

Butajira Health Project

An evaluation of a demographic surveillance site

Stephen Tollman

**Department for Research
Cooperation, SAREC**

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Sida Evaluation 00/11

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Executive summary

A. Work in Butajira and Purpose of the evaluation

1. This evaluation of the Butajira Study Base in Ethiopia, jointly hosted by Sida/SAREC and the Ethiopian Science and Technology Commission (ESTC), was undertaken over the period September 1999 to February 2000. The evaluator, Dr Stephen Tollman¹, spent the period September 30 to October 5 1999 in Sweden, and the week November 24 to 30 in Ethiopia.
2. The Butajira Study Base is the product of a long-standing collaboration between the Dept of Community Health, Addis Ababa University, and the Division of Epidemiology, Dept of Public Health and Clinical Medicine, Umeå University. Its objectives, since inception, are: 'To develop and evaluate a system for continuous registration of births and deaths, to generate valid data on fertility and mortality, and to provide a study base for essential health research and intervention in the area'.
3. A fundamental challenge in developing settings, particularly in sub-Saharan Africa, is the absence of vital registration systems, with the resulting inability to measure rates and trends in vital events, establish priorities (whether for intervention or research), and evaluate the health impact of such work. The Study Base, established in the Butajira area some 130km south of Addis Ababa, is an example of a field site based on 'health and demographic surveillance'. It therefore consists of a geographically defined population under continuous demographic monitoring, with timely production of data on all births, deaths and migration events. This monitoring system provides a platform for a wide range of health system innovations as well as social, economic, behavioural and health interventions, all closely associated with research activities.
4. The main purpose of the evaluation, as stated in SAREC-1999-004051, was "to assess the impact and the relevance of the Butajira Study Base. The evaluation should give recommendations for the future management of the Butajira Study Base and its relation to linked research projects. As for the administration and the management of the study base, the evaluator should examine the present roles of the stakeholders and also the possibilities for future management arrangements".
5. The evaluation is based on interviews and discussions with key research leadership and staff, discussions with involved government and university personnel, review of project materials, assessment of published work, and appraisal of other project outputs. While the evaluator has striven to understand all perspectives conveyed, and remain fair and true to their meaning, it must be acknowledged that he is subject to his own biases and limitations in understanding.
6. Since 1986 the Study Base has supported a number of major research efforts. These have formed the basis for PhD and masters-level studies, and the findings have been widely published. For the most part, each effort involves significant collaboration between Addis Ababa and Umeå universities. Notably this work, with the occasional exception, has been financially supported by Sida/SAREC.

¹ Dr Tollman directs the Agincourt Health and Population Programme, sited in South Africa's rural north-east, and is deputy-Chair of the recently established INDEPTH Network. He is Associate Professor in the Faculty of Health Sciences, University of the Witwatersrand, South Africa, and Honorary Senior Lecturer in the Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, UK.

7. Research projects to-date include: (1) establishing the demographic profile of the Butajira community and documenting trends in demographic events, particularly mortality; (2) describing the mortality and morbidity pattern of under-five children, complemented by analytic research to establish the public health and behavioural determinants of the most important causes of death; this formed the basis of intervention research to evaluate the effectiveness of community health agents and a case-management package in the community-based management of ARI; (3) studies to establish the incidence of, and risk factors for, infection with *Helicobacter pylori* in rural children; findings from Butajira were contrasted with results from work in Estonia, Eastern Europe; (4) studies addressing community perceptions of mental illness, its extent, and the epidemiology of attempted suicide, khat chewing and problem drinking; (5) ongoing work in reproductive and sexual health, the first phase of which focused on measurement of maternal mortality, and the outcomes associated with prolonged labour; a major programme of operational research is being proposed; (6) applied research examining the role of indoor air pollution as a critical risk factor for acute lower respiratory infection among Butajira children.

B. Recommendations

Recommendations are presented here in full, it being the evaluator's view that they convey the thrust of the findings and an approach to the next phase of work.

It should be recognised that research underway since 1986 has surmounted numerous obstacles. The Butajira Study Base has contributed an impressive portfolio of work, addressing an array of problems critical to Ethiopian health development and common to many other developing settings. This would not have occurred without the pivotal support, over an extended period, of Sida/SAREC and the ESTC. Moreover, work through the period 1986 to 1999, has contributed an exceptional dataset for the purposes of (a) advanced analysis of vital events and associated socio-demographic variables, and (b) support to advanced community based research, development and programme evaluation. Butajira is one of the earliest of the 18 such study bases that have been established in sub-Saharan Africa, and should play an active role in further developing the potential of these field sites.

8. *Recommendation 1 (p6).* The exact origins and mechanism of establishment of the Butajira Study Base lie some 20 years in the past; it is appropriate, from now on, to focus attention on the current status of the base and its potential future contributions.
9. *Recommendation 2a (p10).* There is the need to explicitly recognise that the effective functioning of the Butajira Programme is directly dependant on effective interactions between the key stakeholding institutions that together constitute the framework for the operations of the Programme.

Recommendation 2b. The implications of this for more streamlined Programme management, and for overall Programme governance, need to be actively considered by all parties, but particularly leadership of the key stakeholding institutions.
10. *Recommendation 3 (p19).* Greater attention and effort should be given to the broad (and overlapping) areas of (i) intervention-research and programme evaluation, (ii) operational research, (iii) health systems R&D, and (iv) translating research findings into policy and practice. Where the skill base of the involved departments needs strengthening (the Department of Community Health, AAU, is particularly important), strategies to effect this should be undertaken.

11. *Recommendation 4 (p24)*. Serious discussion regarding the offering of doctoral level degrees in the Department of Community Health and related departments of Addis Ababa University is timely and should be actively pursued with relevant parties. Care should be taken, however, to ensure that planning is based on a realistic appraisal of current and anticipated Ethiopian capacity to support senior graduate students.
12. *Recommendation 5 (p26)*. Concerns about Ethiopian research leadership failing to take charge of the Butajira Programme are understandable but not valid. The natural evolution of expectations and capabilities among Study Base leadership in Ethiopia is leading to rapid positive change. Emphasis should therefore be placed on changes to programme management and governance (see recommendations 6a/b), rather than on external efforts to directly influence who is “in charge”.
13. *Recommendation 6a (p28)*. The Butajira Programme has need for a judiciously constituted governing Board or steering committee, with responsibility for the scientific, financial and managerial integrity of work in Butajira. The Board should be chaired by an individual with advanced scientific and managerial expertise, who would be sensitive to the aspirations of the Butajira initiative. Membership of the Board could be drawn from Butajira scientific leadership (both Ethiopian and Swedish), the University of Addis Ababa, the Ethiopian Science and Technology Commission, the Ministry of Health (including district/zonal and regional participation) and relevant others. Such a Board would not need to meet more than three times a year, and could reduce to twice a year once its effective functioning is established.

Recommendation 6b. There is a clear need for more streamlined management of the Butajira Programme involving (i) better access by programme leadership to senior institutional administrators of ESTC and the Addis Ababa University, (ii) more timely and consistent financial flows to the Study Base and associated projects, and (iii) more effective recourse when potentially serious administrative hitches are encountered. Mechanisms to achieve this should be put in place as a priority.
14. *Recommendation 7a (p32)*. It is necessary that Butajira research leadership begin to diversify the funding on which the Study Base depends. This will require developing a familiarity with the range of potential international donors (US foundations for example), and competing for grant funds against other worthwhile efforts.

Recommendation 7b. There are strong grounds for Ethiopian sources to make some financial contribution to the Butajira core. Without this, the task of generating income from international donors will undoubtedly prove more difficult.

Recommendation 7c. The role of Sida/SAREC in financing the Study Base is likely to be fundamental to the viability of the base over the next few years. Thus it is desirable that Sida/SAREC continue to contribute to the core financing of the Study Base. This may be at a reducing level after an initial grace period. Sida/SAREC could consider a continuing, long-term role as the major part-funder of the base (at a level of, say, 50% of core costs).
15. *Recommendation 8 (p33)*. Butajira research leadership, in partnership with relevant senior health managers/providers, should convene a 1-day workshop where key research findings can be presented and discussed, and their service implications examined

16. *Recommendation 9 (p34)*. Programme interactions with members of the Peasant Associations should be reviewed and, if indicated, a more regular engagement with such communities should be institutionalized. Study Base enumerators could be trained to play a leading role in this.
17. *Recommendation 10 (p35)*. The ESTC goal of a network of field sites (sentinel sites) to strengthen Ethiopia's empirical understanding of variations in the national demographic profile is a worthy one. Butajira leadership should engage with the ESTC and relevant others to assess the viability of this proposal, and contribute available expertise (to the extent feasible) where this is useful.
18. *Recommendation 11 (p36)*. That a skillfully facilitated 2–3 day workshop be convened during year 2000, involving the critical role players in the Butajira Programme, to together take stock, gain agreement, and make explicit future policy and expected practice on a range of issues including:
 - the Butajira Programme's organisation and management
 - strategies for programme financing
 - administrative concerns, including financial flows
 - 'blind spots' in the current research portfolio (refer to section 6.0 of main text)
 - future goals and objectives of the Butajira Programme
 - strategies to link research findings to policy and practice within the region and at national level
 - how to respond to health system expectations
 - appropriate contributions to other initiatives (e.g. work in Dabat, near Gondar).

1. Introduction

1.1 Evaluation schedule

This evaluation of the Butajira Study Base in Ethiopia, jointly hosted by Sida/SAREC and the Ethiopian Science and Technology Commission (ESTC), was undertaken over the period September 1999 to February 2000. The evaluator, Dr Stephen Tollman², spent the period September 30 to October 5 1999 in Sweden, spending time at the offices of Sida/SAREC in Stockholm, and in the Epidemiology Division, Department of Public Health and Clinical Medicine of Umeå University. The week November 24 to 30 was spent in Ethiopia, and included a two-day site visit to the study area, the balance of the time being spent in Addis Ababa.

1.2 Process of work

The evaluation is based on

- an extensive series of individual interviews/discussions and group interviews/discussions held in Sweden and Ethiopia;
- impressions on visiting research centres in the Health Sciences Faculties of Addis Ababa and Umeå Universities; and
- a visit to several villages (Peasant Associations) of the Butajira study site, as well as to the programme's field offices.

Without exception, persons interviewed were willing to share their understanding, experience and insight. (*For full details of persons met, please consult Appendix 1.*)

The evaluator was able to review a quite comprehensive collection of written materials covering the life-span of the Butajira initiatives, including research protocols, project grant proposals and progress reports, documentation on the academic institutions involved, published PhD theses, journal publications and submitted manuscripts, government policy documents, and related SAREC evaluation reports. (For a full listing of documents reviewed, please consult Appendix 2.)

1.3 Summary comment on evaluation process

In summary, then, this evaluation is based on interviews and discussions with key research leadership and staff, a series of site visits (with two days in the Butajira area) including discussions with involved government and university personnel, review of project materials, assessment of published work, and appraisal of other project outputs. The evaluator has striven to understand all perspectives conveyed, and remain fair and true to their meaning. In compiling this report he has synthesised and interpreted this information, drawing on his own understanding of such work, the processes involved and the interests that need to be balanced.

² Dr Tollman directs the Agincourt Health and Population Programme, sited in South Africa's rural north-east, and is deputy-Chair of the recently established INDEPTH Network. He is Associate Professor in the Faculty of Health Sciences, University of the Witwatersrand, South Africa, and Honorary Senior Lecturer in the Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, UK.

It must be acknowledged, however, that the evaluator is subject to his own biases and limitations in understanding. In addition, it would be presumptive to claim full insight into what is a long-standing, major research effort undertaken in a complex environment. However, having stated this reservation, it is the evaluator's sincere hope that this evaluation report proves useful to Sida/SAREC and ESTC, to other major role-players, and to the research leadership involved, in their efforts to strengthen and enhance current work and future contributions from the Butajira Study Base.

2. Terms of reference (as stated in SAREC-1999-004051; see Appendix 3)

2.1 Purpose and scope of evaluation

The main purpose of the evaluation is to assess the impact and the relevance of the Butajira Study Base. The evaluation should give recommendations for the future management of the Butajira Study Base and its relation to linked research projects. As for the administration and the management of the study base, the evaluator should examine the present roles of the stakeholders and also the possibilities for future management arrangements.

2.2 The assignment (issues to be covered)

The consultant should:

2.2.1 Describe and assess the demographic surveillance system and its use:

- a) in terms of its development and results (also in relation to financial input)
- b) in relation to the infrastructure for research and research training in general and at the Medical Faculty at Addis Ababa University (with special emphasis on the Department of Community Health). Long-term and short-term training (PhD, MPH, MSc etc) should be assessed vis-à-vis the potential of the study base
- c) in terms of its utilisation for research, research training and health planning.
- d) with regard to the role of the Swedish collaborating department.

2.2.2 Discuss the overall relevance of the demographic surveillance system:

- a) with regard to its national benefits and priority in the fields of research, research training and the national health system
- b) with regard to domestic as well as external funds available for the future running of the demographic surveillance system.

2.2.3 Identify and recommend strategies for future management of the demographic surveillance system:

- a) with regard to its potential applications for research, research training and also for the national health system
- b) with regard to alternatives for future national management structure and alternatives for future financing structure.

A recommendation on the future role of the stakeholders should also be made.

3. Establishing demographic surveillance: Development and evolution of the Butajira study base

3.1 Historical notes

The initial ideas behind the Butajira Study Base, a health research and development infrastructure based on a ‘demographic surveillance system’ (DSS), originated in Ethiopia during the late 1970’s. Both then and now, a fundamental challenge in developing settings, particularly in sub-Saharan Africa, is the absence of vital registration systems, with the resulting inability to measure rates and trends in vital events, establish priorities (whether for intervention or research), and evaluate the health impact of such work.

By 1986 the project was formally established in the Butajira area some 130 km south of Addis Ababa, with the active involvement of Mr Desta Shamebo, of the Department of Community Health, Addis Ababa University (AAU), Prof Stig Wall, previously a statistician working in Ethiopia but now of Umeå University, and Dr Lennart Freij, a staff member of SAREC but previously of the University of Gothenburg. These three persons, supported by leadership in the Medical Faculty of AAU, were the prime movers responsible for bringing the Butajira site into being.

It is likely that, in establishing Butajira, they maximised the contributions of their respective institutional bases. This may, at times, have led to a blurring of what should be an independent relationship between Umeå University and Sida/SAREC. In recent years this has led to a perception among some that they took advantage of their respective positions, sometimes acting as ‘both player and referee’.

While such comment may not be without foundation, it is as well to acknowledge the strenuous and persistent efforts needed to establish a DSS in any developing setting – by 1990 there were less than 10 such efforts worldwide, and all had received significant external assistance in their start-up phases. In addition, success with such initiatives is generally dependent on the long-term, sustained involvement of project initiators.

Recommendation 1. *The exact origins and mechanism of establishment of the Butajira Study Base lie some 20 years in the past; it is appropriate, from now on, to focus attention on the current status of the base and its potential future contributions.*

3.2 Defining characteristics of a field site based on demographic surveillance

As expressed by the INDEPTH Network³, field sites based on health and demographic surveillance – of which the Butajira Study Base is an example – consist of a geographically defined population under continuous demographic monitoring, with timely production of data on all births, deaths and migration events. This monitoring system provides a platform for a wide range of health system innovations as well as social, economic, behavioural and health interventions, all closely associated with research activities.

³ For more detail see the INDEPTH founding document: INDEPTH – An International Network for the Demographic Evaluation of Populations and Their Health in developing countries. <<http://www.indepth-network.org>>

3.3 Objectives of the Butajira Study Base

As noted in a recent publication, the overall objectives of the Butajira Rural Health Programme (BRHP), since its inception, have been:

To develop and evaluate a system for continuous registration of births and deaths, to generate valid data on fertility and mortality, and to provide a study base for essential health research and intervention in the area⁴.

3.4 Butajira in an African and Asian context

Forerunners of DSS fieldsites include the work of CC Chen and John Grant⁵ in the vicinity of the Beijing University Medical College during the 1920's and 1930's, and Sidney and Emily Kark in the Pholela district of KwaZulu-Natal, South Africa. This work was highly action-oriented but was based on small-scale census studies that helped define the catchment populations, establish health care priorities, and facilitate evaluation of interventions.

Several of the oldest DSS field sites are Asian and include the Khanna Study, led by John Wyon and John Gordon of Harvard University and sited in the Indian Punjab (1950's); the Narangwal Study, led by Carl Taylor (later of Johns Hopkins University) and also in the Punjab region (late 1960's to early 1970's); and the well-established Matlab field site, still central to the work of the International Centre for Diarrhoeal Disease Research in Bangladesh (ICDDR,B) (established during the late 1960's)⁶.

In sub-Saharan Africa, four sites, still active, were established prior to the introduction of the Butajira Study Base⁷. The oldest of these is the Gwembe Tonga Research Project, in Zambia's Southern Province, established in 1956 to monitor livelihood responses following the forced relocation of some 10 000 rural villagers during the building of the Kariba Dam. This was followed, in 1978, by the setting up of the first of the sites associated with the Bandim Programme in Guinea Bissau (48 000 people around the capital, Bissau). In 1981 the Farafenni site, with a population of some 16 400 people, was established in The Gambia, as part of the United Kingdom's Medical Research Council laboratories. Following work in eight villages that dates back to 1962, the Niakhar site in the Fatick Region of Senegal, was consolidated in 1983 with a population of some 30 000 people.

The Butajira Study Base thus clearly represents the leading edge of a small number of African field sites that together can cast light on the immense gaps in African health and population understanding. Some 18 field sites are active in Africa today, 11 of these in east and southern Africa, with the majority having been established over the last decade (this reflecting increased recognition of the critical contributions such sites can make, but also being a function of advances in high quality information technology that is now available at lower cost).

As already noted, the sustained effort and resources necessary to establish a functioning and viable DSS, in often difficult environments, should not be under-estimated. At the same time, the time-frame over which such projects develop is variable, as is the stages in their evolution.

⁴ Berhane Y, Wall S, Kebede D et al. Establishing an epidemiological field laboratory in rural areas – potentials for public health research and interventions. Ethiopian Journal of Health Development, Vol 13, Special Issue 1999 (abstract), Dept of Community Health, Addis Ababa University, ISSN 1021-6790.

⁵ Later director of UNICEF.

⁶ Useful detail will be found in the book edited by das Gupta M, Aaby P, Garenne M and Pison G, titled 'Prospective community studies in developing countries', Clarendon Press, Oxford, 1997.

⁷ For further detail see Kahn K, Tollman S. The INDEPTH Network. A collation of selected information on field sites in Africa, Asia, Latin America and the Middle East. Compiled for the INDEPTH Network, Johannesburg and Accra, November 1998.

4. Butajira: Context of operations

It is worth reflecting on the context and institutional environment within which the Butajira Programme is required to function.

At local/district and zonal level, field-based workers (researchers and locally-based field staff) interact on an ongoing basis with community members (ie members of site villages) and staff of local health and other social services. Maintaining a stable, respectful and enduring relationship between these constituencies is clearly essential.

At the level of the research initiative as a whole (including its operational, financial and scientific accountability), the programme and its leadership must interact effectively with key Ethiopian groups. Among the most critical are the authorities of Addis Ababa University (within the Medical Faculty as well as the senior University administration), the Ethiopian Science and Technology Commission (ESTC), and government ministries in particular the Ministry of Health. These groups provide the institutional framework in Ethiopia within which the Butajira Programme⁸ operates.

The programme and these Ethiopian institutions need to interface effectively with their Swedish counterparts, principally Sida/SAREC (the prime contributor of financial resources through a collaborative agreement with the Government of Ethiopia) and the Epidemiology Division, Department of Public Health and Clinical Medicine in Umeå University (the prime research partner).

While the involved players are all quite aware of this configuration, it is worth noting it, in an effort to underline the several layers of complex human and institutional interaction required, the time commitments necessary to ensure reasonable circulation of information, and the multiple opportunities for misunderstanding that can arise.

Recommendation 2a. *There is the need to explicitly recognise that the effective functioning of the Butajira Programme is directly dependant on effective interactions between the key stakeholding institutions that together constitute the framework for the operations of the Programme.*

Recommendation 2b. *The implications of this for more streamlined Programme management, and for overall Programme governance, need to be actively considered by all parties, but particularly leadership of the key stakeholding institutions.*

⁸ The evaluator is aware that, in various formal documents, the Butajira Study Base is referred to as a “project”. This implies a discrete initiative with a distinct start and end. However, the Base is in fact the foundation for essentially all Butajira research activities. As such, it is better understood as the research infrastructure for an evolving portfolio of research and development work. What I refer to as the ‘Butajira Programme’ includes both the Base and the various initiatives that it supports.

5. A summary-review of the programme of work in Butajira

5.1 The Study Base: A brief description⁹

The Butajira Study Base is the mechanism for ensuring rigorous demographic surveillance of the study population, this comprising *all* the inhabitants of nine of Butajira's eighty two peasant associations (randomly selected), and one of the area's four Urban Dweller's Associations¹⁰. Surveillance is conducted by a permanently on-site field team, comprising a senior nurse as overall coordinator, and 20 field workers supported by four supervisors. Quality control is enhanced by the active role played by two research assistants (graduates of the AAU Master of Public Health programme).

Vital registration of all birth, death and migration events in each of the 9 PA's + 1 UDA is maintained through a system of village-based field workers who visit each household on a monthly basis. A comprehensive population census, conducted at intervals of several years, serves to update the denominator population and provides a validation check on the completeness of the ongoing birth and death registration. To-date, three full censuses have been conducted, these being in 1986, 1995 and 1999.

Custom-designed software for data entry, in conjunction with a dBase IV database, makes up the database system for continuous demographic surveillance. This tool allows the 'raw' data from the field to be computer entered onto so-called transaction files (one for each type of vital event). Following a process of computerised data checks, data from the transaction files is 'laid down' onto the main Butajira database using a monthly updating function. A critical design feature of this database ensures that the vital events history of each individual is directly related to that person (through their unique identification number) and can be tracked longitudinally.

Data entry occurs in the Dept of Community Health, Addis Ababa University although hoped-for improvements in electricity supply and telecommunications may well allow the Butajira field offices to become the main site of entry.

5.2 The Study Base: Purposes

As an established system, the Study Base is an exceptional resource able to serve two main purposes namely:

- it permits the description, analysis and interpretation of *trends* (or changes over time) in vital events, specifically trends in birth events (fertility), death events (mortality) and migration events;
- it constitutes a *sampling frame and research infrastructure* at individual, household and group/area level, that covers key demographic, health and social variables, and can support an active portfolio of research, evaluation and development initiatives.

⁹ More detailed information can be found in Berhane Y, Wall S, Kebede D et al (footnote 3 above), and The Butajira Database Programme: User's Manual (undated).

¹⁰ A fundamental feature of demographic surveillance is the inclusion of *all* members of a defined population in the study sample ie it is the whole population that is being monitored and not a sample thereof.

Evaluator's comment: The Butajira Study Base, covering the period 1986 to 1999, has contributed a valuable and rare dataset for the purposes of (a) advanced analysis of vital events and associated socio-demographic variables, and (b) support to advanced community based research, development and programme evaluation. Butajira is one of the earliest of the 18 such study bases that have been established in sub-Saharan Africa, and could play an active role in further developing the potential of these field sites (for further discussion of this issue see section 10 below).

5.3 Research projects using the Study Base: a general description

Since 1986 the Study Base has supported a number of major research efforts. These have also formed the basis for PhD and masters-level studies, and findings have been widely published in Ethiopian, Scandinavian and other international peer-review journals. For the most part, each effort involves significant collaboration between Addis Ababa and Umeå universities¹¹. While the Department of Community Health at AAU, and its counterpart in Umeå, are the anchor for these collaborations, the involvement of the respective Departments of Paediatrics and Psychiatry is considerable, while others, eg the Department of Chemistry at AAU, also play a role. Notably this work, with the occasional exception, has been financially supported by Sida/SAREC. Projects include:

5.3.1

Work to establish the demographic profile of the Butajira community and to document trends in demographic events, in particular mortality. This work is ongoing, is influential in informing the overall field research effort in Butajira, contributes to technical and methodological innovations, and is central to the graduate training programme of the Department of Community Health, Addis Ababa University. Findings are also used for epidemiology and public health training in Umeå¹².

5.3.2

Studies describing the mortality and morbidity pattern of under-five children, complemented by analytic research to establish the public health and behavioural determinants of the most important causes of death. A special emphasis on acute respiratory illness (ARI) led to work to investigate the microbial agents responsible and their antibiotic susceptibility, along with social research into mothers' perceptions and care practices. This work formed the basis of intervention research to evaluate the effectiveness of community health agents and a case-management package in the community-based management of ARI.

5.3.3

A series of studies to establish the incidence of, and risk factors for, infection with *Helicobacter pylori* in rural children¹⁰ (*H. pylori*: a stomach-based bacterium strongly associated with chronic gastritis, peptic ulcer, and the later possibility of gastric cancer). Findings from Butajira, a high prevalence setting, were contrasted with results from work in Estonia, Eastern Europe, considered a 'low' prevalence environment.

¹¹ An interesting exception is the series of studies on *H.pylori*, involving the Karolinska Institutet (KI), Stockholm. Here the KI, in partnership with the Dept of Community Health, AAU, formed the academic base, this collaboration nevertheless receiving encouragement from Umeå.

¹² See, for example, Persson LA and Wall S. Epidemiology for public health. Department of Public Health and Clinical Medicine, Umeå University, Sweden 2000.

5.3.4

A range of studies addressing community perceptions of mental illness (awareness, attitudes and help-seeking behaviour); the extent of mental illness; and the epidemiology of attempted suicide, khat chewing and problem drinking. Work is continuing with a large cohort study to assess illness progression (and, by implication, the management options) in persons with schizophrenia. Future research will focus on associations between domestic violence and the various manifestations of depression in women.

5.3.5

Ongoing work in reproductive and sexual health, the first phase of which focused on the measurement of maternal mortality, and the outcomes associated with prolonged labour. In response to the findings, a major programme of operational research is proposed. This would address the attitudes and behaviours of women of childbearing age and, especially, the ability of the health system to respond to the needs of pregnant and delivering women. Work to understand the progression of HIV/AIDS, and the nature of urban to rural transmission, is also planned.

5.3.6

Applied research, following pilot studies in 1995/6, to examine the role of indoor air pollution as a critical risk factor for the documented high levels of morbidity and mortality from acute lower respiratory infection among Butajira children.

Evaluator's comment: Recognising the difficulties of sustained work in a peripheral and infra-structurally limited setting, the programme of research underway since 1986 has clearly surmounted numerous obstacles. The Butajira Study Base has contributed an impressive portfolio of work, addressing an array of problems critical to Ethiopian health development and common to many other developing settings. This would not have occurred without the pivotal support, over an extended period, of Sida/SAREC and the ESTC.

5.4 "Butajira Neuro"

Questions are often asked about the working relationship between the Study Base, and the long-standing neurologically-oriented research and intervention work of Professor Redda Teklehaimanot and colleagues. Notably, Professor Teklehaimanot's impressive effort has transitioned from its initial research focus and University base, to a community-based NGO initiative directed at the surgical and assistive rehabilitation of the physically disabled (particularly polio victims, and trachoma and cataract sufferers). A strengthened emphasis on vocational training and other income generating activities is envisaged in the near future.

Evaluator's comment: The history of the separate development paths of these two initiatives is of little current relevance. What now exists are two, most valuable, mutually complementary resources in the same general area, available to researchers and practitioners alike, and with no in-principle reason why collaborative opportunities should not arise.

6. Potential gaps in the programme of work in the Butajira study base

There are, however, certain areas where, in the evaluator's view, the Butajira programme's contribution has been limited. Some of these are discussed below:

6.1 Analyses of fertility and migration

Given the extent and richness of data available on fertility and migration, it is worth noting that considerably more work in these two areas would be both justified and productive. The programme should seek further linkages with groups working in the spheres of demography and population sciences; fostering such links could lead to enhancement of the programme's analytic capability¹³.

6.2 Intervention-research and programme evaluation

Limited research on interventions and their impact has taken place to-date. One of the strengths of the Study Base is its unique ability to support the rigorous evaluation of interventions: this capacity is currently under-utilized. For reasons that are not quite clear, the analysis phase of an evaluation of an intervention case-management package for acute lower respiratory infection has been delayed¹⁴.

6.3 Health systems strengthening and operational research

Moves to decentralise health care in Ethiopia offer considerable opportunity for research and development in the sphere of strengthening health systems. Two possible contributions from Butajira researchers would be useful. First, an enhanced understanding and engagement with critical issues in the implementation (including personnel training), management and financing of decentralising health systems. Second, a far clearer expression of how findings from ongoing research might be incorporated into the evolving district health system (current work in mental health is responding to this concern).

The Base could also support a range of operational research addressing issues relevant to district and regional health services (proposed work addressing reproductive health services and the outcomes that result is a good example). Such work could be undertaken by university researchers, however the strengthening of operational research skills among district and regional health personnel is equally valuable.

6.4 Influencing policy and practice

To-date there appears to be limited expression of results in ways that are meaningful for policymakers, whether at local or national levels. Similarly, work at the research-policy interface is seldom a feature. The evaluator was not made aware of any schedule of policy briefings, policy-oriented discussions or regular engagement with mid- and senior-level health service managers (such could occur at local/district, regional and/or national levels). Although this requires additional effort (and

¹³ The Demographic Research Training Centre of AAU was actively involved in the 1995 re-census, but this collaboration weakened with the subsequent departure of four senior staff from the Centre.

¹⁴ Dr Lulu Muhe cited difficulties with the database during the mid-1990's as one of the reasons this work was delayed.

potentially finance) it is central to the health sector's recognition of the work, urges a 'policy and practice' mindset, and brings with it strategic benefits. At the same time, realising the full value of such efforts is greatly influenced by demand for results and their applications from the Ministry of Health.

Recommendation 3. *Greater attention and effort should be given to the broad (and overlapping) areas of (i) intervention-research and programme evaluation, (ii) operational research, (iii) health systems R&D, and (iv) translating research findings into policy and practice. Where the skill base of the involved departments needs strengthening (the Department of Community Health, AAU, is particularly important), strategies to effect this should be undertaken.*

7. Strengthening Ethiopian research capacity: Contributions of the Butajira programme

The central emphasis in the Swedish – Ethiopian collaboration that is focused on the Butajira Study Base, is the strengthening of Ethiopian research capacity and particularly that of the Department of Community Health, and related departments, at Addis Ababa University.

There are several ways to assess this including a) numbers of graduate level researchers who have qualified or are enrolled, b) evolution in the capacity of target departments to support graduate level research training and to conduct quality research, c) contributions to other tertiary institutions, and d) less direct benefits as assessed by participation and roles played by Butajira researchers in key Ethiopian and international bodies.

7.1 Output of doctoral-level researchers

To-date, four doctoral dissertations, based on Butajira research, have been successfully defended in Sweden. Three of these degrees were awarded by Umeå University, all to Ethiopian candidates, in 1993, 1994 and 1997 respectively. The fourth, awarded by the Karolinska Institutet, was to a Swedish candidate. Of five doctoral dissertations currently underway and registered at Umeå, three involve Ethiopian candidates, while two are Swedish. Thus, of the nine doctoral dissertations registered since 1986, two-thirds have involved Ethiopian researchers.

7.2 The MPH programme, output of masters-level graduates, and training contributions beyond AAU

Since 1984 (ie pre-dating the establishment of Butajira) the Department of Community Health, AAU, has offered a Master of Public Health (MPH) degree with support from the Ministry of Health. This programme is now firmly established with about 15 candidates accepted to the course each year. An external evaluation in 1994 documented that the programme “has been able to provide highly skilled public health professionals with continuing roles at national, regional, zonal and district levels. It has enhanced the capacity of the MOH to train district health managers, and (the capacity) of the faculties of the country’s five health science schools to undertake undergraduate public health training”¹⁵.

In addition to course work, a thesis by research is required. Over the years these have covered a range of subjects and geographic areas. Some 15 masters theses have, however, been sited in Butajira, and further research is expected. This work has contributed to understanding in such spheres as child feeding and nutrition, patterns of drug usage, domestic violence, mental health, reproductive health, migration, and health services assessment.

Clearly it is efficient for masters students to work in areas of interest to departmental staff; in addition, they contribute to the Study Base’s programme of work. The Base’s two current research assistants, active in overseeing continuing data collection, are both MPH graduates with interests in mental health, and women’s health and domestic violence.

¹⁵ Reproduced from Roedde et al 1994 in Kebede D (ed). Education advancing the public’s health. Training, research and service in the Department of Community Health (1991–98). Faculty of Medicine, Addis Ababa University, 1998, p9.

7.3 Roles played by senior Ethiopian researchers who are active in Butajira

While the evaluator paid only cursory attention to this, the contribution of senior Ethiopian researchers to activities outside of Butajira is clearly considerable. For example:

- a) the post of Associate Dean, Undergraduate Affairs at AAU, is repeatedly held by staff of the Departments of Community Health and Paediatrics who are active in Butajira;
- b) the present director of the Study Base, Dr Yemane Berhane, chairs both the Council of the Health, Science and Technology Dept, ESTC, and the Ethiopian Public Health Association;
- c) Dr Lulu Muhe serves as advisor to the African Regional Office of the World Health Organisation (WHO);
- d) Dr Derege Kebede now holds one of the few full professorial chairs in the Faculty of Medicine, AAU;
- e) The past head of the Department of Community Health, Gondar College of Health Sciences, has recently joined the group at AAU. He was a prime contributor to plans for a DSS site in Dabat near Gondar;
- f) Dr Atalay Alem, probably Ethiopia's leading researcher in mental health, carries major responsibility for the training of psychiatric nurses in the country and, in 1999, played a leading role in convening Ethiopia's first national mental health conference.

7.4

Evaluator's comment: The concern that the Umeå Department of Epidemiology and Public Health has taken undue advantage of the research collaboration, and has benefited disproportionately, is not borne out by this evaluation. Undoubtedly work in Butajira has brought considerable credit to Umeå (and it is important to ensure that such North-South partnerships in reality reflect a fair flow of benefits to all parties), but the gains to AAU and Ethiopia have been considerable and will undoubtedly become increasingly visible with the 'coming of age' of senior AAU/Butajira researchers¹⁶.

7.5 Evolution of the Department of Community Health, AAU

It is both plausible and appropriate for the Department of Community Health at AAU, in association with related depts such as Paediatrics and Psychiatry, to make plans to offer a doctoral degree programme¹⁷. Care should be taken to phase this in, and for research leaders not to exceed their still modest capacity. In addition, it remains vital for further staff of AAU to attain their doctoral qualification in order to consolidate senior academic and leadership capacity in the institution.

While this evaluation did not pursue overall staff development plans in the Faculty, discussion with Professor Legesse Zerihun, Associate Dean for Postgraduate Affairs and Research, made clear the Faculty's support for the Department of Community Health, and the Faculty's genuine recognition of the centrality of the Butajira Study Base to the research achievements of all involved departments.

¹⁶ The table presented in Appendix 4 is a preliminary attempt by Professor Stig Wall to capture the inputs and outputs experienced by the Ethiopian and Swedish partners from the earliest phases of the programme.

¹⁷ Quite how such a programme might relate to other health science institutions in Ethiopia was beyond the scope of this evaluation, although such discussion among Ethiopian institutions would surely be worthwhile.

The Department of Epidemiology and Public Health at Umeå University can be expected to continue playing a valuable role in these developments. This is appropriate, as much for reasons of mutual interdependence as for any other. There is no reason, however, for this relationship to be viewed as exclusive; moreover, the maturing research leadership of faculty at AAU will strongly influence the direction of any effort in doctoral programme development.

Recommendation 4. *Serious discussion regarding the offering of doctoral level degrees in the Department of Community Health and related departments of Addis Ababa University is timely and should be actively pursued with relevant parties. Care should be taken, however, to ensure that planning is based on a realistic appraisal of current and anticipated Ethiopian capacity to support senior graduate students.*

8. Organisation, management and financing of the base

It is important to understand the evolving capability of Base leadership in relation to the development of senior Ethiopian research capacity. By definition it is a demanding challenge to manage such a research site, in a complex environment, when skills in research leadership and management are scarce. Moreover, it was only in the early 1990's that the Base became fully grounded within, and 'owned' by, the Department of Community Health at Addis Ababa University.

It is the evaluator's understanding that the early 1990's were a difficult time for the Department of Community Health. Over and above the sudden and unexpected death of Mr Desta Shamebo, the department was losing staff, with many of those that remained being young and inexperienced. Considerable responsibility thus fell onto a core group of four comprising Derege Kebede, Fikre Enquselassie, Mesfin Kahssay and Yemane Berhane. Together they had responsibility for securing (i) undergraduate medical training in community health, (ii) the Master of Public Health degree, and (iii) the Study Base. With regard to the Base, there was the need to get to grips with the collaboration that had evolved under Desta, and to establish independent working relationships with Umeå-based researchers.

Evaluator's comment: The youth and inexperience of Community Health Department leadership in the early 1990's should not be under-estimated. Moreover, as a department within the AAU Medical Faculty, the need to maintain its status and protect/consolidate its immediate interests within the Faculty, was of real concern. This situation would necessarily impact on the extent and manner in which Ethiopian leadership of the Study Base would emerge. In addition, it may be fair to say that concerns for an assertive Ethiopian leadership to manifest have been premature and did not fully recognise the constraints to this.

8.1 Base leadership

Among both ESTC and Sida/SAREC leadership, there is a concern that the role played by Umeå scientific leadership has been overly dominant. However, taking the comment above into account, there is little doubt in the mind of this evaluator of the increasingly mature, direct and assertive role being taken by senior Ethiopian researchers (particularly staff of the Department of Community Health, AAU) in leadership of the Study Base. This evolution is paralleled by their research achievement and maturing understanding of the nature of research and its management¹⁸. The creation of a critical mass of senior research capability in any society is a prolonged process. It would be a serious misjudgement to think that Ethiopia, or any other society, can somehow find a short-cut.

Put differently, for any really collaborative enterprise to succeed, strong and mutually respectful partnerships are a pre-requisite. The Ethiopian – Swedish collaboration is well on the way to achieving this. Credit should be given to the Epidemiology Division, Department of Public Health and Clinical Medicine at Umeå for being able to recognise and cope with the changing nature of this partnership, and the implications that this has for the roles of research leaders.

It is most desirable for the Study Base, and the research projects based thereon (the Butajira research portfolio), to be viewed as integrally linked, not only operationally but also conceptually. This perspective brings overall programmatic coherence – a key challenge for research leadership – that will influence the priority, relative emphasis, and time sequencing of the different project lines.

¹⁸ It was emphasised to the evaluator that full-time employees of AAU are expected to limit their research work to 25% of their total academic effort.

Recommendation 5: *Concerns about Ethiopian research leadership failing to take charge of the Butajira Programme are understandable but not valid. The natural evolution of expectations and capabilities among Study Base leadership in Ethiopia is leading to rapid positive change. Emphasis should therefore be placed on changes to programme management and governance (see recommendations 6a/b), rather than on external efforts to directly influence who is “in charge”.*

8.2 Organisational structure

At present, the organisational structure for management of the Study Base and associated research projects can be characterised as:

- a *management team* – centred on the Department of Community Health at AAU and headed by the Study Base leader, Dr Yemane Berhane, responsible for all aspects of Base management and administration;
- an *advisory board* – consisting of researchers (the core Ethiopian team + other Ethiopian and Swedish researchers), community members, and representatives of the local/district/zonal health service, that meets occasionally.

There appears to be little opportunity or mechanism for the core Ethiopian research group to interact with any of the principal institutions governing the collaboration namely the ESTC or Sida/SAREC. The need for this arises quite frequently given the scale, salary and equipment requirements, and distant field nature of ongoing work. Moreover, it should be appreciated that the delayed disbursement of monies – a regular occurrence – places considerable pressure on research management who (a) have to ensure that field staff are paid, and (b) are expected to deliver on project outputs¹⁹. Such situations create tensions between the researchers and their institutional seniors.

University interactions with the ESTC are conducted at the level of the senior university administration and appears to exclude Ethiopian research management, the route of (indirect) access of core researchers being through several levels of the AAU administrative hierarchy.

This said, it appears that the ESTC also feel removed from Butajira operations and would be keen for opportunities to understand its work better and contribute to broad policy discussions.

Recommendation 6a. *The Butajira Programme has need for a judiciously constituted governing Board or steering committee, with responsibility for the scientific, financial and managerial integrity of work in Butajira. The Board should be chaired by an individual with advanced scientific and managerial expertise, who would be sensitive to the aspirations of the Butajira initiative. Membership of the Board could be drawn from Butajira scientific leadership (both Ethiopian and Swedish), the University of Addis Ababa, the Ethiopian Science and Technology Commission, the Ministry of Health (including district/zonal and regional participation) and relevant others. Such a Board would not need to meet more than three times a year, and could reduce to twice a year once its effective functioning is established.*

[Note: The evaluator recognises that the description provided here may need to be modified to fit with Ethiopian practice. It bears repeating, however, that the existing organisational/management structure has in-built shortcomings that need to be addressed.]

¹⁹ For example, in 1997, the inability to access monies for operating costs led to significant delays in introducing key validation systems to the Study Base.

Recommendation 6b. *There is a clear need for more streamlined management of the Butajira Programme involving (i) better access by programme leadership to senior institutional administrators of ESTC and the Addis Ababa University, (ii) more timely and consistent financial flows to the Study Base and associated projects, and (iii) more effective recourse when potentially serious administrative hitches are encountered. Mechanisms to achieve this should be put in place as a priority.*

8.3 Financing the Study Base

8.3.1 The Study Base: Annual costs

(Note: No allowance has been made for exchange rate changes, nor for changes in the purchasing power of the Birr.)

A review of Butajira Study Base finances over the past several years, as reflected in Sida/SAREC allocations (see Appendix 5), gives a cumulative allocation of four million six hundred and twenty eight thousand Swedish Kronor (SEK 4 628 000.00) over the past 10 years (1989/90 to 1999/2000)²⁰. This amounts to an annual contribution of four hundred and sixty two thousand and eight hundred Swedish Kronor (SEK 462 800.00), or US\$ 54 000.00 per year. This figure could be misleading because (a) it is not clear whether all these monies have been disbursed and have reached the Base (implying that the figures could be an over-estimate); and (b) various sources (in particular project contributions) could well have ‘topped-up’ the Base’s operating expenditures (with the figures quoted thus being an under-estimate). Most likely, the total amount contributed was influenced by both of these issues.

At the evaluator’s request the Base’s current research manager, Dr Yemane Berhane, has derived estimates for the current annual cost of maintaining the Study Base. These are detailed in Appendix 5 and sum to an annual cost of four hundred and sixteen thousand, two hundred and forty Swedish Kronor (SEK 416 240.00), or US\$ 50 000.00 per year approx) *excluding* major capital items such as vehicles or computer hardware.

It must be emphasised that a reasonably accurate figure for the annual cost of maintaining the Study Base (along with knowledge of the additional monies needed to replace/upgrade items of capital equipment) is essential to future efforts to generate base income. This said, the figures quoted as the annual operating cost appear conservative to this evaluator and warrant further review. They compare very favourably with the average Base costs of most currently operating demographic surveillance systems.

8.3.2 Strategies for future financing of the Study Base

To-date, and in contrast with several other DSS sites, the Butajira Study Base has been fortunate in having a single, consistent funder contributing core financial resources over the medium to longer term. (Most sites do have a primary, although not exclusive, core funder. Further, the primary funder may change with time.) As leaders of the Base look forward over the coming decade, they may well have to accept that the Base can no longer rely exclusively on Sida/SAREC for core support.

In contrast, although the ESTC and Ministry of Health make valuable contributions in kind, the evaluator is not aware of any financial contribution having been made to the Base by Ethiopian

²⁰ NB. In presenting the cumulative Sida/SAREC investment, the evaluator has not distinguished between the sums allocated to the Swedish and Ethiopian implementing institutions; rather, the annual contribution has been treated as a single sum of money. The Swedish-Ethiopian breakdown is available, however, in Appendix 5.

sources over the 14 years of its life. As a national asset, it is highly desirable that the Base receive some core financial investment, however modest, from the Ethiopian government. This will be critical to research leaders' efforts to generate further core monies from potential international contributors.

A strategy to recoup funds for maintaining the Base, by levying a charge on projects that use the Base, is fully justifiable. Many donors will prefer these charges to be levied against specific line items rather than as a simple proportional charge (ie x % of project costs). Thus it will most likely prove necessary to introduce an appropriate charge for such items as individual or household data, sampling services, or facilitated access to community leaders²¹.

Evaluator's comment: It is the view of this evaluator that the costs levied on projects using the Base, while an important and useful contribution, are extremely unlikely to adequately cover the Study Base's annual operating cost.

Recommendation 7a. *It is necessary that Butajira research leadership begin to diversify the funding on which the Study Base depends. This will require developing a familiarity with the range of potential international donors (US foundations for example), and competing for grant funds against other worthwhile efforts.*

Recommendation 7b. *There are strong grounds for Ethiopian sources to make some financial contribution to the Butajira core. Without this, the task of generating income from international donors will undoubtedly prove more difficult.*

Recommendation 7c. *The role of Sida/SAREC in financing the Study Base is likely to be fundamental to the viability of the base over the next few years. Thus it is desirable that Sida/SAREC continue to contribute to the core financing of the Study Base. This may be at a reducing level after an initial grace period. Sida/SAREC could consider a continuing, long-term role as the major part-funder of the base (at a level of, say, 50% of core costs).*

²¹ Such charges can fluctuate (at the discretion of Base management) according to particular projects' ability to pay, and the Butajira Programme's interest in the work proposed.

9. The study base: Reviewing primary relationships

9.1 Relationship with local/district and zonal/regional health services

Working relationships with local/district and zonal/regional health service leaders are at present limited. Certainly this is partly a function of rapid turn-over of health service staff. But it also underlines the absence of a mechanism to ensure regular interactions, as well as an apparent lack of engagement between researchers and service providers/policy makers.

The evaluator was favourably impressed by the attitudes, perspectives and interest of the able group of service providers that he met (for a listing please see Appendix 1). The delegation, including Dr Zeleke Gobe, deputy Head of the Regional Health Bureau²², were understanding of the pressures and demands on the research team, but expressed quite clearly their ability to contribute to intervention initiatives.

Evaluator's comment: Those service leaders met have a clear appreciation for the work of Butajira, a sensitivity to the demands of research, and an interest to understand the policy and practice implications of research findings. This, together with Ethiopia's decentralising health policy, creates a valuable opportunity for health service – researcher interactions that should be exploited.

Recommendation 8. *Butajira research leadership, in partnership with relevant senior health managers/providers, should convene a 1-day workshop where key research findings can be presented and discussed, and their service implications examined.*

9.2 Interactions with local communities

Without doubt, the success of programmes such as Butajira depends on long-term, stable relationships with local communities. Certainly the relationship between the Study Base and the communities involved seems generally cooperative and supportive, although the evaluator did not interact directly with local community leaders/representatives. While this may, in itself, be of no significance, there is clearly scope for a more structured and interactive engagement with members of the Peasant Associations. Base enumerators, themselves from the Butajira area, could be trained and supported to play a key role in discussing research findings and their implications with local groups.

Recommendation 9. *Programme interactions with members of the Peasant Associations should be reviewed and, if indicated, a more regular engagement with such communities should be institutionalized. Study Base enumerators could be trained to play a leading role in this.*

²² For the Southern Nations, Nationalities and Peoples Regional Government.

10. The Butajira study base: Reaching out

10.1 ESTC ideas for strengthening Ethiopia's information base

The experience of Butajira has clearly impacted on leadership within the ESTC who would like to see elements of the Study Base replicated elsewhere in the country, specifically where other Health Sciences Faculties could take on a leading role. On probing this issue it appears, to the evaluator, that the intention is not to try to create more Butajiras. Rather, it is to use the census-based approach of health and demographic surveillance to create one or more additional field sites, in other geographic settings, as a way of gaining a better understanding of Ethiopian demography and health status. Where sufficient interest exists, such sites could also be used to stimulate other institutions to initiate programmes of field research.

The ESTC has thus supported the Gondar College of Health Sciences to demarcate the Dabat field site, where a baseline census and socio-demographic survey has been conducted and is currently being analysed.

Recommendation 10. *The ESTC goal of a network of field sites (sentinel sites) to strengthen Ethiopia's empirical understanding of variations in the national demographic profile is a worthy one. Butajira leadership should engage with the ESTC and relevant others to assess the viability of this proposal, and contribute available expertise (to the extent feasible) where this is useful.*

10.2 Butajira: Regional and international impacts

The Butajira Study Base and Programme should contribute to development of the newly established INDEPTH²³ network. This organisation links together some 25 field sites, based on health and demographic surveillance, across Africa, the Middle East and SE Asia. The network is uniquely placed to aggregate and interpret empirical, population-based information across developing settings; monitor progression of the health transition in different environments; and undertake or facilitate comparative and multi-site field research that previously could not be considered.

As well as contributing to INDEPTH by virtue of its status as a well-established member site²⁴, the experience of Butajira should prove invaluable to INDEPTH's efforts to strengthen and support the functioning of newer or less established sites. In addition, Butajira's exceptional efforts in emerging spheres such as mental health can inform network discussions on future research priorities and the methodologies that have proved effective.

²³ INDEPTH: International Network for the Demographic Evaluation of Populations and Their Health in developing countries.

²⁴ Dr Yemane Berhane sits on the INDEPTH Coordinating Committee which is chaired by Dr Fred Binka, formerly director of the Navrongo field site in northern Ghana.

11. Conclusion

It is the hope of every evaluator that their report be thoroughly read, considered and discussed, and that those who commissioned the evaluation, as well as the primary stakeholders, find the work and its recommendations of some use. At the same time, this evaluator is critically aware of the limits to the written word, and the potentially great benefits to be had if those with a common goal, despite their differences, are able to sit around the same table and debate their concerns in an effort to find common ground and together chart the way ahead. This process, if successful, could generate the sense of ownership and shared stake in Butajira that is essential to ensure its future health and productivity as a great Ethiopian institution.

Recommendation 11. *That a skillfully facilitated 2–3 day workshop be convened during year 2000, involving the critical role players in the Butajira Programme, to together take stock, gain agreement, and make explicit future policy and expected practice on a range of issues including:*

- *the Butajira Programme's organisation and management*
- *strategies for programme financing*
- *administrative concerns, including financial flows*
- *'blind spots' in the current research portfolio (referring to section 6.0 above)*
- *future goals and objectives of the Butajira Programme*
- *strategies to link research findings to policy and practice within the region and at national level*
- *how to respond to health system expectations*
- *appropriate contributions to other initiatives (eg work in Dabat, near Gondar)*
- *etc.*

Acknowledgements

I acknowledge with pleasure the frank interviews and discussions, the collegiality and hospitality extended to me by all whom I met in Ethiopia and in Sweden. Also, the frank and considered comments made on a draft version of this report. Responsibility for the report and its contents is, of course, mine alone.

Appendices

Appendix 1: Details of persons met

Appendix 2: List of documents/papers reviewed

Appendix 3: Full terms of reference

Appendix 4: Preliminary tabulation: Evolving inputs and outputs from an extended research collaboration. Compiled by Stig Wall.

Appendix 5: Tabulation of Study Base finances:
(1) Funds allocated by Sida/SAREC since 1988
(2) Breakdown of estimated annual operating costs to maintain Study Base (year 2000 prices). Compiled by Yemane Berhane.

Appendix 1: Details of persons met

1.0 SWEDEN

1.1 Sida/SAREC, Stockholm

Dr Lennart Freij	Senior Health Advisor
Dr Kerstin Jonsson	Senior Research Officer
Dr Helen Ohlin	formerly Senior Research Officer
Dr Berit Olsson (telephonic)	Head, Sida/SAREC
Dr Anita Sandstrom	Head, Division for University Support and National Research Development
Dr Pille Lindkvist	PhD graduate, Karolinska Intstitutet

1.2 Umeå University

Mr Tobias Andersson	Software Development, PhD student
Prof Peter Byass (by telephone)	Guest Professor
Ms Kjerstin Dahlblom	Project Support
Mr Anders Emmelin	Lecturer
Ms Maria Emmelin	Lecturer
Dr Ulf Högborg	Reproductive Health
Prof Gunnar Kullgren	Dept of Psychiatry
Prof Stig Wall	Professor and Head, Epidemiology, Dept of Public Health and Clinical Medicine

2.0 ETHIOPIA

2.1 Addis Ababa University

Ms Beki Asfaw	Assistant Administrator, Community Health
Prof Endeshaw Bekele	Research and Publications Office
Dr Yemane Berhane	Associate Professor and Head, Dept of Community Health
Dr Misganaw Fantahun	Associate Dean, Undergraduate Affairs, Faculty of Medicine
Prof Derege Kebede	Epidemiology, Dept of Community Health
Prof Lulu Muhe	Dept of Paediatrics
Prof Redda Teklahaimanot (telephonic and e-mail)	Dept of Neurology
Prof Legesse Zerihun	Associate Dean, Postgraduate Affairs and Research, Faculty of Medicine

2.2 Ethiopian Science and Technology Commission (ESTC)

Dr Abeba Bekele	Health Department, ESTC
Ato Asrat Bulbula	Commissioner, ESTC
Dr Yemane Teklai	Head, Health Department, ESTC

2.3 Ministry of Health

Ato Yohannes Tadesse	Head, Health Services and Training Department
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2.4 Embassy of Sweden

Mr Arne Carlsgård	Senior Programme Officer
Ms Adeye Befecadu	National Programme Officer

2.5 Butajira Area – Regional and zonal/district health services

Dr Abdusalam	Zonal Health Service and Training Team
Dr Zeleke Gobe	Deputy Head, Regional Health Bureau
Mr Lopisso	Head of research centres and laboratory
Dr Mitiku	Head, Zonal Health Department
Mr Teshome	Physiotherapist and administrator, Garbet Ledekuman

2.5 Butajira Area – Butajira Study Base

Dr Alemayehu	Researcher, Mental Health Project, AAU
Dr Yegomawork Gossaye	Field Researcher, AAU
Mr Yemiru Teka	Coordinator, Butajira fieldteam, AAU

Appendix 2: List of documents/papers reviewed

1987

Epidemiology in Primary Health Care – The Butajira Rural Health Project in Ethiopia. Progress Report and Project Plan for 1988/90. Addis Ababa University. 1987

The Community based study of neurological disorders in Ethiopia: Renewal Application for the budget year 1988/90. Addis Ababa and Umeå University. 1987

1989

Freij L. Control of Acute Respiratory Infections in Children. Research Proposal. 1989

The Community based study of neurological disorders in Ethiopia: Renewal application for the budget year 1990/91. Addis Ababa and Umeå. 1989

1990–1992

Morrow Jnr R H. Evaluation of SAREC supported health research projects in Ethiopia. 1990

Comments related to SAREC support to health research in Ethiopia following visit by Dr. Berit Olsson. SAREC. 1992

1993

Berhane Y et al. Evaluation of interventions to reduce measles mortality in Butajira – Southern Ethiopia. Department of Community Health, Addis Ababa University. 1993

General considerations and funds for research planning at the Medical Faculty. SAREC. 1993

Kassaye M et al. A randomised field trial of insecticide-treated and non-treated bed nets in malaria control in Butajira, Southern Ethiopia. Study Proposal by Department of Community Health, Addis Ababa University. 1993

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Appendix 3: Full Terms of Reference

Terms of reference for the evaluation of the Butajira project study base

1. Background

The Butajira Project Study base is one of several projects in the Bilateral agreement for research cooperation between Ethiopia and Sweden. The major objective for the whole agreement is to strengthen research capacity in Ethiopia with emphasis on the Federal Universities of Addis Ababa and Alemaya.

The objective of the Butajira Project Study base is to establish a continuous demographic surveillance as a basis and infrastructure for essential health research using modern epidemiological methods.

The first phase of the project started in 1986. The major activity has been to establish a demographic data base in the Butajira region through enumeration.

The main stakeholders are the Department for Community Health at the University of Addis Ababa and the Department for Public Health and Epidemiology at Umeå University. The base has served as a platform for a project on Reproductive health and several other studies have been performed in the area (some with SAREC and some with other funding).

Since the initiation of the project it has not been evaluated as such, however, it was part of a review in 1990. Whereas the project has reached a level where the study base is validated and available for external users SAREC has found it necessary to get an objective evaluation of the activities performed and the management of the project since the start.

2. Purpose and Scope of the Evaluation

There will be a new agreement from January 1, year 2000 for the whole bilateral cooperation and in order to focus on the right issues this particular project needs to be evaluated. The utility of the project has not yet been extensively shown and the evaluators are therefore expected to elaborate on the potential use of the base.

The main purpose of the evaluation is to assess the impact and the relevance of the Butajira Study Base. The evaluation should give recommendations for the future management of the Butajira Study Base and its relation to linked research projects. As for the administration and the management of the study base, the evaluator should examine the present roles of the stakeholders and also the possibilities for future management arrangements

The evaluation is requested by Sida/SAREC and ESTC (Ethiopian Science and Technology Commission). However the results will be helpful in guiding the process of the future collaboration between the partners in Addis Ababa and Sweden.

3. The Assignment (issues to be covered in the evaluation)

The consultants should:

- I Describe and assess the demographic surveillance system and its use:
 - a) in terms of its development and results, also in relation to financial input,
 - b) in relation to the infrastructure for research and research training in general and at the Medical Faculty at Addis Ababa University (with special emphasis on the Department of Community Health). Long-term and short-term training (PhD, MPH, MSc etc) should be assessed vis-à-vis the potential of the study base.
 - c) in terms of its utilisation for research, research training and health planning
 - d) with regard to the role of the Swedish collaborating department
- II Discuss the overall relevance of the demographic surveillance system
 - a) with regard to its national benefits and priority in the fields of research, research training and for the national health system.
 - b) with regard to domestic as well as external funds available for the future running of the demographic surveillance system
- III Identify and recommend strategies for future management of the demographic surveillance system. A recommendation on the future role of the Stakeholders should also be made.
 - a) with regard to its potential applications for research, research training and also for the national health system,
 - b) with regard to alternatives for future national management structure and alternatives for future financing structure.

4. Methodology, Evaluation Team and Time Schedule

The consultancy will be carried out by Dr Stephen Tollman, South Africa. The consultant should visit Sweden for an introduction at Sida/SAREC in Stockholm and for meetings with the Department of Epidemiology and Public Health, Umeå University.

The consultant should visit Addis Ababa for ten days in October/November 1999 and meet with ESTC (Ethiopian Science and Technology Commission), the Ministry of Health, researchers, staff, faculties and research institutes. Meetings should also be held with the Regional Health Bureau, the Zonal Health Bureau and the Community representatives. A short visit to the field site in Butajira should also be performed.

The consultant should read relevant documents on SAREC support to the demographic surveillance system and also to studies that were performed or could have been performed using the Butajira base.

The consultant will make his own travel arrangements. The visits will be facilitated through contacts from SAREC.

5. Reporting

The report shall be written in English not exceeding 40 double-spaced typed pages but can have one or more annexes. Format and outline of the report shall follow the guidelines in Sida Evaluation report – a Standardised Format (see Annex 1).

A draft report should be submitted to Sida/SAREC latest January 31, 2000. A final version in hard copy and on diskette should be submitted to Sida/SAREC not later than four weeks after comments have been received from Sida and the involved departments.

Subject to decision by Sida, the report shall be published and distributed as a publication within the Sida Evaluations series. The report shall be written in Word 6.0 for Windows (or in a compatible format) and should be presented in a way that enables publication without further editing.

Appendix 4: Preliminary tabulation: Evolving inputs and outputs from an extended research collaboration

Working note compiled by Stig Wall, 1999

Time Period	Composition of		Input from		Output for	
	Ethiopian Group	Swedish Group	Ethiopian Group	Swedish Group	Ethiopian Group	Swedish Group
1980-86	DS	SW LF	Planning Piloting Community involvement Applications	Software (QUEST) Research training Applications (1.5 person years)	Report series International conferences	Field exposure Cultural competence Abstracts
1987-92	DS LM	SW LF IK AS	Field Training & Supervision Analysis Documentation Advocacy Applications	Planning Analysis Supervision Advocacy Applications (3 person years)	Poor recognition of Community Health Dept PhD – Desta Shamebo MPH theses	2 published papers PhD thesis Leverage for other bilateral programmes
1993-96	DK YB MK AA FE LM	SW UH TA PB LF GK AE	Analysis Validation Fieldwork Intervention Community involvement Applications	Supervision Fieldwork Writing, analysis Applications Software (4 person years)	Increasing recognition of Community Health Dept PhD – Lulu Muhe MPH theses	9 published papers Up-grading and involvement of new faculty Recognition for development research Epi-book
1997-99	DK YB MK FE AA YG ND Others	AE SW PB UH TA ME GK	Refurbishing the Health Information System Validation Analysis Applications Also: social relationships	Supervision Software development Applications (4 person years)	PhD – Atalay Alem Recognition – (possibly detrimental for Community Health Dept). MPH theses New PhD candidates Qualitative approaches	10 year material on CD potentially leading to some 20 papers (joint authorship) 2 Swedish PhD candidates Summer course benefiting from Butajira Rural Health Programme

DS: Desta Shamebo, SW: Stig Wall, LF: Lennart Freij, LM: Lulu Muhe, AS: Anita Sandstrom, DK: Derege Kebede, YB: Yermene Berhane, MK: Mesfin Kahssay, AA: Atalay Alem, FE: Fikre Enquessie, UH: Ulf Hogberg, TA: Tobias Andersson, PB: Peter Byass, GK: Gunnar Kullgren, AE: Anders Emmelin, YG: Yegomawork Gossaye, ME: Maria Emmelin,

Appendix 5: Tabulation of study base finances

Appendix 5(1): Funds allocated by Sida/SAREC to Butajira Study Base and related projects since 1988 (thousands of Swedish Kronor)

	Butajira Study Base		Acute Respiratory Infections		Reproductive Health	
Year	Ethiopia	Sweden	Ethiopia	Sweden	Ethiopia	Sweden
88-90	896 (448 p/yr)		650			
90/91	470		300			
91/92	470		300			
92/93	260	140	225	125		
93/94	185	115	161	139		
94/95	435	365	215	85		
96	470	200	140	70	110	210
97	205	165	60	-	165	185
98	280	120			475	225
99	180	120			275	175
Total 1989/90 to 1999/00	4628					

Appendix 5(2): Estimated annual operating cost of the Base (year 2000 prices)

Working note compiled by Yermane Berhane

Item description	Rate/unit price	Estimated cost
Personnel		
Salary (for all)	12 000 Birr/month X 12 months	144 000
Allowance (for all)	4 000 Birr/month X 12 months	48 000
Transportation		
Fuel & lubricants	1 000 Birr/month X 12 months	12 000
Maintenance & repair	5 000 Birr/6 months X 2	10 000
Consumables		
Forms & registers	7 000 Birr/6 months X 2	14 000
Computer & office supplies	1 000 Birr/month X 12 months	12 000
Field office electric and water	200 Birr/month X 12 months	2 400
Field office physical maintenance	5 000 Birr/year	5 000
International Collaborative work, technical assistance,...		
Trips	15 000 Birr/trip X 3 trips	45 000
Travel expenses (accommodation subsistence)	20 000 Birr/trip X 3 trips	60 000
Communication		
Fax/Internet/Telephone	700 Birr/month X 12 months	8 400
Contingency (10%)		36 080
Grand Total		396 880 Birr US \$ 48 400 SEK 416 240

* At the time of this report 1 US Dollar is approximately 8.2 Birr (Ethiopian currency)

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