local churches are actively involved in reproducing themselves?
- 35% 55. To what degree are churches involved in outreach and ministry?
- 25% 56. To what degree are churches (including those of different denominations) working together in harmony and demonstrating unity?

LEADERS—IDENTIFIED, TRAINED AND RECEIVING ONGOING MENTORING

Weight of questions 57-60 relative to *Leaders identified, trained, mentored* factor:

- 25% 57. To what degree are new leaders being identified, trained and mentored?
- 25% 58. What kind of training options are in place and currently being used?
- 25% 59. What level of leadership training is in place?
- 25% 60. To what degree is leadership training producing servant leaders?

COMMUNITIES—TRANSFORMED WITH KINGDOM VALUES AND PEOPLE RECEIVING BASIC HUMAN NEEDS

Weight of questions 61-63 relative to *Communities Transformed* factor:

- 33.33% 61. How well are the basic human needs (water, nutrition, health, education) of the poor being addressed as a result of Christian ministry?
 - 33.33% 62. How well are dissimilar groups, tribes, peoples, social classes, etc., getting along and working together in harmony as a result of Christian witness or ministry?
 - 33.33% 63. How much are other local values moving toward Kingdom values as a result of Christian witness and ministry? (*Ex.: decrease in alcoholism, adultery, wife abuse, child labor, corruption, consumerism, pollution, etc.*)
-

APENDIX

SURVEY QUESTIONS IMPORTANCE RANKING

PANEL BRIEFING

WED, APRIL 27, 2005

PANEL MEMBERS

Kevin Swanson, President and Chief Executive Officer
Dennis Fulton, Vice President and Chief Operating Officer
Dave Wunsch, Director of Operations Support
Dave Rask, Manager of Safety
Rolland Trepert, Manager of Aviation Services

FACILITATOR: Ghislaine F. Benney, Director, Operation *ACCESS!*

BACKGROUND

Operation *ACCESS!* is taking a “snapshot” of the remaining areas of the world where transportation, communications, and technology barriers prevent or impede people's access to the Gospel and to the resources that advance God's Kingdom.

The survey instrument used in Operation *ACCESS!* gathers data in hundreds or remote areas (sectors) in order to asses various transportation and communications barriers across five key factors:

1. Transportation & Travel
2. Communications
3. Social & Economic
4. Political & Religious
5. Agency Resources

The survey also scans the status the Church/ministry in those same remote areas (sectors) across five different factors:

1. Critical Resources in Place
2. Lives Won to Christ and Growing in Maturity
3. Churches Planted, Growing and Reproducing Themselves
4. Leaders Identified, Trained and receiving Ongoing Mentoring
5. Communities Transformed with Kingdom Values and People Receiving Basic Human Needs.

To help compare all the sectors surveyed and rank them in order of barrier severity and ministry status, we are creating a five-point index for each of the factors. These indices will be further recapped into one composite barrier index and one composite ministry status index.

For example, a barrier index of 5 would represent overwhelming barriers while an index of one, few barriers. Likewise, a ministry status index of 5 would mean that there's essentially no Christian presence/ministry in that sector while an index of one would represent a healthy, growing local Christian church.

Dr. Dennis Sheridan, will create weighted averages for each factor as well as an composite barrier index (Dr. Sheridan is Chairman of the Department of Higher Education and Organizational Leadership at Azusa Pacific).

Ultimately, all sectors surveyed, will be ranked in relative needs, from highest needs to lowest needs using the two composite indices (barriers and ministry). These indices, will further prove helpful in helping MAF management identify priority sectors where feasibility studies will be conducted.

PANEL ROLE

From the MAF viewpoint, all factors and questions covered in the survey instrument may not carry the same importance (weight) in determining the severity of barriers.

For example, the “transportation” factor may be more important than the “political/religious” factor. Likewise, questions relating to a specific factor may vary in importance (weight) in assessing that factor.

Your role as a panel is to determine the relative importance of all the factors and all the questions in the survey.

PROCESS

The process will be fairly simple but requires seasoned management and operational input as the panel's decisions will impact decision-making for the long term. On some questions, panel members may share the same view. When views differ, panel members will discuss their differing views then reach agreement on a degree of importance, either unanimously or by majority. The odd number of panel members will break any ties.

First, the panel will determine the relative importance of the five factors in both sections of the survey instrument, *Barrier Assessment* and *Ministry Scan*.

Inasmuch as the five barrier factors represent 100% of what MAF is surveying on barriers, what is the relative importance of each factor on determining a comprehensive index of these barriers? For example, the transportation & travel factor may represent x%, while communications may represent y%, and so on. Likewise for the ministry scan factors.

Next, the panel will determine the relative importance of each question on each factor, again using the same approach. If seven questions represent 100% of what MAF is surveying about that factor, then the panel will allocate a percentage to each of the questions. The panel's decisions on the relative importance of factors and questions will be forwarded to Dr. Sheridan and will serve as the basis for creating the indices.

Thank you for your participation.

Methodology Part 5: QUALITATIVE ANALYSIS

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August 30, 2005

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Qualitative analyses of each survey's comments dealt with conditions of travel and communication. These comments appear following survey questions 12-17 and G3, on issues related to travel; those for communications appear following questions 25-27. Additional observations on these topics also appear on the "Additional Notes & Comments" section of the survey instrument, p. 11.

Four steps define the method for analyzing respondent's statements:

1. Identification of comments by sector and survey number.
2. Where there are multiple surveys for a sector, the first step in the analysis was to compare the respondent's data. Invariably there are differences in estimates for various types of available transportation and communications. These differences are identified. Where there are significant differences between respondents, the analysis moves to an attempt to understand the reason or reasons for these differences.
3. Where comments in several contiguous sector surveys touched a common theme, that was noted. Analysis then progressed to see if the issue was common not only to the region but the country. If it was, further questions were raised to ferret out its significance.
4. Given the contemporary rapid changes in global communication, respondent's estimates of the extent to which internet, email and cell phone technology is used, was noted.

