

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE
INFORMATION SCIENCES AND SYSTEMS DIVISION

IMPACT OF INFORMATION ON DEVELOPMENT

*CABECA Study of the Impact of Electronic
Communication Networks in Africa*

REPORT OF THE 1st WORKSHOP

CONSULTANCY REPORT

(Centre File 93-0605-05)

by: Michel J. Menou, CIDEGI

March 1995

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1. OBJECTIVES

The IDRC supported project "Capacity Building in Electronic Communication in Africa (CABECA)" includes an impact assessment component to be carried out by national investigators in four countries (Ethiopia, Senegal, Uganda, Zambia), using standard instruments. The purpose of the mission was to lead the first workshop on the impact case study.

The objectives of the workshop were to review the impact assessment concepts and methods, devise the work plan and prepare the required instruments with the concerned PADIS officers and national investigators.

2. PARTICIPANTS

Participated in the workshop:

- Mrs. Nancy Hafkin, Officer-in-charge, PADIS
- Mrs. Jane F. Asaba and Mr. Bernard Bazirake, Uganda study team
- Mr. Vitalicy Chifwepa, Zambia study
- Mr. Omar Diop, Senegal study
- Mr. Abebe Rorissa, Ethiopia study
- Mr. Lishan Adam, CABECA system coordinator
- Mr. Makane Faye, PADIS (1st session on Monday only)
- Mr. Paul McConnell, ISSD/IDRC (Monday and Tuesday)
- Mr. Michel J. Menou, consultant

3. IMPLEMENTATION OF THE WORKSHOP

The workshop took place from Monday, February 27 through Wednesday, March 1st, 1995 with sessions approximately from 9 to 10:30 am, 11am to 1pm, 2:30 to 4:00 and 4:30 to 5:30 pm. The first day began with the introduction of each participant. The discussions then encompassed the Impact program in general, the basic concepts of, and the framework for, impact assessments, the purpose and scope of the CABECA's impact assessment and the particular objectives of the workshop.

The second day was mainly devoted to the analysis of the data on the users communities in the four countries and

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discussion of alternative survey and sampling strategies.

The third day was focused on the contents of the questionnaire and interview schedule. The possible work plan of the study and the list of tasks to be performed in the near future were considered in the wrap up session.

A schedule of the mission is shown in Appendix 1.

4. RESULTS OF THE MISSION

With a view to make their further dissemination to the participants more easy, the results are presented as separate appendices:

- Appendix 2

CABECA Study of the Impact of Electronic Communication Networks in Africa. Tentative work plan.

- Appendix 3

CABECA Study of the Impact of Electronic Communication Networks in Africa. Notes on sampling.

- Appendix 4

CABECA Study of the Impact of Electronic Communication Networks in Africa. Draft questionnaire and interview schedule.

- Appendix 5

CABECA Study of the Impact of Electronic Communication Networks in Africa. Draft questionnaire for the participants in the African Regional Symposium on Telematics for Development

Recommendations related to the various aspects of the study are presented in the respective appendices.

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APPENDIX 1 - SCHEDULE OF THE MISSION

February 25	Travel Paris-Addis Ababa via Frankfort
February 26	Meeting with Mr. P. McConnell ISSD to review progress in the Impact program and future activities
	Continuation of the meeting with Mrs. Nancy Hafkin for the preparation of the workshop
February 27	Workshop
February 28	Workshop
March 1	Workshop
March 2	(Public holiday) Preparation of the report. Travel Addis Ababa-Paris via Frankfort
March 3	Arrival in Paris

APPENDIX 2 - TENTATIVE WORK PLAN

[NB. Contents and schedule of the second part of the project, after the mid-project workshop, will be finalized on the basis of the results of the first part.]

0. TENTATIVE WORK PLAN

0.1 Deadline March 12

National team receive the draft

0.2 Deadline March 18

National teams send comments to the coordinator regarding their ability to meet each deadline and proposals for adaptations, if required. This should include the indication of their best estimate of the number of interviews they could implement per week during the period earmarked for that part of the work.

0.3 Deadline March 25

Revised work plan is circulated for comment

0.4 Deadline March 31

Work plan is finalized

A. SAMPLING

A1. Deadline March 18

National teams contact the systems' operators of all the networks operating in their country in order to find out:

- a) what kind of data are available in the traffic monitoring backup files, on the one hand, and the billing data, on the other hand, for what period (begin and end date), and if they can have access to them;
- b) if neither of the above sources provide a count of individual end users, the system operators (sysops) best estimate of the average number of end users per entry points (accounts).

A2. Deadline March 25

National teams establish a list of entry points by decreasing frequency of use (based on data in 1.)

A3. Deadline March 30

National teams send to PADIS and the coordinator a report indicating:

- a) number of entry points per frequency of use,
- b) suggested appropriate thresholds for low, medium and high use,
- c) average number of users per entry point;
- d) percentage, or best estimate, of end users, or entry

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points, which are permanent residents or national organizations;

- e) list of main categories with their subcategories describing the institutional/sectoral group to which the entry points belong (it is suggested that main categories should be limited to 5/7, e.g. Academic and research, Non-governmental organizations, Governmental organizations, National State and Local government agencies, Business organizations - including parastatals);
- f) number of entry points outside of the capital city area.

A4. Deadline April 10

Suggestion by the coordinator of standard frequency thresholds and users categories; group discussion and decision.

A5. Deadline April 30

National teams compile for each subset of low medium and high frequency users, a table indicating the total number and percentile of end users in each category, the number (best estimate) and percentile of national users in each category; tables are sent to the coordinator.

A6. Deadline May 8

Group discussion and decision as to the structure of the samples based upon the series of consolidated tables for all four countries and suggestions circulated by the coordinator.

A7. Deadline May 27

National teams draw the end users or entry points to be included in the sample in accordance to the decisions made at 6; the list of interviewees, the planning of the interviews are sent to the coordinator.

B. SURVEY INSTRUMENTS

B1. Deadline March 27

Discussion and finalization of the 1st draft based upon the results of the workshop.

B2. Deadline April 15

National teams make small scale tests of the instruments and report of observations and proposed changes.

B3. Deadline April 24

Coordinator prepares the 2nd draft of the survey instruments

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B4. Deadline May 8

Discussion of the 2nd draft and finalization of the instruments

B5. Deadline May 22

National teams prepare the forms

C. BASELINE SURVEY

C1. Deadline May 31

National teams send questionnaires by Email to all Entry points

C2. Deadline June 10

National teams produce a summary analysis of the first returns circulated to the entire group

C.3 Deadline June 10

National teams send a reminder note to non-respondents

C.4 Deadline June 24

End of the survey. National teams report of the final returns to the entire group

C.5 Deadline October 30

National teams process the baseline survey data

C.6 Deadline December 15

National teams produce draft national reports on the baseline survey which are circulated within the entire group for discussion

C.7 Deadline January 30, 1996

National teams produce a final report on the baseline survey

C.8 Deadline March 30, 1996.

To be decided: Production of a consolidated report for the 4 countries

D. FIRST SERIES OF USERS' INTERVIEWS

D.1 Deadline June 10

National teams begin the interviews

D.2 Deadline September 15

National teams complete the interviews

D.3 Deadline December 15

National teams produce a draft report on the interviews which is circulated within the entire group for comments

D.4 Deadline January 30, 1996

National teams produce a final report on the interviews

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D.5 Deadline March 30, 1996

To be decided: Production of a consolidated report for the 4 countries

E. MID-PROJECT WORKSHOP

E1 Deadline February 5, 1996
Circulation of draft agenda

E2. Deadline February 28, 1996
Completion of the mid-project workshop

F. SECOND SERIES OF USERS' INTERVIEWS

F.1 Deadline March 10, 1996
National teams begin the interviews

D.2 Deadline June 15, 1996
National teams complete the interviews

D.3 Deadline September 15, 1996
National teams produce a draft report on the 2nd series of interviews

G. FINAL REPORT

G. Deadline September 30, 1996
Draft final reports circulated within the entire group for comments

G. Deadline October 30, 1996
Final versions of national reports ready

G. Deadline December 20, 1996
Final version of consolidated report ready

G. Deadline December 30, 1996
Final workshop to review the findings of the project

APPENDIX 3 - NOTES ON SAMPLING

The points below attempt at summarizing the conclusions of the workshop regarding the structure of the sample. It should be reminded that it is only on the basis of more precise figures and tabulations that these orientations will be confirmed and implemented under the most appropriate formula.

1. The focus of the study being the potential contribution of electronic communications to development in Africa, it seems appropriate to restrict the population of actual users to be interviewed to:
 - a) individual users with permanent resident status;
 - b) users in national organizations, irrespective of their personal status.

The sample of people to be interviewed would thus exclude foreign and international organizations, who are however covered in the baseline survey.

If only native individual or corporate users are taken into account it seems that the total population may be reduced by up to 50% thus making the size of the group interviewed far more representative.

2. The frequency of use will be considered as the prime attribute of the users. In other words, the hypotheses to be verified is that who uses more electronic communication is delivering better and achieving more for him/herself and for his/her organization. The other variables become thus dependant variables.
3. As far as possible, the total sample, for the 4 countries, should be as representative as possible of the native users in the 3 frequency subsets, considering first their number then their distribution among the main categories of organizations. Achieving national representation of the sample, though highly desirable, can only be a secondary target.

APPENDIX 4 - DRAFT QUESTIONNAIRE AND INTERVIEW SCHEDULE

[NB Headings in block letters are meant to make the structure of the instrument more apparent and thus facilitate our discussions, they may not need to be reproduced in the questionnaire forms.]

PART 1 - BASELINE DATA

A. USERS IDENTIFICATION

1. Full name
2. Organization
3. Billing address
4. Personal Mail address (if different from 3)
5. Street address (NB if needed for visits)
6. Personal Phone number; Fax number
7. Email address (NB useful for traffic analysis, otherwise not)
8. Are you the sole user of this Email address YES NO
9. If not, are you the system's administrator YES NO
10. If not, Name of the system's administrator
11. How many other users have access to this Email address

B. PERSONAL DATA

1. Gender Male Female
2. Age
3. Nationality
4. If expatriate, are you a permanent resident YES NO
or a temporary resident (<5years) YES NO
5. Highest educational qualification or degree
6. Place and year of qualification/degree
7. In which foreign languages do you consider to be fluent
8. Would you rate your computer skills as (tick appropriate box)
Experienced Intermediate Beginner

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9. List the professional societies you belong to

C. PROFESSIONAL ACTIVITIES

1. What is your professional specialization
2. What is your current title/position
3. What are currently your principal professional activities
4. How many persons are under your direct supervision
5. Whom do you report to (indicate title/position)

D. ORGANIZATION

1. What is the mission of your organization
2. What are the principal activities of your organizations
3. What is the size of your organization's staff
4. For the conduct of your organization's business, is communicating outside the country (tick appropriate box)

Essential Sometimes important Seldom required

E. COMMUNICATION AND INFORMATION FACILITIES OF THE ORGANIZATION

1. What are the major communication facilities (e.g. telephone, telex, fax, radio, etc.) available in your organization?
2. What are the computer facilities available in your organization; indicate number and types of computers, operating systems, networks, etc.
3. Which electronic communication networks does your organization currently use?
4. Are information facilities (e.g. library, records unit, documentation centre) at your organization (tick appropriate box)

Adequate Inadequate Not available

F. INDIVIDUAL COMMUNICATION FACILITIES

1. Do you send/receive Electronic messages through (tick appropriate box)

Regularly Occasionally Never

At the office from

- your own computer

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- a computer on your desk
- someone else's computer
- a computer dedicated to Email

At home from

- your own computer

2. If you use your own computer, please indicate the brand, type, operating system, communication software and modem speed?

3. Do you usually send Electronic messages by (tick one)

- logging in and typing yourself
- bringing a diskette with your messages to another operator
- bringing hard-copy of your messages for entry by another operator
- dictating or describing your messages for entry by another operator
- other (specify):

4. How long have you been using this electronic communication network

5. Did you use electronic communication before YES NO

If yes, how long

6. Do you currently use another electronic communication network?

YES NO , if yes, which one:

7. Is the cost of your electronic communications supported by (tick one)

- yourself
- your department (or any other part of your organization)
- your organization
- a project in your organization
- other (specify):

G. USE AND BENEFITS

1. How often, on the average, do you send electronic messages (tick one)
 - less than once per month
 - 1 to 4 times per month
 - I to 5 times per week
 - once or more per day

2. How often, on the average, do you receive personal messages (other than multiple recipients' ones, e.g. bbs or conference postings)
 - less than once per month
 - 1 to 4 times per month
 - I to 5 times per week
 - once or more per day

3. How often, on the average, do you yourself log on to check for incoming messages
 - rarely or never
 - 1 to 4 times per month
 - I to 5 times per week
 - once or more per day

4. Tick the appropriate box to indicate the frequency of each type of use (either sending or receiving)

	never	<1/m	1-4/m	1-5/w	>1/d
personal messages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
arranging meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
implementing regular business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
managing projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
exchanging research ideas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
receiving technical advice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
providing technical advice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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literature searches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
exchange of documents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
computer conferences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Approximately what percent of the electronic messages you send are destined

____ % outside Africa

____ % within Africa but outside the country

____ % within the country

100%

6. Indicate the frequency with which you send messages or pass information using each of the following channels

	never	<1/m	1-4/m	1-5/w	>1/d
surface mail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
air mail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
telephone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
telex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
facsimile (fax)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
travel for documents delivery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
travel for meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Cite, by order of importance, at least 3 major improvements brought in your work by the use of electronic communications (feel free to explain)

8. Cite, by order of importance, at least 3 major difficulties brought in your work by the use of electronic communications (feel free to explain)

9. Cite, by order of importance, at least 3 major constraints for making a more effective use of electronic communications (feel free to explain)

PART 2. INTERVIEWS

A. ANALYTICAL OPTION

1.1 Which of your professional activities do you consider is

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critical for your organization to achieve its goals?

- 1.2 In implementing this activity, what is the major difficulty/problem you usually face?
- 1.3a [problem does not seem to be dependant on/related to communication] In implementing this activity, do you face any difficulty related to communications?
- 1.3b [problem is related to communication] What are the communication difficulties associated with this difficulty?

Then, for each of the communication difficulty mentioned

2. Before you had access to electronic communication
 - What was the nature of the difficulty, what happened?
 - What was the cause of the difficulty?
 - What were the effects of the difficulty?
 - What were the possible solutions to the difficulty?
 - How could have they been implemented?
 - What would have these solutions changed?
3. Now that you have access to electronic communications
 - What is the nature of the difficulty, what happen?
 - What is the cause of the difficulty?
 - What are the effects of the difficulty?
 - What are the possible solutions to the difficulty?
 - How could they be implemented?
 - What would these solutions change?
4. Comparing the situation before you had access to electronic communication and the current one
 - What has improved?
 - What has deteriorated?
 - What is unchanged?
 - What new problems/difficulties arose?
 - Why?
 - What are their consequences?
 - What are their possible solutions?
 - In which way is the organization performing better?
 - In which way are you yourself performing better?
 - Is the overall change positive?
 - What is required for the change to be continued/expanded?
 - Is the overall change negative?
 - What is required to turn it positive?

B. HISTORICAL OPTION

1.1-1.3 as in analytical interviews

2. Before you had access to electronic communications, do you remind of a particular instance/case where you most

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effectively handled this difficulty turning the activity an exceptional success?

3. Before you had access to electronic communications, do you remind of a particular instance/case where the particularly ineffective handling of this difficulty resulted in a major failure in the activity?
4. Since you have access to electronic communications do you remind of a particular instance/case where you most effectively handled this difficulty turning the activity an exceptional success?
5. Since you have access to electronic communications, do you remind of a particular instance/case where the particularly ineffective handling of this difficulty resulted in a major failure in the activity?
6. Comparing the success and failure stories before and after you had access to electronic communications, what are the respective advantages and inconveniences of both situations?

[NB for each 2 to 6 questions, same series of topics to be re-called as in analytical interviews]

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**APPENDIX 5 - DRAFT QUESTIONNAIRE FOR THE PARTICIPANTS IN THE
AFRICAN REGIONAL SYMPOSIUM ON TELEMATICS FOR DEVELOPMENT,
UNECA-Addis Ababa, April 3-7, 1995)**

The workshop considered that the above quoted symposium might offer a good opportunity to seek the views of decision-makers regarding the potential benefits of electronic communications. To that end, a draft questionnaire is presented below.

If possible, the questionnaire should be enclosed in the conference package with a covering note explaining the purpose and background of the study, stressing that it will be treated in strict confidentiality and indicating how the results will be disseminated or be accessible.

PADIS should make a decision as to who should process the returned questionnaires.

A contents analysis, following the main points of the questionnaires used in the Cabeca's impact surveys, of the papers submitted at this symposium, if not all other relevant material available at PADIS and/ or quoted in these papers, may also provide a most useful background. Some faculty and students at SISA, or other schools, may be interested in undertaking this work.

QUESTIONNAIRE

- Organization's full name
- Country
- Your Title/position
- Gender
- Age
- What is currently your main professional responsibility
- Do you yourself use electronic communications (tick appropriate box)
 - Daily
 - Regularly
 - Occasionally
 - Rarely or never
- Since when do you use electronic communication (indicate year)
- What do you consider the most positive aspects of the current communications scene in Africa? Why and what are their consequences?

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- What do you consider the most serious limitations in the current communications scene in Africa?
 - What are their causes (a)
 - What are their consequences (a)
- [NB items marked (a) may be substituted by Why and what are their consequences? in continuation of the previous question]*
- What are the possible solutions and what changes would they bring?
 - In what way do you consider electronic communications could alleviate these limitations?
 - What limitations in the present communication scene in Africa will not be affected or which of its positive aspects could be undermined by the use of electronic communications
 - What are the major obstacles for the effective use of electronic communications in Africa
 - What particular communication or information functions would be enhanced through the use of electronic communications in Africa
 - What are the major assets of Africa for embarking into the use of electronic communications
 - What is required for electronic communication facilities in Africa to become a sustainable activity

Thank you for your kind cooperation