Project Report 13/2004

Norwegian Association of the
Blind and Partially Sighted

Maidema Eye Health Centre

(Training Centre and Eye Clinic)

A review of NABP's support to the clinic 1996 – 2004

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Preamble

The report is the result of an external review of Maidema Eye Centre in early spring 2004. The review team consisted of Ole Kurt Ugland, a senior advisor at Agder Research (team leader), and Dr. Roald Opsahl, an ophthalmologist at Ullevål University Hospital in Oslo.

The name of the centre has been written in different versions throughout the project period. Sometimes it is referred to as ”Maidema Training Centre and Eye Health Clinic”, in other official documents its name is given as ”Maidema Eye Hospital and Training Centre”. In the final agreement between NABP and MoH/Eritrea it is referred to as ”Maidema Eye Health Centre”. We have chosen to use this name on the report as it includes both the clinical activities, the training component and – the future – outreach activities.

The team has based its report and recommendations on input and comments from a number of persons in Norway and in Eritrea. NABP personnel in Oslo has provided comprehensive files of information and the NABP coordinator in Asmara, Mr. Mogos Ghilamicael was an extremely good support – and informant - during the field visit from 22nd to 28th March.

The review team expresses sincere thanks to everyone that provided valuable information during the interviews with them. Some may find that information he/she considered important has not been included in the report. We apologise for that, but have had to make a ”holistic” assessment of all impressions, statements and responses that the team received during its discussions in Norway, and its stay in Eritrea.

A special mentioning must be made to the historical review Dr. Albert Kolstad gave the team and to the clear description Dr. G. S. Rekhi gave of the present challenges for the clinic at Maidema. We also want to thank the representatives of the Eritrean Department of Health, the Southern Zone administration and the Asmara Hospital for their responses and comments to the activities at Maidema. All of them have provided interesting and positive contributions to the picture of Maidema, its past performance and development, its present challenges, and its future place in the Eritrean Eye Health structure.

The staff and students at Maidema provided the team with very relevant and valuable information during our stay in Maidema. Thank you all very much.

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Executive summary

Maidema Eye Health Clinic in Eritrea (hereafter referred to as "Maidema"[1] or Maidema Centre) was officially opened on 1st April 1996. The planning period of the project – and the subsequent implementation of it - was strongly influenced by the border conflicts with Ethiopia. This – together with the periodical lack of a doctor - has at times reduced activities quite considerably.

Although no comprehensive national blindness survey has been carried out, several sources estimate the blindness prevalence in Eritrea to be about 1% of the population. That means that about 30.000 people are totally blind, while another 90.000 are visually impaired. However, statistics in Eritrea are unreliable, and different surveys give quite different indications of blindness.

The National Program for Prevention of Blindness (NPPB) started in 2003, but the action plan to reduce blindness is still in a draft form. A major challenge for eye health care in Eritrea is to staff the unit with qualified persons and in an adequate number. There are at the moment only 6 ophthalmic doctors in Eritrea, and the training programme for ophthalmic assistants at Maidema is a major source for the government to cover some of the needs for qualified personnel in the eye health sector.

Both the government and the private sectors provide Eritrean health services. In terms of funding, the government accounts for nearly 2/3, while NGOs and the private sector cover the balance. There is a government regulation that all patients must pay a contribution for using hospital services. At Maidema a fee of Nakfa 5 (US$ 0,40) is collected from each patient and transferred to the government. Since the start of operations, Maidema has collected and transferred around $ 30.000 (R/E 13,-) to MoH.

The overall goal and purpose of the project has been to reduce the prevalence of blindness to 0,5% in the southern zones of Eritrea. Since 1996 more than 70.000 patients have been treated in the Maidema OPD, and another 16.000 have been operated for some kind of eye-problems – not necessarily blindness. Reliable statistics of a possible reduction in blindness are not available, but the fact that quite a few cataract patients now get their second eye operated on, (after being cured for blindness of the first eye), may indi-

[1] Maidema as a region, centre or village is referred to as "Maidema Municipality"

cate that the *backlog* of cataract blindness in the southern areas is being reduced (and is probably now relatively low).

The number of patients treated at Maidema since 1996 is substantial. During the 7 ½ year period from 1996 to 2003, Maidema performed about 10.000 major and 6000 minor operations. Adjusting for periods of war, the absence of a doctor and extreme low activity at times due to war conflicts, the average is between 150 – 200 major (I.O.) surgeries per month. The number of I.O. operations have slowed down in recent years, and is for 2002/2003 less than 65 per month.

In total Maidema may have reached its objective, but as patients come to Maidema from different regions in Eritrea, verification of the influence on blindness in the Southern Zone is difficult. Based on the present population of approx. 280.000 people in the South Zone the number of blind people there should be around 2.800. A reduction from (an initial and unconfirmed prevalence of) 1% to the targeted 0,5%, would have been obtained if the clinic had treated 1.400 people (+ the annual increase) for blindness. The total number of major operations from 1996 to 2003 is nearly 10.000, which indicates that it has exceeded its objective about 5 times. Under such a broad-based assessment, the project has been a success.

Total project cost from 1992 to 2003 (12 years) is about NOK 12.3 mill. Of this amount approx. NOK 3.4 mill are investments, NOK 8.3 mill are operating expenses, and NOK 0,6 mill have been used to cover administrative expenses at NABP. Norad has funded 10.2 mill of this, while NABP's own contribution is NOK 2.0 mill.

All correspondence between MoH and NABP indicate clearly that both parties had expectations of a much smoother project life than what actually took place. Already the first agreement that was signed in March 1993 refers f.inst. to a take-over process within 2 years. "*The Government undertakes to take over and run the training centre for training Ophthalmic assistants by the end of the project period"*, and with reference to the clinic: "*The Government undertakes to take over and run the rural eye clinics including covering running costs within one year after completion of each clinic"*.

11 years later the process has barely started. War activities and shortages of key personnel have interrupted activities for shorter or longer periods, but the reality of the clause has also been handled with a feeble and "uncommitted" attitude. The 2002 agreement contains a clear timeframe for a handover, but little is implemented.

The organisation plan at Maidema is in reality unclear and flat. One reason for this is that as much money as possible should be used for treatment, and bureaucracy should be avoided. Although efforts have been made to improve the management structure, few results are visible.

Until 2001 there were no "board"-function at Maidema clinic, and - at least in periods - in reality no decision making management group at the clinic. Contacts between Maidema and the NABP offices in Nairobi and Oslo has been frequent, and their reports and meetings with the staff has in reality been the governing body for Maidema.

An initiative to establish a Management Committee was taken in October 2001. The committee consists of members appointed by MoH, and Maidema, but the Committee has only met twice since 2001. The report from the first meeting in February 2002 gives a comprehensive summary of the views and recommendations the Committee made.

The remoteness of Maidema makes it quite necessary to have an office in Asmara. In relation to the expenses involved, the cost of it is low, and the officer there has throughout the project period done an important and very good job. The actual expenses for the Asmara office is approx. US$ 7.000 per year, i.e. about 3% of that budget, and the efficiency savings outweighs in our view – and for the time being - the costs with a clear margin.

Maidema clinic has benefited greatly from resources coming from NABP's network of eye-clinics. However, the frequent changes of doctors have created some problems for a smooth operation at the clinic. There is at present only one ophthalmologist at the clinic, and that capacity is too small for the activities he is supposed to tend to: clinical work, training of OAs and administering the general running of the clinic. Today Maidema suffers from the shortage of a second doctor, the absence of a matron and the lack of a local administrator.

Physical infrastructure and facilities are good. The medicine-producing unit is about to start after long and unclear delays in government pipelines.

The curriculum for training of ophthalmic assistants was finally approved by MoH late 1998 after considerable delays in the approval process in MoH and Asmara Hospital. The curriculum is very extensive and is based on a similar course offered in Malawi. The structure of this program is based on 3 study terms, each of 6 months' duration. The first group of 7 students finished their

exams in 2001, and a new group of 7 students is presently following the training course at Maidema.

Representatives of the first group of students said they were now able to give eye health care and meet most common eye problems, including surgical treatment of cataract (ECCE with IOL implantation) and glaucoma in relatively uncomplicated cases. Their present concern was how to achieve some form of post-education. They felt isolated, and expressed the hope that Maidema in the future would provide seminars or courses as continuous education.

The second group were worried (even upset) at the lack of teaching time, lack of handouts, changes in lecturing schedule, and of the remoteness of the place. Their social situation is also felt as quite isolated. It is obvious that one doctor cannot undertake both surgery, administration and training, and this has spilled over to the ”chemistry” between the students and the doctor. As to textbooks the situation was better; each student had his/her own textbook of ophthalmology and as a group they had access to larger reference materials.

Very little is done in the field of outreach activities. The recommendation is to put more resources into this activity. Result and impact assessments have repeatedly been postponed. Already in 1994 plans were made to start a baseline study, and to follow it up with a second study in 1998. An evaluation of Maidema was also planned for after the first two years of operation. None of this was implemented.

The reporting process between Maidema and NABP may seem to be more complicated than necessary. In this process, the “management” at Maidema plays a rather insignificant role, and a “feeling” of “less-than-desired-transparency” is to some extent present in Maidema.

As our recommendation show we suggest Maidema be strengthened with administrative competence so that the responsibility for reports, accounting etc. is anchored directly in the clinic.

The location at Maidema is a problematic issue. Alternatives, however, are few. If a location were to be selected for an eye-clinic today, Mendefera would probably have been a first choice. It is a challenge for the regional health authorities and national health planners to decide the future location if Maidema should be managed and operated under a national health plan.

Eritrean programmes for eradication of blindness is so far weak on both human resources and infrastructure. However, progress is being made, and professional relations are being developed. It is important that Maidema strengthens its activities to establish both professional relations to national and foreign ophthalmic centres, and improves the relation to and contact with national associations and international bi- and multilateral organisations working to combat blindness in Eritrea.

The staff at Maidema would benefit greatly from meetings with their counterparts in other eye hospitals. The network NABP has established should be developed actively for that purpose. An example of the value of such contact is an interesting report submitted by an African ophthalmologist from his visit (study) in 2004 to the Geta Hospital in Nepal. The effects of such contacts where experiences are properly shared with colleagues are of value both to the institution and to the individuals that participate in them.

The challenges the clinic faces, and the recommendations the review team has presented, are summarised in chapter 10 of the report. For details of these, please refer to chapter 10 on page 46.

1. Introduction

Maidema Training Centre and Eye Health Clinic (hereafter referred to as "Maidema"[2] or "Maidema Centre") was officially opened on 1st April 1996. The planning period of the project was unfortunately strongly influenced by the border conflicts with Ethiopia. Communication difficulties and the fact that authorities were often staffed with inexperienced personnel did not make the planning smoother. A major milestone was therefore reached when the first patients were treated at the clinic.

Following a recommended from Norad, the Norwegian Association of the Blind and Partially Sighted (hereafter referred to as NABP) took early 2004 the initiative to conduct an evaluation of Maidema. The evaluation team consisted of Mr. Ole Kurt Ugland of Agder Research in Kristiansand (team leader) and Dr. Roald Opsahl – an ophthalmic surgeon at Ullevål University Hospital in Oslo. The fieldwork was conducted between March 23rd – 31st, of which two days were spent at the clinic. A copy of the TOR is enclosed as annex I, and a list of people met during the field trip to Eritrea as well as in meetings in Norway both prior to and after the field work, is enclosed as annex II.

The review does not go into details of the start-up period of the clinic. One reason for that is the turbulent political and security situation that influenced all forms of communication and planning at that time. After the first initial discussions the review team decided to base comments and recommendations on developments since "the late 1990-ies" (to be unprecise) - and on the present operations of the clinic – medically and administratively. We have, however, for statistical purposes included financial data from the beginning in 1993 and activity data from 1996

1.1 A brief history of Eritrea

The history of Eritrea shows a country involved in recurrent conflicts with its near neighbours. The liberation struggle (from Ethiopia) has been a major one, but the unclear framework for establishing a new nation has at times drawn Eritrea into conflictual issues with other neighbours as well.

[2] Maidema as a region, centre or village is referred to as "Maidema Municipality".
The name of the centre has been written in different versions throughout the project period. The team has for the report chosen to use the name as it is written in the last agreement between NABP and MoH (January 2002)

The General Assembly of the UN decided in 1952 that Eritrea should be an autonomous state under Ethiopia. In 1962 Ethiopia annexed Eritrea forcefully, and a 30-years struggle for independence started. After the fall of the Derg regime in Ethiopia – and following the Eritrean liberation of Asmara in 1991 - a referendum in 1993 voted with a 99.8% majority to establish a fully independent state. Work started immediately with the process to modernise the legal and political system of an independent state, but these activities were stopped in 1997 as a new border conflict with Ethiopia emerged.

The conflict erupted into new wars between the two states in 1998 and 2000. Several peace agreements were proposed, and in 2003 a jointly accepted border demarcation committee submitted their proposal (and final ruling) with regard to the disputed border area at Badme. Both Eritrea and Ethiopia first accepted the decision of the committee, but after studying some legal technicalities closer – and questioning them - the border problem in the area is still unsettled.

The relation to neighbouring countries such as Sudan and Djibouti has also had its critical periods. In the 1990-ies tension arose over disputed territorial areas. At the moment these disputes have had less political focus, and the relation between Eritrea and Sudan, Djibouti and Yemen has for the last years been close to normal.

1.2 Political and economic effects of a country in conflict

Because of the recurrent war situations, the political and economic development of Eritrea is still problematic. The process to establish a democratic multi-party state has stopped; the legal process to amend the constitution have stopped; and elections of members of parliament and the presidency has been postponed. The independent press was closed in 2001, and previous "freedom fighters" have in several cases been selected for offices where stronger professional backgrounds ought to have been found. Politically independent organisations and local and international NGOs find it difficult to operate. The authorities have not yet started a necessary mine clearing programme - for reasons also related to the slow peace process with Ethiopia[3]. Demobilisation is slow, and there are still a large number of Eritrean refugees in Sudan.

The economy is strongly influenced by the unstable situation. The growth in GNP slowed down (according to estimates by the World Bank) from 8% in

[3] See St.prp nr. 1 2003-2004 p.99.

1997 to 3% in 1999, and the financial deficit was in 1999 more than 35% of GDP.

Figures of GDP per capita vary considerably due to unreliable and incomplete statistical materials. The UNDP Human Development Report for 2003 shows a GDP per capita (PPP US$ 2001) of US$ 1.030 for the 4.0 mill inhabitants[4]. WHO uses a figure of US$ 629.

The UNDP Human Development Report for 2003 shows the following "values" for Eritrea: (Neighbouring countries and the two other countries where NABP has established eye-clinics are included for comparative purposes).

Table 1. Some main statistical figures for Eritrea (and for some other countries for comparative purposes)

HDI rank (2003)	Country	GDP per capita (PPP US$)		Life expectancy 2001	Adult literacy rate 2001
		1999	2001		
138	Sudan	664	1970	55.4	58.8
143	Nepal	1237	1310	59.1	42.9
153	Djibouti	2377	2370	46.1	65.5
155	**Eritrea**	**880**	**1030**	**52.5**	**56.7**
169	Ethiopia	628	810	45.7	40.3
170	Mozambique	861	1140	39.2	45.2

Even if there is a remarkable growth in GDP between 1999 and 2001, the nominal growth in GDP per capita is stronger both in Sudan, Ethiopia and Mozambique. The Eritrean growth is still encouraging for a country in conflict, but the general impression of statements made to the team during the field visit is painting a bleak picture for the immediate future.

[4] UNDP Human Development Report 2003

2 National Health Plans

The statistical material of health data for Eritrea varies in quality and content. The "National Health Management Information System (NHMIS) and the "Eritrean Demographic and Health Survey" that was carried out in 2002 are in spite of that important data bases. The preliminary conclusions of the 2002 survey indicate that improvements have been made in several key indicators[5], with the most significant reduction in communicable diseases.

2.1 Some aspects of developments in primary health care

The global (and local) environments in which primary health care values are translated into action have changed fundamentally in the past 20 years. Demographical and epidemiological shifts increase the burdens of most low-income countries, while advances in health technology have transformed many traditional aspects of basic medical practice and raised the expectations of people in general of the types of services that the health system should provide. What seemed to be efficient and effective services in the 1980-ies may not be the best system in the new century. The technological level of what was considered as "low-cost" principles in the 1980-ies (on which principle Maidema was founded) has also increased; and while the principle of "appropriate technology" still prevails, it builds on different technological scales than in the past.

Most countries have undergone decentralisation processes and reforms - in civil services and in the health sector. The influence that NGOs and private providers have created – and the extensive use of partnerships to perform health care roles - have also changed the traditional models in which the government directly recruits, trains and deploys health professionals.

One of the most critical issues facing health services is the shortage of competent personnel. In addition to the insufficient training capacity in most developing countries, training activities must consider new focus areas such as gender (particularly the needs of women) and new endemic illnesses (HiV/AIDS). Several categories of health professions that previously were reserved for those with a full medical degree, are now filled with specially trained "short-term" paramedics, and surgery previously carried out at spe-

[5] "Eritrea: Health Profile 2002". Ministry of Health 2002

cialists centres are performed at lower levels of hospitals/clinics, and by professional staff with shorter – but more specified - training than in the past.

Collection and dissemination of health information remains limited both on a regional and a national level. Eritrea is no exception. While statistics compiled by Maidema are well documented, there is a gap in reliable information for management purposes from the regional and sub-regional levels.

All these factors point to the needs of systemic improvements in health care instead of case-by-case treatments. This change process takes time - also for the eye-health sector – but it has started. It is extremely important that future plans for Maidema take this scenario into consideration.

2.2 Health infrastructure in Eritrea

Both the government and the private sectors provide Eritrean health services. In terms of funding, the government accounts for nearly 2/3, while NGOs and the private sector cover the balance.

The government provides clinical services within a three-tier system.

The lowest tier consists of health stations and smaller community hospitals. Health stations are staffed with a nurse and one or two associate nurses. They serve a population of around 10000 people and provide basic preventive care. The community hospitals have 20+ beds and serve a population of approx. 50.000. There are according to figures prepared by MoH in 1999, 128 clinics and 44 health centres in the country.

The second tier consists of regional and sub-regional hospitals. They provide standard services including ophthalmic care. They are also responsible for supervision of the health facilities in their region, and are used as clinical training centres. There are referral hospitals with different fields of specialisation located in six centres and another 11 local hospitals in sub-regional centres.

The national referral hospitals are located in Asmara. The Brhan Aini Ophthalmic Hospital in Asmara is the national referral hospital for ophthalmic cases.

In 2002 there were 68 private clinics owned by non-governmental organisations[4]. It is interesting to note that the "Health Profile 2002" does not make any reference to the Maidema clinic – nor to the support NABP provides - although it refers to several of the other specialised medical services.

The physical capacities of Eritrean health services are increasing fairly rapidly with the construction of Mendefera and Barentu regional referral hospitals. The shortage of qualified health personnel, however, is acute and the new facilities will still need time to staff it properly.

2.3 Human resources in Eritrean health sector

The number of doctors, nurses or other health personnel in Eritrea is very low no matter which report figures are drawn from. Since the statistical material is so limited, different users get very different results. In order to show the variations in public presentations, we have compared summaries of human resources in the health sector as they are presented below in MoH's "Health Profile 2002", and WHO's statistical presentation of Eritrea[5].

Table 2. Comparing health statistics by MoH and WHO

	MoH "health profile 2002"	**WHO "Country Indicators"**
Population	2.900.000	3.991.000
Physicians per 100.000 inhabitants	7,5	3
Nurses per 100.000 inhabitants	30	16

Part of the difference is due to the very different population figures that the two institutions use, but even if we use WHO's population figures as a basis for calculating MoH's physicians and nurses, the difference is unexplainable (based on a population of 3,99 mill, the MoH figures show 5,2 doctors and 21 nurses per 100.000 inhabitants). The uncertainties in using available "facts and figures" are therefore considerable for any analytical purpose.

The College of Health Sciences under the University of Asmara has been established to consolidate the training of medical personnel.

The following is a comparison with neighbouring countries:

[4] "Eritrea: Health Profile 2002". Ministry of Health 2002

[5] The following figures are quoted from WHO statistics: www.who.int/country/eritrea

Table 3: Number of medical personnel per 100.000 people[6]

Country	Physicians	Nurses
Eritrea	**3**	**16**
Kenya	13	90
Sudan	9	58
Djibouti	14	74
Ethiopia and Mozambique	Na.	Na.

The Department of Health in the South Zone has plans to establish a training centre for health personnel in the old hospital buildings in Mendefera. This will be a potential place for training ophthalmic assistants in the future.

2.4 Financing health and medical care

Total expenditure on health in Eritrea as % of GDP is about 5.7% - or more than the mean African country. About 65% of the total health expenses are government funded, while the rest (about 35%) is privately funded. This relation is approximately the same as in Mozambique (a country where NABP also operates a health clinic).

Health expenses in Eritrea, however, represent only 4.5% of total government expenses. This is a very small share compared with any African country, as an average would be in the 8-10% bracket. The Mozambique government in comparison spends 18% of their budget on health.

On the other extreme, Eritrea raises 52% of their total expenditures on health from external resources. This makes it the 4th highest in Africa in terms of relying on external resources for health expenditures. A mean African country depends for about 25% of such expenditures on external resources.

MoH works with several issues relating to new health financing plans. Of the average health expenditure of US$ 36 per capital[7], only about 10% is recovered from patients. The government clearly states that the present level is not sustainable, and "*it is therefore planning to introduce new structure with a view to instituting a cost-recovery and eventually to establish a health insurance scheme*" (Health Profile 2002).

[6] The following figures are quoted from WHO statistics: www.who.int/country/eritrea

[7] WHO: Country indicators 2001

3 Blindness as a global challenge

Assessments made by WHO indicate that the global number of blind is approximately 45 mill with another 135 mill with low vision. Cataract and refractive errors account for about 60% of the cases, while trachoma, diabetes and age related degeneration accounts for equal parts of the rest. Blindness is predominantly an age-related problem with nearly 5% of people over 60 years of age blind. Although more than 70% of all new cases are treated, the number of blind people is increasing, and without strenuous efforts the prevalence of blindness is likely to double by 2020[8].

3.1 Vision 2020

The major obstacles of the global efforts to reduce the burden of blindness are the lack of adequate health care infrastructure, appropriate human resources and adequate funds. These difficulties are in many developing countries accentuated by the rapidly increasing population – and especially in the ageing population. Some projections indicate 75 mill blind in 2020.

Vision 2020 is an international campaign to create awareness and mobilise resources for prevention and treatment of blindness. The 20-year programme is divided into four 5-year plans with WHO as a major co-ordinator. Disease control, human resource development and infrastructure development are major elements in the programme. If Vision 2020 shall reach its targets, the relation to national primary health care programmes is therefore vital.

Some regions have come quite far in their plans to combat blindness. WHO's Regional Office for Southeast Asia has prepared both a comprehensive statistical basis as well as a detailed strategic plan for Vision 2020 in their region. The work in Eritrea has only started, and the draft document – although printed in its first version - was not available for the team members during their visit to the WHO office in Asmara.

3.2 Prevalence of blindness in Eritrea

The National Program for Prevention of Blindness (NPPB) started in 2003. MoH established the National Committee for the Prevention of Blindness (NCPB) later that year in an effort to co-ordinate the activities of active eye

[8] These statistical figures are quoted from "Vision 2020", a WHO report issued by the regional office in India.

care. MoH chairs the committee, and has the secretariat functions for it. The plan is still in a draft form. A priority area is to make a technical survey as a basis for the implementation activities.

Although no comprehensive national blindness survey has been carried out, WHO in Eritrea estimates the blindness prevalence to be about 1% of the population. That means that about 30.000 people are totally blind, while another 90.000 are visually impaired[9]. A limited study[10] carried out by Dr. Kolstad in 1992 revealed substantial prevalence of blindness – up to 2% of the population in some lowland areas, while at the other end ERNAB's study (commented below) registered only 0,34% blindness, and another study by Dr. Kolstad carried out in 165 villages of Areza[11] concluded that 0,3% of the 82.000 population was blind.

Statistics are unreliable in Eritrea, and the few surveys that are available are incomplete. The ERNAB study[12] from 2000 claims to have been nation wide as it covered 58 sub-regions, and more than 2500 villages. Although the number of blind seems to be on the lower side, it gives interesting information of causes for blindness, and the regional differences that exist. The number of blind is stated to be about 10.400 persons, or 0,34% of the population. 45% of these are male – 55% female. 68% were blind, while 29% were partly sighted. Most of the blindness was caused by diseases (69%) and ageing (23%), while only 8% were caused by accidents and war. Based on these figures, blindness as a consequence of war only account for 325 cases. Most of the blind (92%) are illiterate – indicating the strong rural blindness problems. The study, however, shows quite wide variations between the different regions.

3.3 Eye health infrastructure in Eritrea

Eye health infrastructure includes physical structures, operational equipment and qualified personnel. Eritrea in the early 1990-ies had little of all.

There were at that time only a couple of ophthalmic doctors in the whole of Eritrea. All were located in Asmara. The central hospital had available building space and equipment for eye surgery, while the regional clinics had neither equipment nor qualified personnel to perform minor eye operations.

[9] "Draft National Five-year Strategic Plan for Eye Care in Eritrea (2004 – 2008). January 2003 MoH, Asmara

[10] Dated 14th August 1992.(Authors: Albert Kolstad and Kahsai Beraki)

[11] Dr. Kolstad's "Activity Report 1995"

[12] "Eritrean National Association of the Blind. Statistics 2000". Asmara March 2001

NABP's proposal to support eye health activities represented a considerable input to combat blindness in the country.

The early plans for the Maidema project was to build 5 regional clinics, and to establish a training centre at Maidema to supply the regional clinics with ophthalmic assistants. As the process went on, the government changed its strategies and instructed NABP to work in the Southern Zone. It also wanted to establish the clinic first, and after that start the training programme. The central hospital in Asmara would act as the referral hospital.

As cataract blindness is the largest in volume, the government plans to make all 6 regional hospitals able to carry out such operations. This means that ophthalmic assistants should be stationed in all of them, and, consequently, training would be a major activity for the Maidema centre.

3.4 Human resources for eye-health care

Human resources are scarce in all civil activities in Eritrea. The health sector is no exception. It is a systemic problem, a quantity problem, and an individual capacity problem. A major challenge for all health care in Eritrea is to staff the unit with qualified persons and in an adequate number. Training is therefore a major issue in all health programmes and will involve motivation packages, investments in both organisational and technical fields, improvements in health information systems, as well as an increase in the general training capacity for new personnel.

At the moment there are only 6 ophthalmic doctors in Eritrea - all located in Asmara. Major surgery can today only be performed by ophthalmologists in Asmara – and to a limited extent in Maidema. With the available infrastructure in the Asmara Hospital, it is important that the relation between Maidema and Asmara is further strengthened, and that cases that Maidema are not able to treat are referred immediately to Asmara Hospital.

The training programme for ophthalmic assistants at Maidema is a major resource for the government to cover some of the needs for qualified personnel in the eye health sector. Of the first group of seven students, six have been placed in regional hospitals/clinics to perform, among others, cataract surgery. In that way Maidema is a key institution for the government to reach the goals for Vision 2020.

For Maidema the human resource problem relates to three types of personnel: Ophthalmologists, Ophthalmic Assistants and Qualified Nurses.

3.4.1 Ophthalmologists

Two of the 6 ophthalmic doctors in Eritrea are expatriates from Egypt and Ethiopia. There is a hope that the peace process may entice Eritrean doctors now living abroad to return to Eritrea to work there. The time it takes to become an ophthalmic surgeon after the general medical education is over makes it in reality impossible to increase the number of ophthalmic surgeons from Eritrea's own medical staff.

3.4.2 Ophthalmic Assistants

Ophthalmic Assistants (OA) have a background as a general nurse, and are after their training at Maidema competent to perform cataract operations in regional hospitals/clinics. At present the only training place for OAs is in Maidema. The capacity there is by far sufficient to cover the needs (Eritrea needs at least 30 OAs on a national level). Training capacity should therefore be increased. A major limitation, however, to an increase in the number of trainees is the general lack of nurses for Eritrean health service.

Training is a continuous process, and as most of the OA-trainees will be stationed in rural clinics, the need for continuous follow-up and training is even more acute for them. There is at the moment no place where continuous education of OAs takes place. This is a considerable problem, and will have to be dealt with urgently. Both Maidema as well as the College of Health Sciences in Asmara are relevant places to offer continuous training.

3.4.3 Qualified Nurses

The absence of a "Matron" at Maidema is severely influencing the work of the doctor there. The responsibility for cleanliness, general hygiene and patients' care should be the duty of the Matron. The Management Committee's report[13] pointed to several weaknesses in the clinic – among them the absence of a matron. The subsequent meeting in Asmara in December 2002 reiterated the problems, and it was agreed that provided the funds were made available, MoH would hire a matron. The Matron-position is still vacant.

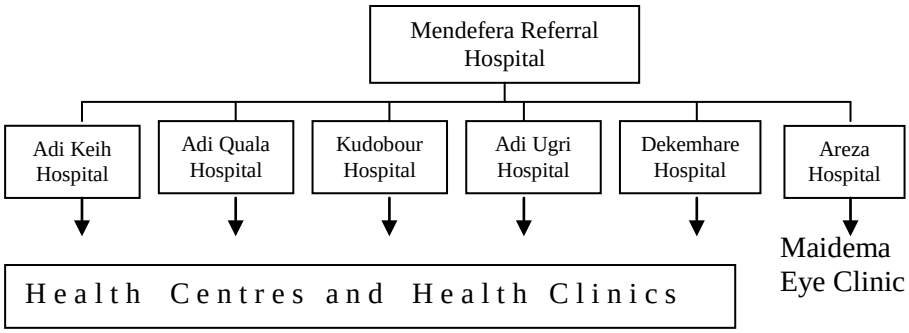
[13] Report from their visit to Maidema dated 02 02 2002

4 Maidema Clinic in the national and regional health plans

The question of a national take-over of Maidema has been part of all agreements between MoH and NABP since the very first one in 1992. Implementing it has been repeatedly delayed. The 1998 report to Norad says: "*The serious escalation of war has delayed plans for expansion of the hospital, doctors flat and training of ophthalmic assistance. As a result an eventual local take-over would have to be delayed*"[14].

The new conflict in 2000 again delayed plans, but recent correspondence between NABP and MoH indicates clearly that the "dead-line" for handing over the clinic to MoH is approaching fast. The letter of 26.02.03 from MoH to NABP mentions that MoH is prepared *"to take over the project totally by January 2005*".

How and where the responsibility for Maidema will be placed is not clear. So far it has been part of the South Zone's health plan, and our discussion with the Management in Mendefera confirms this impression. In the 10-year strategic plan for their health service, Maidema is placed administratively included under the regional hospital in Areza:



The team did not visit Areza hospital and has therefore no information of the resources, structures or professional level of that hospital. We believe, however, that a specialised clinic as Maidema should be placed administratively directly under the regional referral hospital, and not on line with local health centres or health clinics.

[14] Annual Report for NABP's project ERI 0611 to NORAD; Year 1998

4.1 Financial aspects of hospital treatment

There is a government regulation that all patients must pay a contribution for using hospital services. This contribution varies with the type of operation, but is in any case small. At Maidema a fee of Nakfa 5 (US$ 0,40) is collected from each patient and transferred to the government. For 2003, Maidema transferred approximately Nakfa 28.000 (approx. US$ 2.200), and the total amount transferred to MoH since the start of the clinic is estimated to be around $ 30.000 (R/E 13,-).

There are different views of the practices to transfer the fees to MoH. Some maintain that Maidema should not transfer the fees to MoH until they meet their commitments in the agreement (f.inst. providing a sufficient number of personnel). The money from the fee could be used with better results at the clinic as an incentive to increase the number of treated patients. The project document that is part of the 2002-agreement between MoH and NABP has a clause that lets Maidema retain the money collected. The clause, however, was never put into action.

Others feel Maidema should not be given any preferential treatment compared to other hospitals (that also collect the same fee from their patients). The problem is a principal one, as retaining the fee of 5 Nakfa does not make the clinic more sustainable.

The question is more related to the possibilities of increasing the financial sustainability of the clinic. MoH is already working on different schemes to increase domestic funding of health services. Increasing patients fees is one alternative. That opens up for a discussion of whether the hospital keeps all – or part – of this income, or whether the principle of transferring it to MoH is maintained. We have not studied the fee structure at other eye-hospitals (f.inst. in Nepal and Mozambique), but retaining patients' fees have in some cases been a major source of income for the clinic – and have been a strong incentive in their work towards reaching a more sustainable level financially.

Retaining the fee at Maidema – as was agreed in 1998 – should be introduced as soon as possible.

4.2 Objectives and strategies for Maidema

"The overall goal and purpose of the project is to reduce the prevalence of blindness to 0,5% in the Southern Zones of Eritrea"[15]. Comments have al-

[15] Jfr. TOR for the review team.

ready been made to the statistical uncertainties in Eritrea. The objective, however, idealistic as it may have been, is impossible to verify. On the other hand, it is precise enough to be a guideline for an eye clinic to design its own programmes and activities within the limits of its resources – financially and professionally. Reducing blindness to 0,5% does not only involve surgical activities, but also a focus on preventive activities among the South Zone population.

Maidema and its staff have managed to treat patients and reduce cataract blindness to a remarkable extent. Since 1996 more than 70.000 patients have been treaded in the OPD, and another 16.000 have been operated for some kind of eye-problem – not necessarily blindness. Reliable statistics on blindness reduction are not available, but the fact that quite a few cataract patients now get their second eye operated on, after being cured for blindness when the first eye was operated, may indicate that the *backlog* of cataract blindness in the South Zone of Eritrea is being reduced (and is probably relatively low).

Three of the original objectives (clinical services, training and production of eye-drops) are commented below. The fourth objective (to provide clients with spectacles) is less focused today as the ECCE technique does not require patients to use glasses in order to become sighted.

The number of patients treated at Maidema since 1996 is substantial. In total Maidema may have reached its objective, but as patients come to Maidema from different regions in Eritrea, verification of the influence on blindness in the South Zone is difficult. Based on the present population of approx. 280.000 people in the South Zone the number of blind people there should be around 2.800. A reduction from (an initial and unconfirmed prevalence of) 1% to the targeted 0,5%, the clinic should have treated 1.400 people (+ the annual increase) for blindness. The total number of major operations from 1996 to 2003 is nearly 10.000, which indicates that it has exceeded its objective more than 5 times. Under such a broad-based assessment, the project has been a success.

5 The project process

NABP has had a substantial international engagement since 1978. Eye clinics are directly supported in three countries (two in Africa and one in Asia), and national organisations of the blind are supported in 10 countries either bilaterally or through the two regional unions in Africa and Asia. The principle of "appropriate technology" has been followed in all eye-health programmes in order to give as many people as possible access to its services at the lowest possible cost.

In 1987 the co-ordinator for Eritrean Peoples Health Programme, Dr. Nerayo Teklemichael visited Norwegian Church Aid (NCA) in Oslo and learnt about the NCA funded eye health programme in Nepal. In 1989 he visited Nepal and was especially interested in the way appropriate technology was used, and in the training programmes for ophthalmic assistants based on the general nurse education.

Due to ongoing conflicts between Eritrea and Ethiopia, NCA did not follow up the contacts until early 1992. NABP showed at that time interest in giving assistance to Eritrea, and Dr. Albert Kolstad visited Eritrea in June that year to make a report of blindness in Eritrea. The report was later used as the basis for the project document that was attached to the first agreement between NABP and MoH. The main strategy of the programme was to establish a number of small rural eye clinics in areas where cataract blindness was highly prevalent, and operate these on a "low-cost" principle.

Although results and findings of any survey in Eritrea at that time were uncertain, indications were that more than 1% of the population were blind. There were at that time only one eye department in Asmara hospital and three small eye departments in provincial hospitals.

The NABP survey proposed to establish five rural eye clinics. The first one should serve as a training centre for ophthalmic assistants where students should receive both theoretical and practical training. A baseline survey should be carried out by the first batch of students in 1994 and were scheduled to be repeated in 1998. An evaluation should take place 2 years after the start of the programme. There was a clear policy to seek low-cost solutions both in construction and in the choice of supplies and equipment.

The proposal indicated the following time frame:

Fig. 2: Planned activity schedule 1993 - 1998

Year	Activity
1993	Construct and equip the first eye clinic and training centre
1994	Train ophthalmic assistants and construct the second eye clinic
1995	Staff second clinic and build the 3rd
1996	Staff the third and construct the 4th
1997	Staff the fourth and construct the 5th
1998	Staff the 5th eye clinic

The total budgetary frame was estimated to US$ 469.000, and by 1998 five eye clinics were scheduled to be in operation.

5.1 Agreements and communication between MoH and NABP

Correspondence between the parties during the early years indicates clearly that both parties had expectations of a much smoother project life than what actually took place. Some of the early communication between the two parties also show clear signs of frustration – especially from NABP's side. Already the first agreement between NABP MoH that was signed in March 1993 refers f.inst. to a take-over process within 2 years. 11 years after the signing of this agreement, the process has barely started. War activities and shortages of key personnel have interrupted activities for shorter or longer periods, but the reality of the clause has also been handled with a feeble and "uncommitted" attitude. The agreed timeframe that is part of the 2002-agreement has been followed on only minor points.

Although the review is not basically concerned with the early history of the project, a brief summary of some of the agreements is necessary.

1993 – 1994
The first agreement was to be in force until the end of 1994, and specified clearly the obligations of the two partners. Among these were: (the list is an abbreviation of the clauses in the agreement):

Obligations on behalf of MoH:

- Extend certain facilities to the expatriate personnel
- Take over and run the training centre for ophthalmic assistants by the end of the project period
- Take over and run the rural eye clinics …….within one year after completion of each clinic

- Recruit 12 students for the first training course
- Make available suitable plots of land for the construction of the training centres and the rural eye clinics

Obligations on behalf of NABP:

- Provide funds to build one training centre and four rural eye clinics
- Provide an eye specialist, supplies and equipment for the training programme and the rural eye clinics
- Provide salaries, accommodation and other costs related to the expatriate staff

At the same time an agreement between NABP and The Eritrean Relief and Rehabilitation Agency (hereafter referred to as ERRA) was signed. This agreement specified in more detail the general rights and obligations NABP were allowed in order to fulfil the project. Among these were the following privileges for Maidema

- to import necessary goods free of duty or other restrictions,
- to install radio equipment, telephones etc. (subject to approval of the Government
- to recruit locally such personnel as it requires, and … decide on terms and conditions for such personnel.

Any concession or privilege granted to NABP should be for the duration of the agreement only.

1995 - 1996

The agreement was extended in March 1995 for a period of "one year". In reality it was in force until the end of 1996. The format of the agreement was different, and the contents more elaborated then in the 1993-agreement.

The new agreement also refers for the first time to patient fees. It describes fairly detailed procedures for approval of expatriates and places more obligations on the NABP representative. It presupposes regular consultations between MoH (and Provincial Health Departments) and NABP.

During this contract period MoH amended the original implementation schedule. Building the clinic at Maidema was given the highest priority, while training was postponed – mainly because of delays in approving the curriculum.

1998 - 1999
The renewal of the agreement met with severe difficulties and uncertainties.

The new 2-year agreement was signed in December 1997. The project document (August 1997[16]) forms the basis for the agreement. Maidema is now in operation, and the new agreement states that NABP should provide 2 eye specialists for Maidema. In addition it specifies that activities at Maidema should include production of eye drops, and establish an optical workshop for production of spectacles for the patients. Sustainability aspects are also brought into the agreement as it specifies that the project should ensure that MoH counterparts are given suitable training in order to take over the responsibility when NABP withdraws.

The hand-over process is also included as one of MoH's obligations. MoH is expected *"to take over and sustain the eye hospital, services including the outreach service, the training activities, the optical workshop and the eye drop production when this agreement expires"*. It continues to say that *"MoH and NABP must start negotiations with regards to the gradual phasing out of NABP in 1999 in order for MoH to provide funds in their budget for and after 2000"*. The future destiny of the project will, however, be determined through mutual agreement before the end of the project period.

2000 - 2001
In November 1999 a new 2-year agreement was signed. It is based on the same project document (August 1997) as the previous agreement. The budget figure in US is the same (around Nakfa 1,2 mill for Maidema and Nakfa 90.000 for the Asmara office). There is a new clause saying that *"In case of war or other hostilities, the work on the project might be terminated without prior notice"*.

In March 2001, NABP responded to a request by MoH to pay for national staff at Maidema. This was (reluctantly) accepted by NABP by reducing funds intended for investments (the new ward). On the other hand MoH promised to treat Maidema in the same manner as other government hospitals when it came to supply of medicines, among others to supply IOL lenses free of charge.

2002 - 2003
The agreement signed in January 2002, covered 2002 and 2003. Several new clauses are included. These issues were discussed in a preparatory meeting

[16] Project Document for the Maidema Eye Clinic and Training Centre, Eritrea". Dated 4th August 1997.

between NABP and MoH in October 2001. Both parties seem to be eager to speed up the hand-over process. Among the major new proposals are:

- A management committee will be established for the running of Maidema. This committee will consist of members appointed by MoH, from Maidema Centre Administration, and from ERNAB. Ref. para 6.1.1 on the establishment and work of the committee.
- The agreement also specifically underlines that while under the auspices of NABP, Maidema will be run in accordance with the principles of "the low cost model".
- Two ophthalmic trained nurses should be seconded to the centre
- The registration fee of Nakfa 5 per patient can be retained at the clinic, and
- MoH will make sure that IOL lenses are provided free of charge to the Maidema.

2004
NABP responded conditionally to a request from MoH to extend the 2002-2003 agreement. The letter to MoH (7th January 2004) requests a letter of acknowledgement from MoH.

5.2 Norad's engagement in Eritrea

Norad's present support programme for Eritrea is quite pessimistic reading[17]. Many donors seem to agree that Eritrea is in a deep crisis, and Norad's decision to halt direct bilateral support in 2001 is still a guiding principle for 2004. The democratisation process in Eritrea is slow – if moving at all – and the civil society is severely hampered by restrictions on organising and implementing its objectives.

The total volume of Norwegian support to Eritrea was in 2002 about NOK 107 mill. Most of this is channelled through Norwegian NGOs (included NABP) and multilateral organisations. The main support is given to peace and reconciliation, democracy/human rights (includes support to blind people) and governance. Support is also given to increase knowledge and awareness of HiV/AIDS.

The following table (next page) shows Norad and NABP's total support to the project from 1992 to 2003:

[17] St.m. 1 2003 – 2004

Table 4: Norad's support to NABP/Maidema in Eritrea 1992 - 2003:
All figures in 1000 NOK

Year	Invest-ments	Other costs	6% adm. contr.	Total project costs	Financed by	
					Norad	NABP
1992	0	82	4	86	70	16
1993	1121	376	75	1572	1272	300
1994	142	539	34	715	579	136
1995	64	363	20	447	362	85
1996	351	725	52	1128	913	215
1997	25	952	47	1024	829	195
1998	37	705	36	778	630	149
1999	140	1267	67	1474	1192	281
2000	24	431	22	477	386	91
2001	254	1130	66	1450	1173	277
2002	339	984	95	1418	1286	132
2003	884	723	114	1704*	1545	159
Total	3.381	8.277	632	12.273	10.237	2.036

*In the total amount, income is deducted with NOK 16.600

The total investment since 1993 is around NOK 3.4 mill. One must bear in mind that part of this amount has been used to replace and repair damaged and looted equipment during the two wars with Ethiopia.

The 2003 application to Norad indicates that Norad's contribution for 2004 and 2005 is expected to be NOK 1.3 mill and 1.26 mill respectively.

5.3 Handover of Maidema to national authorities

All agreements between MoH and NABP have been unconditionally clear on the hand-over timetable. Already the first agreement, signed on 11th March 1993 for the period up 31st December 1994 are clear on this point both for the training centre and the clinic:

> Re.: The training centre:
> *"3.4 The Government undertakes to take over and run the training centre for training ophthalmic assistants by the end of the project period.*

And for the clinic:

> *3.5 The Government undertakes to take over and run the rural eye clinics including covering running costs within one year after completion of each clinic"*

The project document dated August 4th 1997 is more specific with a detailed timetable for full take-over by 2001, and with specifications of how budgets for the period up to take-over should be split between MoH and NABP respectively.

All consecutive agreements have been clear on the ultimate principle of hand-over to national resources. All agreements have had clear deadlines for such a transfer, but external factors have in some cases justified a postponement. However, a genuine will to effectuate the agreement on this point seems also to have been missing.

The consequences and the process of such a hand-over process have so far not been discussed. The hand-over will create serious problems for Maidema if focus on combating blindness has to give way to other national priorities. The challenge to provide two ophthalmologists – one for surgery and for training – is a major one, and this resource may still have to come from foreign sources. In spite of this the review team believes that the hand-over should become a reality. The main challenge is for both parties to prove that they are determined to stick to the plans – and act accordingly.

6 Maidema Centre

Maidema Municipality – where the centre is located - covers the area of Maidema centre plus 6 surrounding villages. It is located in the South Zone; about 3 hours drive from Asmara and has about 10.000 inhabitants. Most families get their income from trade or farming, while a male member being drafted for military services supports several families.

A council of 21 members governs the municipality with several sub-committees and a mayor appointed by the government. The area has no electricity, little water (although the name indicates clean water), insufficient school facilities (although it has both an elementary and junior school), and a low-functioning local clinic. The council is working on a master plan for the area, but has little money to implement it. The annual budget of the council is around 1 mill Nakfa (US$ 70.000). The Mayor stated very clearly in the meeting the review team had with him that the clinic had made Maidema known in most of Eritrea – and he was proud of that. He believes the clinic has also been a factor for the growing trade in Maidema. If the clinic were to relocate, this would be a serious loss to Maidema Municipality.

MoH and the Governor's office of South Zone were active in selecting Maidema as the location of the clinic. The major reasons for this location was that it should serve South Zone plus some districts in Gash-Barka Zone, and the plan was also to attract patients from neighbouring Ethiopian areas.

6.1 Organisational structures.

The organisation plan at Maidema is in reality unclear and flat. One reason for this is that as much money as possible should be used for treatment, and bureaucracy is to be avoided. Although efforts have been made to improve the management structure, few results are visible. Comments by the staff during the meetings with them indicated clearly that the organisation structure needs to be strengthened. A clear and comprehensive staffing plan must be worked out as soon as the recommendations of the review team have been discussed in all governing fora.

Until 2001 there was no "board"-function at Maidema – and at least in periods - in reality no decision making management group at the clinic. The contact between Maidema and the NABP offices in Nairobi and Oslo has been

frequent, and the reports and meetings with the staff has in reality been the governing body for Maidema.

6.1.1 The Management Committee

The initiative to establish a Management Committee (also referred to as the "Technical Committee") was taken in a meeting between NABP and MoH in October 2001. The committee consists of members appointed by MoH, with representation from Maidema. NABP should be represented through Maidema. It is unclear whether ERNAB is represented on the committee.[18]

The Management Committee has only met twice since 2001. The report from the first meeting in February 2002 gives a comprehensive summary of the views and recommendations the Committee made. It covered recommendations with regard to clinical standards and services, training aids and facilities for the students, control routines of drugs, production of medicines etc.

The creation of a Management Committee must be looked upon as a valuable body for both Maidema and NABP. However, the work of the Committee has not been as active as expected. It is in our opinion a necessary forum to strengthen the relations between MoH, the South Zone Health administration, and Maidema.

6.1.2 The administration

The administrative staff at the clinic has always been kept at a minimum. The review team does not want to change the priorities that so far have been followed with regard to funding: As much as possible to operational activities, and as little as possible for administrative work. However, today Maidema suffers severely from the shortage of a second doctor, the absence of a matron and a local administrator. To fill the last two positions needs some funds, but in our view it will release the doctor of non-clinical function, and improve services given to patients before, during and after treatment.

The following staff is presently employed by the project directly – or by MoH for secondment to Maidema:

[18] Ref MoH's letter of 2nd April 2002 to NABP/Nairobi with MC's report enclosed

Table 5. Professional and administrative staff 2004.

Profession	Salary paid by:	
	By NABP	By MoH
Ophthalmic doctor	1	
Ophthalmic Officer		1
Health Assistants	5	
Kitchen/cook	2	
Cleaners	2	
Driver	1	
Guards	2	
Admin at Maidema	1	
Admin Asmara	1	
Total	15	1

If Maidema shall continue to be a specialist eye hospital, a training centre for ophthalmic assistants, and a centre for outreach activities for blindness prevention, then the medical and administrative staff needs to be strengthened.

The hospital needs an administration officer in Maidema to act as the daily co-ordinator of all administrative work. Some of the work that the Asmara office carries out today should be performed in Maidema. The function of the Asmara office is to act as a *liaison office* between Maidema and NABP in Oslo/and the regional office in Nairobi; and the contact point for providers of medicines, intraocular lenses, and other equipment in Asmara and abroad.

Maidema also needs a nurse, *a matron*, who can lead the daily clinical support work, plan the routines in co-operation with the doctor, keep an eye on the stores of the products which are needed every day, and look after the maintenance of equipment, sterilisation procedures and so on. The first report of the Management Committee's visit to Maidema identifies several weaknesses that a matron would be responsible to correct.

Clear job descriptions are needed in order to avoid overlapping, unclear border areas and double work by the matron and the administrator.

6.2 The Asmara office

The remoteness of Maidema makes it quite necessary to have an office in Asmara. In relation to the expenses involved, the cost of it is low, and as long as the clinic is located in Maidema, and as long as communication sys-

tems are not developed, the Asmara office is necessary, and the officer there has throughout the project period done an important and very good job.

It is not possible to quantify the added value of the Asmara office. The actual expenses for the Asmara office is approx. US$ 7.000, compared to the total budget of approx. US$ 225.000 (2003 figures), i.e. about 3% of that budget. Bank services, relations to immigration and government offices, purchasing etc. are all activities that need to be carried out whether the person is stationed in Maidema or in Asmara. The real added cost of the Asmara office is therefore closer to US$ 2.500 per year, and the efficiency savings outweighs in or assessment – and for the time being - the costs with a clear margin.

The major problem is to define the role of the office, and the responsibilities of the person heading the Asmara office. Communication with Maidema is complicated. The radio connection between Maidema and the Asmara office functions well, but has its weaknesses. Frequent visits to and from Maidema is the only reliable form of discussing more than routine matters.

We do not see any alternatives to the Asmara office as long as the clinic is located at Maidema. If the proposal to move the clinic to Mendefera is implemented, the functions of the Asmara office may be reduced – or supplemented – in line with the needs of the general hospital there.

6.3 Staffing and professional resources

Maidema has benefited greatly from professionals coming from NABP's network of eye-clinics. Relatively short stays have probably been a negative factor, as other employees have had to relate to a number of persons over a short period of time. The following schedule shows briefly how the coverage by doctors has been:

Table 6: Overview of doctors that have served at Maidema 1995 - 2003

Name of doctor	1995	1996	1997	1998	1999
Dr. Kolstad	→	→			
Dr. Bista		—	—		
Dr. Bijracharya			—		
Dr. Dhakal			—	—	
Dr. Hem Chandra			—		
Dr. Opsahl				—	
Dr. Vikram Khosla					—

Table 6 continued
Doctors 2000 –2004

Name of doctor	2000	2001	2002	2003	2004
Dr. Vikram Khosla	——	——			
Dr. Rekhi			——	——	——
Dr. Sennait			——		

After a rather turbulent period up to 2000, the last 6 years have had two doctors – (with the exception of a short period for a doctor to do the training in mid-2002.) Both Dr. Vikram (after Dr. Sennait left) and Dr. Rehki have had the responsibility for both the training of the Ophthalmic Assistants, and the surgery/ward activities. The administration at the hospital has also been part of their overall responsibility. To place surgery, training and administrative responsibilities in one doctor alone is too much. This is probably one of the major reasons for the lower operational activity in recent years.

6.4 Physical infrastructure at Maidema

The buildings of the hospital are arranged in a very practical way: The 3 main buildings, for OPD (out patient dept.) OT (operation theatre – surgical unit) and Ward (admitted patients) are situated around a little garden. This is aesthetically very satisfying, and makes communication between the workers in the different units easy. (A European doctor who is used to big, complicated hospitals may easily find the arrangement in Maidema enviable. So did Roald Opsahl in 1998).

The housing for the doctor, and for other employees with homes in other part of Eritrea, is simple but practically arranged and makes social contact easy. Students quarters are also practical and sufficient.

The theatre has been upgraded with tiles, painting. Work started in early 2003 to construct the new building for classrooms, library, stores etc. The total cost was estimated to approx. US$ 65.000 (840.000 Nakfa). It stands out as a nice building, but is not yet fully utilised. The 2003 accounts show that NOK 740.000 was invested in new buildings. The decision to invest that much was questioned brought up with the review team. The rationale for the investment was when the decision was made well documented, and the review team has not found any reason to go further into this matter.

6.5 Medicine producing unit

The conditions in this remote area are such that people cannot get eye drops and medicines as easy as those living in cities and central areas do. Because of the complicated logistics in relation to Asmara and drug providers abroad, this may at times create problems in the daily work in the hospital. The availability/production in the hospital of antibiotic eye drops as well as corticosteroids, pupil dilating and antiglaucomatous drops must be given high priority. Production of such medicines may be done from imported dry substances, and provides a cheap and efficient treatment to the patients.

Eye-drop production was included in the agreement with MoH as early as in 1995. Delays have been caused both by the conflicts Eritrea has had with Ethiopia, but also for reasons that have been more difficult to understand. The reports from 1996 show that detailed discussions were being held with the MoH pharmacy department, but the department did not allow production to be started for reasons that the Maidema staff interpreted as "unreasonable delays".

The situation in late March 2004 is that the ingredients to produce the most important eye-drops have recently been received from NABP's eye-clinic in Mozambique. The production facilities at Maidema have now been approved by MoH, but no person has been allocated to start the production.

The difficult supply chain of medicines has so far not influenced the daily operations at the clinic to any serious degree. In some cases stocks have lasted longer than expiry dates, and may have been destroyed.

It is difficult to use economic calculations in discussions of how medical security should be designed, but no economic benefit of producing eye-drops at Maidema has been worked out so far. The experiences from among other places in Nepal show that production of eye drops is also economically advantageous for the clinic. However, if authorities demand such production to be supervised by special pharacologists, the result may be different. The review team recommends that such an analysis is necessary in order to be confident about the financial implications of starting an eye-drop production, but that previous experience strongly indicates that it is also a sound project.

6.6 Laboratory services

There are scarce facilities for testing of the patient's physical condition and possible systemic diseases. (Already in 1998 Dr. Opsahl commented on this, as simple urine and blood analysis should be at hand). For the responsible

doctor this is not satisfying, especially when it comes to patients admitted for major surgery. It is unacceptable that common systemic diseases cannot be checked before operations are done.

The most simple blood testing (sedimentation rate, haemoglobin concentration, blood urea), urine analysis (glucose and proteins), and bacteriological examination of pus and eye secretion should be available.

6.7 The clinic

The need for another doctor is acute. Since mid-2002 there has only been one doctor at the hospital. The OPD is mainly run by the ophthalmic assistant who does consultant work and minor surgery, but the doctor must also be available in this work. He has the main responsibility for intraocular surgery done in the OT, and he also makes rounds to the in-patient wards every day.

In addition the 7 students expect lectures to be given every day. Obviously Maidema needs 2 doctors, one mainly doing clinical work, and one concentrating on teaching the students and training them in practical work. There is an alternative in using short-time lecturers for the training, but most of these will have to come from abroad.

There is also a shortage of other educated personnel. At present 2 ophthalmic assistants are working in the OPD. One of them is engaged by the MoH and does not work full time. With the present and planned activity level, two full-time OAs are needed in order to handle all the patients asking for service, in addition to letting the students participate in the practical interviewing and examination of patients.

Two *nurses* should be available in the wards. Their work instruction should include specification about duty after working hours and during nights. As it is now, the doctor is the only educated person at the hospital after 4 p.m. For the doctor this situation is unsatisfactory. Duty in the wards and treatment of OPD- emergency cases after regular working time should be the responsibility of all the ophthalmic assistants and nurses at the hospital, both in OPD, OT, and in the wards. Administering this would be a typical task for the *matron.*

A trained technician (not necessarily educated as a nurse) should have the responsibility of washing and sterilising surgical equipment.

6.8 The ward

The ward is not very large, but has beds for both male and female patients.

One challenge for the clinic is that patients seem to come from areas further away than in the past. In cases where operation has to be postponed due to for instance infections it is problematic both for the clinic and for the patient if he is sent back to his home community. There is no statistical survey of this problem, but keeping patients until they are fit for operation may increase the pressure on ward capacity.

6.9 Training activities

The curriculum for training of Ophthalmic Assistants was approved by MoH late 1998 after considerable delays in the approval process in MoH and Asmara Hospital.

Shortly after the approval, Dr. Vikram (an Indian ophthalmologist) was employed as the trainer and arrived early 1999. The first group of seven OAs was recruited in 1999 and finished their training in 2001. The seemingly long training period was caused by the 2000-war when the clinic was abandoned for a fairly long period – and severely looted.

The curriculum is very extensive and is based on a similar course operated in Malawi by Sight Savers. Slight modifications are made for Eritrea. We have studied the students' basic curriculum, the "Ophthalmic nurse program", issued by the MoH in December 1998. The structure of this program is based on 3 study terms, each of 6 months duration.

The subjects of the first term are basic: Anatomy, physiology, pathology and microbiology of the eye, ocular pharmaco-therapeutics and ocular manifestations of systemic disease. There seems to be adequate co-operation with the University in Asmara as lectures in some of these topics have been given there.

The subjects of the second term are: Principles and procedure of eye nursing and ophthalmic instrumentation. Education and communication. Counselling and instructional methods.

Third semester: Epidemiology, demography and statistics. Health system research. Preventive ophthalmology. Management of eye-care programs.

In all terms there are lectures in clinical ophthalmology. The final part of the education given at Maidema training centre comprises a three months internship in practical work at the hospital.

The details of the curriculum are:

Table 7: Curriculum for OA training at Maidema

First semester

Course title	Training hours	
	Theory	Practical
Anatomy and physiology of the eye	32	
Basic pathology and basic microbiology	48	
Information, counselling and instruction	64	96
Ocular pharmaco-therapeutics	32	
Ophthalmic terminology	16	
Ophthalmic instrumentation	16	96
Ocular manifestation of systemic diseases	32	96
Total	240	288

Second semester

Course title	Training hours	
	Theory	Practical
Ophthalmology	144	432
Principles and procedures of eye nursing	16	48
Management of an eye care programme	32	96
Total	192	576

Third semester

Course title	Training hours	
	Theory	Practical
Epidemiology	48	96
Health system research	32	96
Counselling and instructional methods	32	96
Preventive ophthalmology	16	
Internship		480
Total	128	760

The curriculum demands a considerable volume of theoretical knowledge. The topics listed under genetic disorders may be used as an example: The students are expected to know about very rare genetically transmitted diseases like Ehlers-Danlos syndrome, Klinefelter`s and Turner`s syndromes. The curriculum also includes many examples of detailed ophthalmologic knowledge that the eye health worker in first line service probably never will

need. Hopefully the teachers in the hospital help the students differentiate between important and less important knowledge.

Some of the individual courses have lately been moved from one semester to another, but the total curriculum is unchanged. The impression is that the curriculum is comprehensive, and gives the students a very strong education in ophthalmic care.

The team met with both the first-group and present students. The impression differed considerably, and a major reason for that is the lack of resources for lecturing. This has also spilled over to influence negatively the ”chemistry” between the lecturer (the doctor) and the students. Reference is made to our comments under para 10: ”Challenges and Recommendations” to overcome the present problems.

6.10 Outreach activities for prevention of blindness

Very little is done in this field although the initial plans pointed to this as a necessary objective for the project. The activity, which includes visits to schools, health centres, official meetings etc., is not only for prevention. It can also help screen patients and make practical programs for treatment at Maidema.

As our recommendation shows, this field must be attended to with more resources than in the past.

7 Assessment of activities and achievements

Although the number of patients has been lower in 2003 (and also so far in 2004) than in previous years, the clinic seems to be active, and with a diversified programme. The following chapters are dealing with the project management structure and the efficiency of the hospital.

The relation between available resources and activity output, however, is a problematic one. The Maidema had in 2003 more than 5000 OPD patients, and performed a total of nearly 600 patients for major and minor eye problems. Resource input is basically one ophthalmologist that split his time between surgery, with training of students, and administering the hospital. Available financial resources were approx. US$ 100.000 if we adjust the financial records of 2003 for expenses for building, furniture etc.

One way of assessing the efficiency of Maidema is to compare it with other similar eye hospitals. Differences in structure, activities, resources etc. make such a comparison difficult. A comparison with previous years is also difficult as war; absence of the doctor etc. will also give dubious results.

To what extent the following figures can lead to meaningful conclusions is therefore highly doubtful, and NABP should put far more efforts into establishing a network between its eye-health units, and establish professional relations to other similar centres.

Table 8: Brief comparison of activities at Maidema and in Mozambique.

	Maidema			Mozambique
	2001	2002	2003	2001
Number of OPD patients	8815	7310	5193	11447
Major operations	1561	553	342	729
Minor operations	962	447	237	597
Total budget ex. investments (1000 NOK)	1226	1184	1023	1232

The 2001-figures show that Maidema performs more operations, but has fewer OPD-visits than Mozambique for the same amount of money. The main observation, however, is the fact that production at Maidema shows a considerable reduction over the last three years.

Comparisons between Maidema and Mozambique are uncertain. The 2001 figures give only a rough picture, and the difference between the two clinics may be larger than the figures indicate. However, more in-depth analysis would give both NABP and the individual clinics more information of how their activities compare with other clinics in the same group.

7.1 Monitoring, assessments and project reporting

Already in 1994 plans were made to start a baseline study, and to follow it up with a second study in 1998. An evaluation of Maidema was also planned for after the first two years of operation. None of this was implemented.

Financial reports from Maidema pass several check-points on the way to NABP. In this process, the "management" at Maidema plays a periphery role. Reports - including account's documents - are prepared by the liaison officer in Asmara; they are forwarded to the NABP regional office in Nairobi for control, from there to NABP Oslo. Oslo keeps all original accounting vouchers, and therefore acts as the formal bookkeeping for Maidema. Accounts are also audited by the NABP/Oslo auditor.

NABP/Oslo seem to have a streamlined system for this, and does the bookkeeping for all its projects. While this may give a better control of how funds are spent, it may remove the feeling of transparency and responsibility from the active unit – in this case the management of Maidema. Financial considerations may suffer at the source of spending, and a "feeling" of "less-than-necessary-transparency" is to some extent present in Maidema.

Moving reporting and accounting responsibility to the clinic does not mean reducing the reporting structure or frequency between the centre at Maidema and NABP.

As our recommendation show we suggest Maidema be strengthened with administrative competence so that the responsibility for reports, accounting etc. is anchored directly in the clinic.

7.1 Activity analysis 1992 – 2003

There is no reliable survey of how patients have been made aware of the facilities of Maidema. The impression is that most patients are self-referred, but information may have been forwarded by local health centres, in local meetings etc.

The activity at the clinic has at various times during 1996-2003 suffered from lack of ophthalmic surgeons, of war activities and of other delays. The following table shows the volume of annual activities. Figures cannot be compared directly from year to year as several years had months without full time activities.

Table 9: Patients treated at Maidema 1996 - 2003

Year	**New OPD**	**Revisits**	**Total OPD**	**IO surgery** a)	**EO surgery** b)	**Total surgery**
1996*	5429	1131	6560	927	651	1578
1997	13029	6552	19581	2209	1505	3714
1998*	3784	2297	6081	585	513	1098
1999	8892	3645	12537	2525	1233	3758
2000**	4494	1714	6209	1268	629	1897
2001***	6034	2781	8815	1561	962	2523
2002****	5413	1897	7310	553	447	1000
2003	3584	1609	5193	342	237	579
Total	**50659**	**21626**	**72285**	**9970**	**6177**	**16147**

a) IO (Intraocular) operations – originally reported as "Major operations such as glaucoma

b) EO (Extraocular) operations - up to 1999 reported as "Minor operations" (eyelid operations etc.)

* The clinic operated only for 3-4 months

*The clinic was without operations in 4-5 months, and a very low activity in OPD during the same period.

**The whole clinic was closed for 5 months. Surgery had a very low activity for another two months.

***The clinic was operational for only 9-10 months

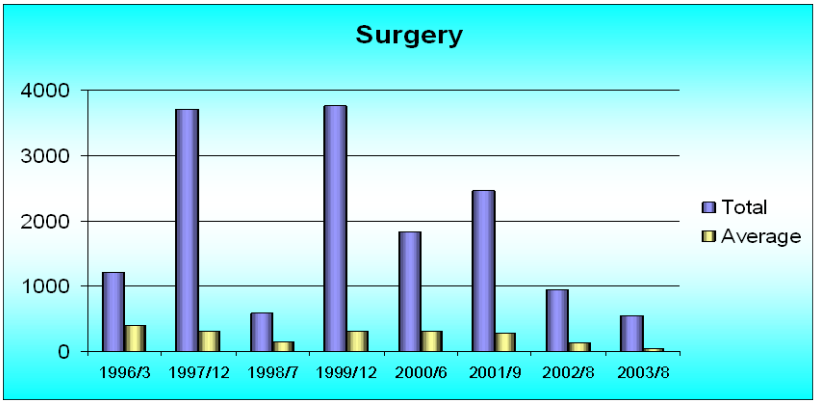
**** Surgery was closed for 3-4 months

During the 7 ½ year period from 1996 to 2003, Maidema performed about 10.000 major operations. Adjusting for periods of war, no doctor and extreme low activity, the average is between 150 – 200 major (I.O.) surgeries per month. The number of I.O. operations has slowed down in recent years, and is for 2002/2003 less than 65 per month.

The following graphs give some indication of the activity and the development over time. We underline very strongly that there are reasons for low activity that the graph does not properly explain. The training load can probably explain some of the recent fall in surgical activity, but even the number of OPD-patients is falling. An immediate reaction to the figures is that the backlog of blind is reducing, or that the capacity to operate cataract in other

regions reduces the patient flow to Maidema. This is a dubious and unconfirmed conclusion, and the graph must therefore be used with some caution.

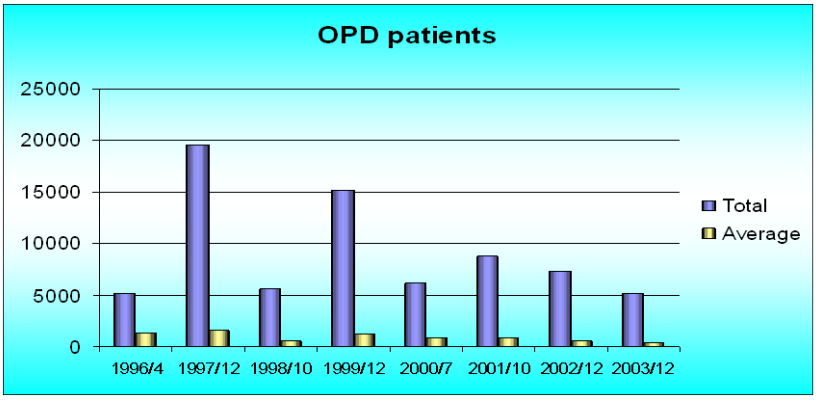
Fig. 3: Total minor and major operations 1996 – 2003



The figure behind the year (1996/3) indicates for instance that the surgery was only in full operation in three months.

Based on the activities up to 2001, there seems to be a "normal capacity" for all types of operations of around 300 –350 patients per month. In comparison, Asmara Hospital carries out 3000 cataract operations each year according to Dr. Desbele (this is about 50% of blindness operations in Eritrea). The OPD-activity has been as follows:

Fig. 4: Total number of OPD-patients 1996 – 2003



The OPD activity has in general been kept running for longer periods than the surgery. The activity has fallen rather dramatically since 2000, and was

for 2003 just over 5000 patients, while 1997 had a record of nearly 20.000 patients during the 12 months periods.

7.2 Project expenditures 2000 - 2003

There is no doubt that the activities at the clinic are carried out at a very reasonable cost-level. The expense report for the period 2000 – 2003 shows the following figures:

Table 10: Operating expenses at Maidema 2000 - 2003

All figures in 1000 NOK

Type of expense	2000	2001	2002	2003
Personnel Expenses	920	874	681	466
Expatriate salaries	504	416	324	197
Project office support	186	174	74	13
Other social costs	40	87	48	-25
Travel and subsistence	34	33	37	75
Salaries national staff	155	164	198	206
Administrative expenses	80	291	385	914
Buildings	22	0	180	745
Vehicles	0	222	0	0
Furniture and equipment	18	32	166	127
Office expenses	25	26	21	27
Telecom and post	14	11	19	15
Operating expenses	457	315	463	515
Insurance			39	13
Fuel/maintenance vehicles	34	48	54	43
Maintenance buildings	25	10	13	25
Teaching aid	1	0	0	16
Food for staff and students	39	53	14	67
Medicines and medical eq.	339	118	290	285
Travelling expenses etc.	18	13	54	60
Other expenses		72	0	5
Total net expenses	1457	1483	1529	1566

The project shows no income from operations. The Nakfa 5,- which is collected from the patients are transferred directly to the government as originally agreed. The statement in the agreement between MoH and NABP for 2002/2003 that Maidema shall retain this money is still not enforced.

Budgeted/projected expenses for 2004 and 2005 are NOK 1.45 and 1.4 mill respectively.

All accounting is done in NABP's office in Oslo. The process seems to be a long and cumbersome one, and reduces in reality the possibility to establish a transparent governance structure for Maidema. The advantages are also clear: it reduces to some extent the possibilities of financial mismanagement in a still unstable country. However, as our recommendation shows, we support (the principle) of placing administrative, operational and financial responsibilities as close to the activity centres as possible. Whether the financial responsibility should be vested with the proposed administrative officer in Maidema, or with the liaison office in Asmara is in our opinion a subsidiary question, as the general recommendation is to transfer financial responsibility together with the operational responsibility to MoH. NABP must ensure that this process is carried out with the same quality checks as for the transfer of ownership.

7.3 Training

It has been a major objective of the project to train ophthalmic assistants for service in regional hospitals/clinics. Although military conflicts, lack of personnel or shortage of funds may have delayed implementation, the progress and volume of training has been slow and low. Only 7 OAs have been produced, with another 7 to finish studies in the fall of 2004.

The general shortage of health personnel is clearly visible in Eritrea, and potential candidates for OA-training are in short supply. The needs, however, will not be covered for a long time. MoH and Maidema must co-operate closely to make the training period as efficient as possible, and ensure that already trained OAs are given sufficient opportunities to continuous training also after graduating from Maidema. The following impressions from talks with past and present students indicate these needs very clearly.

7.3.1 First group of students 1999 – 2001

The first group of seven students was very satisfied with the curriculum and training activities. They started training in 1999 and had a break of a few months because of the war in 2000. The examination took place in December 2001, and of the 7, one OA was stationed in Maidema. The other students were placed in regional and district hospitals all over Eritrea.

Before our visit to Maidema the review team met two ophthalmic assistants from the first group of students. They were now working in Barentu and Keren respectively. They both said they were able to give eye health care and meet most common eye problems, including surgical treatment of cata-

ract (ECCE with IOL implantation) and glaucoma (trabeculectomia) in relatively uncomplicated cases. They also told that they referred cases to the Eye department in Asmara when they were uncertain about diagnosis or therapy.

Their present concern was how to achieve some form of post-education. They felt isolated, and expressed the hope that in the future they would be able to participate in centrally arranged seminars or courses which could be undertaken either by Maidema, the Eye department in Asmara, or the College of Health Sciences at the University of Asmara.

7.3.2 Second group of students 2003 – 2004

The seven students (one female, six males) we met during our visit in Maidema started their training in August 2003. They expressed their gratitude to NABP and Norway for the educational opportunity they had received. However, the present learning possibilities were described very negatively, with only one doctor to give lectures in addition to his other obligations, and too few of the other staff who were able to give practical instructions. As to textbooks the situation was better; each student had his/her own textbook of ophthalmology (Kanski's standard textbook, widely used also by medical students in Norway) and as a group they had access to larger reference materials.

The students were concerned about the location of the training centre in Maidema. Their social situation is quite isolated: During the working days their life is "almost like that in a monastery"[19], and the conditions for learning were "not optimal". They felt that social life in the village outside the hospital was difficult for young, educated and most often urban youth. During their free time (especially weekends) they wanted to go to Asmara or Mendefera, or to their homes (most of them live in Asmara.) However, public transportation is virtually non-existent, and telecommunication is still missing.

The second group were worried (even upset) at the lack of teaching time, lack of handouts, changes in lecturing schedule (the only doctor at the clinic had to go back to India for a longer period), and of the remoteness of the place. It is obvious that one doctor cannot undertake surgery, administration and training, and this has spilled over to the "chemistry" between the students and the doctor. The doctor that was originally hired by NABP to do the

[19] Quotes from the meeting with the 2nd batch of students

training in Maidema did not have the sufficient capabilities and ”gave up the job”[20].

7.4 Sustainability

It is a paradox to discuss sustainability for a specialised hospital located in Maidema.

Maidema has managed in a commendable way to continue its operations in spite of the security situation. It depends, however, today fully on the doctor and on his relations and influence on the organisation as a whole. Without a medical doctor, the fate of the institution is doubtful.

Financially, few hospitals in the world are sustainable. Being located in a poor and rural area adds to this burden. In spite of low operating costs, no patient in the area would be able to pay the actual cost of treatment, but could quite certainly be able to increase the fee. Support from the government or from external donors will, however, for the foreseeable future be necessary.

NABP has since 1993 as an “owner” of the hospital, provided all funds for the clinic. At the moment there is no external income to the project from patients or other organisations. The patient fee of 5 Nakfa is automatically transferred to MoH. Whether the signals from MoH to increase patients’ fees will allow hospitals to retain part of this for own purposes is still unclear, but in the foreseeable future there is no indication that hospitals may rely on any activity based income.

NABP has also no pool of ophthalmologists to rely on. Maidema has an organisation has to rely on external resources for both types of resources, and has not reached sustainability neither financially, nor professionally. However, when it comes to capacity building of ophthalmic assistants, Maidema is a key institution, and is able to replace and increase this profession as and when it is needed.

NABP should study the possibility of staffing the clinic with OAs and refer cases that they are not qualified to treat either to Mendefera Hospital or Asmara Hospital. This would reduce costs considerably at Maidema, but will increase the burden at central levels. Such a move will also affect Maidema’s

[20] Letter from NABP to Dr. Ghermai Tesfassellasie, International Co-operation Office at MoH, dated 26th February 2003.

function as a training centre. This will have to be discussed and decided as part of the hand-over process.

7.5 Are there alternatives to the Maidema location?

The selection of Maidema as the location for the clinic came after lengthy considerations by MoH. Reasons for selecting it is given in para 3.3 and 6, but the question today is whether those arguments are still valid.

Maidema will in the opinion of the review team for the foreseeable future remain a sub-regional trading place. In a district development context, the location of Maidema Centre is important. If the location is considered from a professional – or even client – point of view, other locations may today be more favourable. The main picture is that blindness prevalence may be on the decline in Eritrea; that professional staff expresses quite strong views of being remote from other professional arenas; and that the OA-students feel isolated and miss the facilities that other towns/centres have. On the one hand they compare Maidema with facilities that are offered students in Asmara or in the larger regional cities. On the other hand it is important that they are trained in a regional setting where most of them will have their future work place, and from which most of their patients will come.

Alternatives to the present location are few. However, if a location were to be selected for an eye-clinic today, Mendefera would probably have been a first choice. However, it is a challenge for the regional health authorities, the national health planners, and the national and regional planning authorities to decide the future location under the assumption that it should be part of the national health plan, and that it ought to become professionally sustainable irrespective of its location. It is the impression of the review team that with the opening of the new hospital in Mendefera, both the professional staff as well as the students might benefit from moving the clinic/training facilities to Mendefera. The problems this creates for patients are less than the total gain for patients and the clinic.

There are only two alternatives for localisation: a) Continue to be located in the present premises and b) move to the new hospital in Mendefera.

There are both negative and positive arguments for moving the clinic to Mendefera. The negative ones are all related to the loss of work places and activity in Maidema, and the consequences that will have for the local society. The positive effects of such a move are related to the stronger professional environment, and the improved social ”welfare” for the students.

The review team has not gone further into this problem as it lies completely in the hands of the Eritrean health authorities as part of the hand-over process.

7.6 The hand-over process

The objective to hand over the clinic to MoH has been part of all agreements between MoH and NABP since 1993.

Plans and targets for handing over donor-operated projects to national ownership are in general essential elements of all development activities. In addition to this, the conditions in Eritrea present one more challenge for a donor; how to manage project support to countries in conflicts. NABP's 2002-report to Norad describes this in this way: *"NABP should seriously consider its support to countries that exist under warlike conditions. Experience shows that time, effort, and economical resources are used with very little results in reaching its goal and objectives of the Project"*[21]. And: the report continues to underline that because of the mobilisation of skilled workforce to the frontline, it becomes impossible to recruit qualified people.

According to NABP's 2002 report, the possibilities of success for the project lies in the full mutual co-operation and participation with the ministry involved. Whether that means the South Zone or the central government is not mentioned in the report.

Our recommendation for the hand-over process is given in para 10. The border conflicts between Eritrea and Ethiopia are still unsettled, but the review team has a clear impression that the government should be both able and capable to take the operational and administrative responsibility for Maidema. The financial arrangements between NABP and the government are somewhat different, but a realistic period of financial phase-out by NABP is a viable solution.

[21] NABP's report to NORAD for project nr. 1072 (p.30)

8. Professional and thematic collaboration

Eritrean programmes for eradication of blindness are so far weak on both human resources and infrastructure. However, progress is being made, and professional relations are being developed. It is important that Maidema Clinic strengthens its activities to establish both professional relations to national and foreign ophthalmic centres, and improves the relation to and contact with national associations and international bi- and multilateral organisations working to combat blindness in Eritrea.

8.1 Relations with Eritrean organisations of and for the blind

NABP was instrumental in establishing the Eritrean National Association of the Blind (ERNAB) in 19... The organisation has about 2.500 paying members, and it is expected that the membership "*will increase alongside the credibility the association is building up*"[22]. The annual membership fee is Nakfa 5,- (US$ 0,40). The Development Plan for 2004-2008 is expansive both with regard to capacity building at ERNAB and human resource development among its members.

NABP as an organisation is active in both preventive and curative eye-health activities. There are few reasons why ERNAB should not be able to develop a similar policy – although that discussion lies outside the TOR for this study. One of ERNAB's objectives is to focus on preventive measures to combat blindness, improve access to primary health care for blind, and facilitate the entrance of blind people to participate in social and political positions. This is an activity that also Maidema will have to focus more on in the future.

Being on a management council for an eye-health clinic could strengthen ERNAB both as an organisation and as a forum for competence on blindness.

The question of engaging ERNAB as an active participant in the project has been raised – probably more than once. However, the 1998 report to Norad says: "*It is not envisaged that the target group should participate directly in the project, even though they have benefited from it. But there has been a*

[22] Operational Plan of ERNAB 2003-2008. January 2004.

close co-operation between NABP representative in Asmara and the ERNAB"[23]. We think the time has come to rethink this position and invite ERNAB actively in the future plans for the clinic.

8.2 Contact with external professional centres

The staff at Maidema would benefit greatly from meeting with staff on equal levels in other eye hospitals. The network NABP has established should be developed actively for that purpose. An example of the value of such contact is an interesting report[24] submitted by an African ophthalmologist from his visit (study) in 2004 to the Geta Hospital in Nepal (originally established by Dr. Kolstad, and a forerunner for Maidema). The effects of such contact – if information is properly shared with colleagues - are of value both to the institution and to the individuals that participate in them.

It is important that network participants are technologically and professionally by and large on the same level. We have not assessed to what extent the NABP can be a co-ordinator for running such a network, but NABP could take the initiative to have it established. For the Maidema staff, being attached to such a network would be extremely valuable.

[23] 1998 report to Norad

[24] Report from the training in suturless cataract surgery at Geta Eye Hospital – Nepal, March 2003. Forwarded by Dr. Kolstad to the review team.

9 Summary of findings

There is no doubt that Maidema has been a major centre for reduction of blindness in Eritrea. The present report has documented the review team's impressions of the development of Maidema in a wide range of activities. The following is a summaric list of findings during the review work:

A. The setting

- Maidema has operated under very difficult conditions with open conflicts in the area between Eritrea and Ethiopia (in 1998 and 2000), and with severe damages to and looting of the premises. The way the management and staff have responded to the war conflicts is an example for other clinics.
- Maidema's location represents a challenge for communication with both central and international contact points. The location is also problematic as it is without any social or professional environment for people coming from other areas than Maidema.

B. Facilities

- The physical structures at the clinic are very satisfactory. A total of approx. NOK 3.4 mill has been invested in new buildings, repairing buildings and replacing looted equipment due to war damages, etc.
- The clinic area is well maintained with sufficient room for both students and patients.
- Maidema is completely dependent on its own means of communication. The radio connection between the clinic and the office in Asmara is a necessary lifeline, but frequent visits by the officer at the Asmara office are necessary.

C. Activities

- Since its start of operation in 1996, Maidema has treated more than 50.000 OPD patients and performed more than 16.000 major and minor operations. Although there is no study available to confirm it, blindness prevalence seems to be on the decline – at least in areas from where Maidema has drawn its clients.
- The number of both OPD patients and minor/major surgery at the clinic is declining.

- There are too many activities for the doctor to perform. Some activities will suffer. Using more OAs may give the doctor more time for training.
- Starting production of medicines has been delayed for (for the staff) "not-understandable" reasons.
- Laboratory services are non-existent in spite of recommendations both by the doctor and the Management Committee.
- The training course for ophthalmic assistants is well structured and has comprehensive and professional contents. The "chemistry" between the doctor and the present group of students has created unnecessary frictions.
- Prevention activities (outreach activities) have not yet started.

C. Efficiency

- All activities have been carried out under a "low cost"- policy. The quality of services to the patients does not seem to have suffered from this policy.
- The average number of IO-surgeries has been between 150-200 per month. The volume of patients treated at OPD and in the clinic has gone down rather strongly in 2002 and 2003, and has for that period been about 65.
- The 72.000 OPD-patients and 16.000 operations have been carried out at a total running cost (1996-2003) of approx. NOK 6.9 mill. This figure also includes training expenses, and any attempt to calculate an average client-cost will therefore be misleading. A rough comparison with the Mozambique clinic indicates that Maidema performs more operations but has less OPD-visits for the same amount of money as Mozambique.

D. Administration and staff

- The officer at the Asmara office holds a key position with regard to smooth running at Maidema. However, his responsibilities are unclear.
- The staff at the clinic is too small for the size and multitude of the activity. The organisational structure is unclear and produces too many unnecessary minor conflicts.
- The doctor has too many obligations, which leads to frustration among both personnel and students.
- The Management Committee has not been as active as intended.
- The clinic is suffering from the absence of a matron

- The clinic is also suffering from a stronger administrative clerk at the clinic.

E. Communication between Maidema, MoH and NABP
   - Communication between NABP/Maidema and the Eritrean authorities were at the beginning difficult. This has changed and the communication today is fairly uncomplicated.
   - The line of communication between Maidema and NABP is open but complicated. It passes several checkpoints on the way via Asmara and Nairobi before it comes to Oslo.
   - The liaison office in Asmara is necessary and functions well.
   - Agreements between MoH and NABP seem to be more for formalities than as a practical guide of ways and means to reach the goals. Clauses regarding hand-over, medicine production, outreach activities etc., have not been enforced.

F. The hand-over process and the way forward
   - The hand-over process seems to have been handled without enthusiasm by either part until around 2002. The agreement signed by both MoH and NABP has specific dates for a hand-over process, but this time frame has not been kept.
   - NABP has with its letters to MoH of 27th June 2003 and 7th January 2004 again urged MoH to come up with a time frame for take-over. No exact commitment by MoH seems to have been made.
   - Maidema must increase its activities of training ophthalmic assistants.
   - Maidema must increase its outreach activities to **prevent** blindness.
   - Maidema is weak with regard to having a professional environment for its staff. This must be discussed as part of the hand-over process.

10 Challenges and recommendations

The future ownership model is of importance for the following recommendations.

The questions of sustainability and national hand-over are also major topics in the discussion of the future of Maidema Clinic. It is therefore necessary to deal with that challenge first. Depending on the outcome of that challenge, other recommendations may be of less value as government plans, rules and regulations may conflict with our recommendations. If there is a national hand-over, Maidema's activities and development will be part of the national and regional health plans. If there is no hand-over, the future is in the hands of NABP.

As and when MoH has taken over the full ownership, it is the MoH that are responsible for ways and means of its activities, directions and strategies for development. The following recommendations are made for the transition period, which is proposed to be the next three years.

10.1 Ownership and a potential hand-over process

The 2002-2003 agreement between NABP and MoH spells out the details of a first phase of a hand-over process. Previous experience shows that such plans have been difficult to enforce. A major consideration is to assess the different alternatives for a new ownership structure for Maidema. These include among others:

- NABP continues as an operator
- Gradual hand-over to MoH or South Zone Administration
- Hand-over to a national non-government unit with financial support from NABP

A major precondition for hand-over to South Zone is that Maidema is placed directly under the Mendefera hospital and not under Areza Hospital as the organisation chart of hospitals in the South Zone indicates (see chapter 4). Areza is not an alternative for a specialised clinic where one of the main activities is training of ophthalmic assistants.

The various alternatives have been assessed in the present report. Our recommendation is:

Recommendation 1:
We recommend that NABP and MoH start the planning of a national hand-over of Maidema Clinic as soon as possible. This process must focus on both NABP's out-phasing, and MoH's in-phasing policies.

We further recommend that NABP at the same time negotiate with Norad to secure the necessary funding for NABP's contribution during a three year hand-over period. NABP's contribution could for instance be limited to:

1st year (2005): 75% of operating budget
2nd year (2006): 50% of operating budget
3rd year (2007): 25% of operating budget
4th year (2008): No contribution to the budget

The basis for calculating the maximum contribution each year is the 2004 budget level with the addition of the costs of a second doctor/trainer.

It is the responsibility of MoH to raise their part of the budget either from their own sources, or from external donors.

The proposed hand-over timetable does not mean that NABP should withdraw totally from funding specific activities at Maidema – as for instance outreach activities. Such issues, however, should be part of the conditions of the hand-over process.

10.2 Management structure in the hand-over period

It is necessary to establish a well-functioning body for the hand-over period. This body must have the overall responsibility for the activities at Maidema, administratively, financially and professionally. It must assess and comment both out-phasing commitments by NABP, and in-phasing commitments by MoH.

Recommendation 2:
The present "Management Committee" (MC) should act as the governing body as from 1st January 2005. The MC should consist of not more than 5 representatives, of which NABP appoints 2, and MoH 3 persons.

NABP must take the initiative to activate the MC as soon as possible, so that it is well acquainted with and involved in the process already from now on.

MC should have a clear mandate for its work. This mandate should also include comments to and decisions on financial matters; such as proposed investments, budgets and financial reports.

10.3 Non-performance during the hand-over process

All agreements between NABP and MoH have contained a clause of national hand-over. Thus, both parties have been ready, and committed, to start that process. In the past, war activities have been one reason for not implementing this commitment. Unpreparedness – or ”unwillingness” – has delayed any first step in this process. The process should now only stop for very grave reasons.

Both organisations must be able to make realistic plans for available internal and/or external human resources and funds. If one part of the agreement fails to honour its commitment, the other must not be expected to take over. A situation may therefore arise where either qualified personnel or financial means are insufficient to carry on activities in an efficient manner. The Management Committee must have guidelines as to how such a situation (although hopefully not) will have to be dealt with.

Recommendation 3:
If one party is unable to fulfil its obligation during the hand-over process, the process stops. Past experience shows that none of the two parties have been prepared to stop activities at the clinic if one party does not deliver. In order to put force behind the clause, we recommend that in such a case Maidema will be closed until the hand-over process is resumed.

10.4 Future clinical activities

The principle of ”low cost” must be continued. However, this does not mean to abstain from considering – or even introducing – new techniques, medicines and processes. With the present technology developments in combating blindness, new techniques should be introduced. We support the decision that was made to change from IEEC to EEEC techniques and the implementation of IOL-lenses.

We do not see that major new investments are necessary. Priority must now be given to training and to develop the outreach activities for prevention of blindness, for contact with schools, primary health clinics etc.

Recommendation 4**.**

We recommend to maintain – and to strengthen – the contact with Asmara Hospital to have the two clinics complement each other both with regard to ways eye-treatments are carried out in Eritrea.

We further recommend that the staff at Maidema is introduced to a wider network of collaborating institutes – in the first place NABP's projects in Nepal and Mozambique for professional collaboration.

10.5 Training activities

Training activities must continue to be attached to the clinic.

As the expected needs are to have 30+ ophthalmic assistants in the country, training capacity must be increased. Limitations to do this may be related to both qualified applicants, and to the problems of increasing the number of students in practical ophthalmology. Ways and means to overcome these problems must be assessed. It is important that there is sufficient staff for training at Maidema, and that the training course is implemented with the least interruptions, and with access to sufficient medical literature.

Recommendation 5:
We recommend that training of ophthalmic assistants continues – and increases in quantity. This must be done in co-operation with the Eye Department at Asmara Hospital, (as is the case today) and with the Faculty of Medical Science of University of Eritrea. To do so the training schedule must be amended to start a new group of students every year.

A training programme for continuous education of OAs must be developed.

10.6 Outreach activities

There must be a stronger focus on how the clinic can assist in **preventing** blindness. Outreach activities have been included in the latest agreements and work plans, but so far very little has been done.

This activity is different from the surgical part of the programme, and can very well remain in Maidema to make use of the facilities that are there and as a support to the normal activities of the local health clinic.

Recommendation 6:
We recommend to strengthen the programme for outreach activities.

The co-ordination of blindness prevention activities does not have to be located in Mendefera, and can be established in the present premises of Maidema.

10.7 Generation of income locally

The question of transferring the patient fee (Nakfa 5 per consultation) to MoH or retain it for special purposes at the Clinic is financially a minor one. MoH is on the other hand working on alternatives to reduce the dependence on external financing of its health services, and increase patients' fees is one alternative. As a principle, the locally collected fees should be retained at the clinic to finance part of their operating budgets.

Some eye hospitals (for instance Geta Hospital in Nepal) raise a substantial amount of income from patient fees. This must be discussed also for Maidema.

As soon as the clinic becomes a government unit, it is more difficult to raise funds independently. However, activities that focus on awareness and prevention may open up for alternative sources of funding. ERNAB can be one organisation that is suitable as long as the funds are handled by the organisation, and is completely independent of government influence.

Bi- and multilateral donors, the Vision 2020-programme etc., must be approached to become supporters of the activities Maidema should carry out in the future.

Recommendation 7.
We recommend that the agreement of 1998 to retain patients' fees for Maidema should be enforced – as a principle of following up an agreement, and as a basis for establishing a new fee-structure when MoH opens up for that.

We also recommend to increase patient fees for major operations as a principle of focus on own generated income for the hospital.

Maidema should also discuss openly with f.inst. ERNAB the possibilities that exist in raising external funds for specific activities at Maidema. General prevention of blindness, activities that focus on specific groups (f.inst. children) or awareness programmes are activities that could be financially supported by external donors.

10.8 Professional staffing

As has been clearly underlined in the report, the present staffing with one doctor and one OA is detrimental to the reputation of Maidema. The staff, patients and students are all suffering from the lack of a second doctor.

With a stronger focus on capacity building (training) the need for combinations of professional/pedagogical competence will have to receive more attention in the future.

Recommendation 8:
With the present project mix, two doctors are needed at the clinic: one for surgery and one for training purposes.

As part of the hand-over process, we recommend to discuss whether the clinic should be staffed with ophthalmologists, and/or to what extent ophthalmic assistants should be the professional level of the clinic. This also has financial implications for the future Maidema.

10.9 Administrative structure and staff

As long as the clinic is situated in Maidema, the Asmara office is needed. The present arrangement with a shared telephone/message system with NCA covers in our view the staffing requirements in the Asmara office. However, the functions and responsibilities of the administrative officer there must be clarified.

The Clinic – having more than 6000 patients annually and a considerable training activity - must be strengthened with an administrative officer. In general, the running of the clinic needs to be more transparent administratively; information sharing must be improved, and the formal structure for decision making must be strengthened.

The proposal to strengthen the administrative part of the clinic must not be taken as a sign of changing the present priorities of maximum focus on clinical output.

Recommendation 9:
The work title and responsibilities for the administrative officer in Asmara must be clarified.

We recommend to recruit an administrative officer for Maidema, and to move as much as possible of the responsibilities for reporting, financial

budgeting/control, accounting procedures and monitoring routines to Maidema.

10.10 Continuous education

Most ophthalmic assistants will work in district clinics with a fairly small chance of having professional ”refill”. It is therefore important – as was strongly underlined by the first group students – that a program for continuous education is designed and started as soon as possible.

Recommendation 10:
We recommend that a programme for continuous education of OAs be worked out and discussed with MoH and College of Health Sciences as an annual ”refill” for OAs. Whether this course shall be part of the Maidema programme, or offered by the College of Health Services must be discussed among the partners.

10.11 Relation to Eritrean organisations of or for the blind

ERNAB is not so far represented in any functions at Maidema. We believe that an organisation of the blind can play an active and progressive role in activities dealing especially with preventing blindness.

Recommendation 11:
ERNAB should be invited to play an active role on a board level (governance or advisory) for the Maidema.

10.12 Agreements. Are they formalities or realities?

Most agreements between NABP and MoH seem in practice to be more of a formality than a practical guide for how the project should develop. We strongly recommend that this changes, and that the commitments agreements are a sign of, is respected. Both NABP and MoH have ”sinned” in the past.

Recommendation 12: Both parties must show a much stronger commitment to honour clauses in any future agreement.

Appendix 1

TERMS OF REFERENCE FOR EXTERNAL EVALUATION OF THE EYE HEALTH, AND TRAINING PROJECT IN MAIDEMA ERITREA

1. Project background

A description of the historical background, goals and purpose of this project.

The very first initiative to start an eye health programme in Eritrea came from the co-ordinator for Eritrea Peoples Health Programme Dr. Nerayo Teklemichael in 1987. Contacts were made, discussions carried out, which finally led up to the signing of the first agreement, between the Ministry of Health in Eritrea (MOH) and the Norwegian Association of the Blind and Partially Sighted (NABP) in March 1993.

The overall goal and purpose of this project is to reduce the prevalence of blindness to 0.5% in the southern zones of Eritrea. This will be accomplished by providing curative and preventative eye care, accessible and affordable eye health services, and by training local ophthalmic assistants who will eventually support the MOH in rendering services to the people.

2. Purpose of the evaluation

This evaluation has been initiated by NORAD in order to assess the support provided by NABP to this project in terms of relevance efficiency and effectiveness. The purpose is to assess to what extent the support provided is conducive in activities and results related to resource input.

3. Scope of work

The task of the evaluation team would include but not be limited to an assessment, and analysis of:

- The resource input and activities, relevance and sustainability, related to the project output.
- Effectiveness of co-operation between NABP and MOH as stated in the agreement signed by both parties.
- Project management, its efficiency, use of resources, the staff and work force.
- The training component, content, structure, time line, roles and responsibility, placement, follow-up, and evaluation.

3.1 A description and assessment of the:

- Project process
- Project structure. How does project relate to national eye health plans and GoMs own resources
- Communication
- Implementation process
- cooperation with MoH
- Roles and Responsibilities of actors involved

4. Conclusions and Recommendations for the project considering:

- National take over of the project (plan for phasing out of NABP's support to this project)
- Available resources (human and economical)
- Lessons learned from this project
- Future development of this project

5. Work Plan.

This evaluation will begin week 12, March 15th and include one-week field visit to Eritrea for consultation and information gathering at the project site (Maidema). Consultation with the Ministry of Health and other related actors should be done during this time.

6. Reporting

A draft report with main findings and conclusions from the evaluation shall be submitted to NABP, MOH and NORAD by week 14th. Their consideration and written comments must be submitted to the team within one week after receiving the draft report. Based on these comments from NABP, MOH and NORAD the team shall submit a final report within one week of receiving written comments to the proposed draft.
This final report shall be submitted to NABP, MOH and NORAD not later than week16th.

Agustin Sambola
Programme Director, Africa

Appendix 2

List of people met

In Oslo:	Mr. Agustin Sambola, NABP Mr. Terje Iversen, NABP Mr. Albert Kolstad, NABP (retired)
In Asmara:	Dr. Anndom Ogbemariam, MoH/HRD Dr. Germai Tesfassilasie, MoH/International Relations Dr. Desbele Weldegiorgis, MoH/Asmara Eye Hospital Mr. Arman Aardal, Norwegian Embassy, Asmara Mr. Arild Skåra, Norwegian Embassy, Asmara Mr. Mogos Ghilamicael, NABP/Asmara Dr. Johannes Ghebral, WHO/Asmara Mr. Dawit Fessihaye, ERNAB Mr. Kiflom, ERNAB S/r. Elsa Gebremeskel, OA student from Maidema Mr. Yebiyo Gebreab, OA student from Maidema
In South Zone:	Dr. Tesfai Solomon, South Zone Health Department
In Maidema:	Mr. Kiflom, Mayor of Maidema Municipality Mr. Kiflai, Maidema Municipality
Maidema Centre:	Dr. G. S. Rekhi All staff members were invited to attend an open meeting with the review team All OA-students were invited to attend a meeting with the review team