HEALTHY EAR DISTRICTS

A RECOMMENDATION

TO DEVELOP COMMUNITY EAR AND HEARING HEALTH SERVICES

THROUGH OUTREACH SERVICES IN TARGET DISTRICTS

IN SOUTH EAST ASIA

THE SOCIETY FOR SOUND HEARING

1. BACKGROUND

Hearing impairment is common throughout the world, and it is estimated that 50% of all deafness and hearing impairment is preventable. WHO estimates that there are 255 million persons world wide with disabling hearing impairment. Two-thirds live in the developing countries. Although it is not a death-causing disease, the implication of hearing impairment in the individual, family and community is tremendous. The far reaching implications of hearing loss, both in respect of development of communication skills, as well as in social, economic and quality of life terms, warrants an urgent need to highlight the magnitude and severity of the problem. This disability can not be “seen” and therefore has been very low profile and programs are much behind the programs for blindness. As much as half of the hearing loss and deafness is preventable, provided it was detected early and managed properly through appropriate health education and program development.

WHO SEARO is committed to these ideas and has carried out several activities in the prevention of deafness program. In a consultative meeting of Principal Investigators entitled “Deafness and Hearing Impairment Survey” in 2000, definitions and some comparable data on the prevalence and etiology of ear disease and hearing impairment could be compiled from the multi center study using WHO Ear Disease and Hearing Survey protocol in South India, Indonesia, Myanmar and Sri Lanka. Comprehensive data regarding the basic facilities and programs in action in six countries was compiled and then discussed in the WHO inter-country consultative meeting in Colombo in 2002. This was followed by another consultative meeting in Bangkok in 2003, which resulted in a recommendation to the formation of a regional initiative for the prevention and alleviation of hearing Impairment in South East Asia, called South East Asia Forum for Sound hearing and its activity “SOUND HEARING 2030”. This forum has been launched at its first General Body meeting and elected its first term’s Executive Committee (4-5 October 2005).

THE SOCIETY FOR SOUND HEARING is a permanent organization, its General Body consisting of representatives of IFOS, SAARC ENT Society, ASEAN ORL HNS Society, ISA, CBM, IMPACT, HI, WHO, and national delegates from eleven countries: **Bangladesh, Bhutan, DPR Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor Leste**. Its scope is to work towards elimination of avoidable hearing loss, in the South East Asia region. Key challenges include knowing how to establish partnerships with potential regional stakeholders, as well as to create a climate in which this collaboration can most effectively support the communities/ countries / areas it wishes to help. In the future it is hoped that SOUND HEARING 2030 can be a model for a global initiative.

Its "vision" is to improve health and well-being of people of South East Asia through better hearing. Its "mission" is to eliminate avoidable hearing impairment by the year 2030 through development of sustainable ear and hearing care systems. The "goal" is to reduce avoidable hearing impairment to 50% by 2015 and 90% by 2030. The activities of this newly formed initiative will be establishment of the organization, fundraising, and ongoing campaigns. In the near future, hopefully at least one model multi-country pilot project could be selected every year in partnership an international NGO and the National Committees for ear and hearing health care in the countries.

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2. CAUSES AND RISK FACTORS

According to literature, hearing impairment and deafness can be classified according to causes to be genetic and non-genetic(acquired). Some unknown causes are felt to be mostly genetic. Genetic causes can be congenital, which are mostly the recessive forms with bilateral severe to profound deafness, or can be of late onset in childhood or adulthood, which are mostly the dominant inheritance or other types with mostly progressive hearing losses (starting with a mild hearing loss and progressing to severe in several years). . It should be born in mind that even in genetic causes, environmental factors play an important role.

The prevalence of acquired hearing impairment is estimated to be 50%, hence the proclamation that 50% of hearing impairment are preventable. Acquired hearing impairment can be classified as caused by infection (bacterial or viral meningitis/ encephalitis, chronic middle ear infections, rubella), metabolic, cardiovascular causes, noise induced, ototoxic, and degenerative due to aging.

Risk factors in newborn babies are: 1) head and neck anomalies; 2) meningitis / encephalitis; 3) hyper-bilrubinemia 4) low birth weight - less than 1500 g); 5) hypoxia low APGAR index; 6) TORCH infections including rubella during pregnancy; 7) ototoxic medication 8) middle ear infections

3. FACTS AND FIGURES

Results of the WHO multi-center study on the magnitude and causes of hearing impairment in four countries, namely India, Indonesia, Myanmar and Sri lanka showed:

1. Disabling hearing impairment (moderate, severe and profound hearing impairment) was reported in **5 to 8%** of the population, or estimated to be **110 million** in the South east Asia (SEA) countries.

2. The causes of hearing impairment and/or ear disease are mostly: non-infectious, mostly ageing (5-10%); chronic middle ear infection or suppurative otitis media (2-6%).
3. Bilateral genetic deafness, mostly congenital, occurred in 0.1-0.5% of the population. Based on this, it can be estimated that at least 100 babies are born deaf every day in the eleven SEA countries alone. These children, when not given the right habilitation and education, will become “deaf and mute”.
4. Prevalence of ear wax in both ears is 9 - 16%
5. Hearing aids were needed in 4% to 6% of the population
6. Actions that were needed most were medication, consisting of antibiotics and ear drops and irrigation of ear canal for ear wax.

4. PROGRAM TITLE: HEALTHY EAR DISTRICTS

To develop community ear and hearing health services through outreach services in target districts in South East Asia, as implementation of “SOUND HEARING 2030”, for the prevention and alleviation of hearing impairment.

5. WHY DISTRICT LEVEL?

Definition of “secondary” level: all hospitals at district level or equivalent (in some countries also includes sub-district hospitals). **Ear and hearing care services were found to be the weakest at this level,** while on the other hand this level plays an important role in the referral chain of the patients in the community.

A District Hospital is the first referral center for patients from the Primary Health Centers at the remote or rural areas. Some cases that can not be managed at this level will be referred to the closest Provincial Hospital or larger hospital with facilities as a tertiary center. The minimal requirements that ideally has to be in place at the District Hospital has been discussed at a working group

during the WHO Inter-Country Consultation Meeting in Colombo in December 2002. Table 1 shows the compilation of the group recommendation.

A district level hospital is defined to include at least one million population. In some highly populated areas the population could reach 2 million people or more. Based on the results of the WHO survey, it can be estimated that in one district with 1 million population there will be:

- Moderate to profound hearing impairment : 50.000 – 80.000 cases
- Hearing loss due to aging: 50.000 – 100.000 cases
- Chronic middle ear infections: 20.000 to 60.000 cases
- Congenital deafness (with severe to profound bilateral hearing loss that during early life time needs special management with amplification and special education): 1000 to 5000 cases (all ages).
- If the birth rate is 2 % , it can be estimated that every year 20 to 60 babies are born with severe to profound hearing loss, due to either genetic or acquired factors, that needs special management
- Ear wax : 90.000 to 160.000 cases
- In high noise industrial areas there will be cases with NIHL (noise induced hearing loss)
- Hearing aids needed in 10.000 – 60.000 cases

Description	Requirements
SERVICES **(minimum requirement)**	Pure tone audiometry and tympanometry Simple ear surgery, eg. simple mastoidectomy; Grommete / Myringotomy; Myringoplasty / Tympanoplasty type 1; Impacted ear wax / FB removal Facilities for basic ENT surgery Determine types and degree of hearing loss Hearing aid fitting in adults Speech therapy if possible • Outreach services • Awareness raising • Motivation • Screening for ear disease and hearing impairment • Referrals
HUMAN RESOURCES	ENT Doctor (1) Audiometrist (1) ENT Nurse / Technician (1) ENT Nurse (O.T.) (1) Hearing Aid Technician (including Ear Mould Making) Speech Therapist / Audiologist – if possible Outreach Services coordinator

Description	Requirements
DEVELOPMENT OF HUMAN RESOURCES	The ENT doctor should have community-oriented training Have training for Audiometrists Training facilities for Para-medics Training of Primary Level Workers
DEVELOPMENT OF OTHER RESOURCES	Clinical Audiometer (1) Tympanometer (1) Operating Microscope (1) All necessary surgical instruments

From: WHO SEARO. State of Hearing & Ear Care in SEA Region.

Table 1: Requirements for services at district level or secondary level

6. PROGRAM OUTLINE

SOUTH EAST ASIA FORUM FOR SOUND HEARING 2030 recommends a pilot program for the development of sustainable outreach services for the provision of better ear health care, audiological services, educational and rehabilitative services for target communities in selected districts of South East Asia countries.

This Forum will develop a broad outline of the activities for this program in form of a recommendation, and be a resource center and provide technical support in the implementation of the program.

The Donor agency will support the cause through their implementing offices and partners. The implementing Offices are suggested to work in close cooperation with the National Committees, or, focal persons at the Ministry of Health of each

selected country, to develop the detailed program adapting to need, and select the district hospitals to be included.

WHO SEARO will act as a resource center, provide advocacy, and promote networking among the countries for sharing the results and lesson learned from the program through WHO Inter-Country meetings. These WHO Inter-Country meetings can be organized in conjunction with the SOUND HEARING GB meeting, so that the costs can be shared.

The district hospital selected will be working in close cooperation with the nearest tertiary center or provincial hospital, and provide services for the community in the area covered. The district hospital will act as the first referral center and conduct outreach programs to the primary health centers in the area.

The tertiary center, a Provincial Hospital or Teaching Hospital, will play an important role as training center, resource center and referral center.

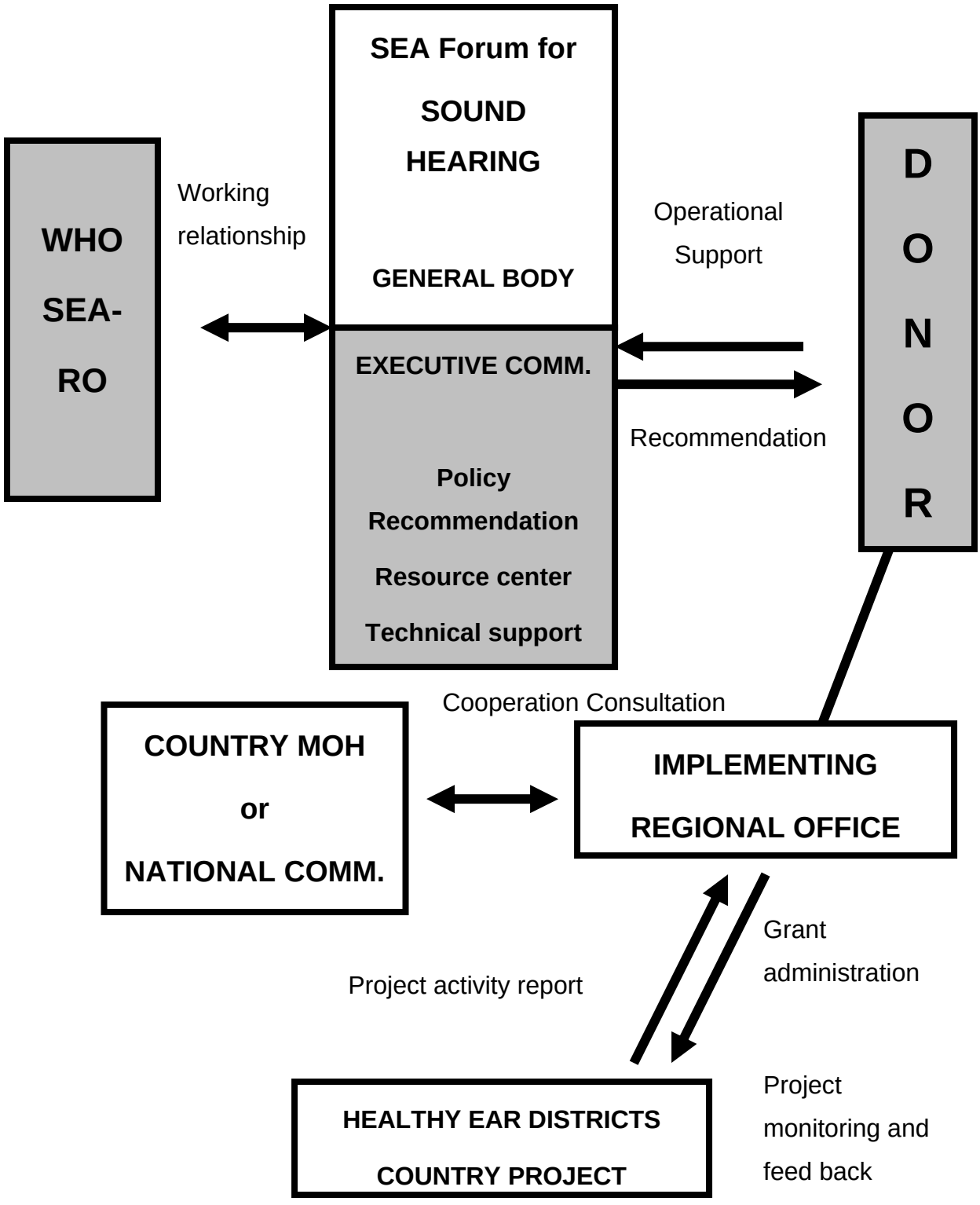

Figure: Organizational Chart of Healthy Ear District

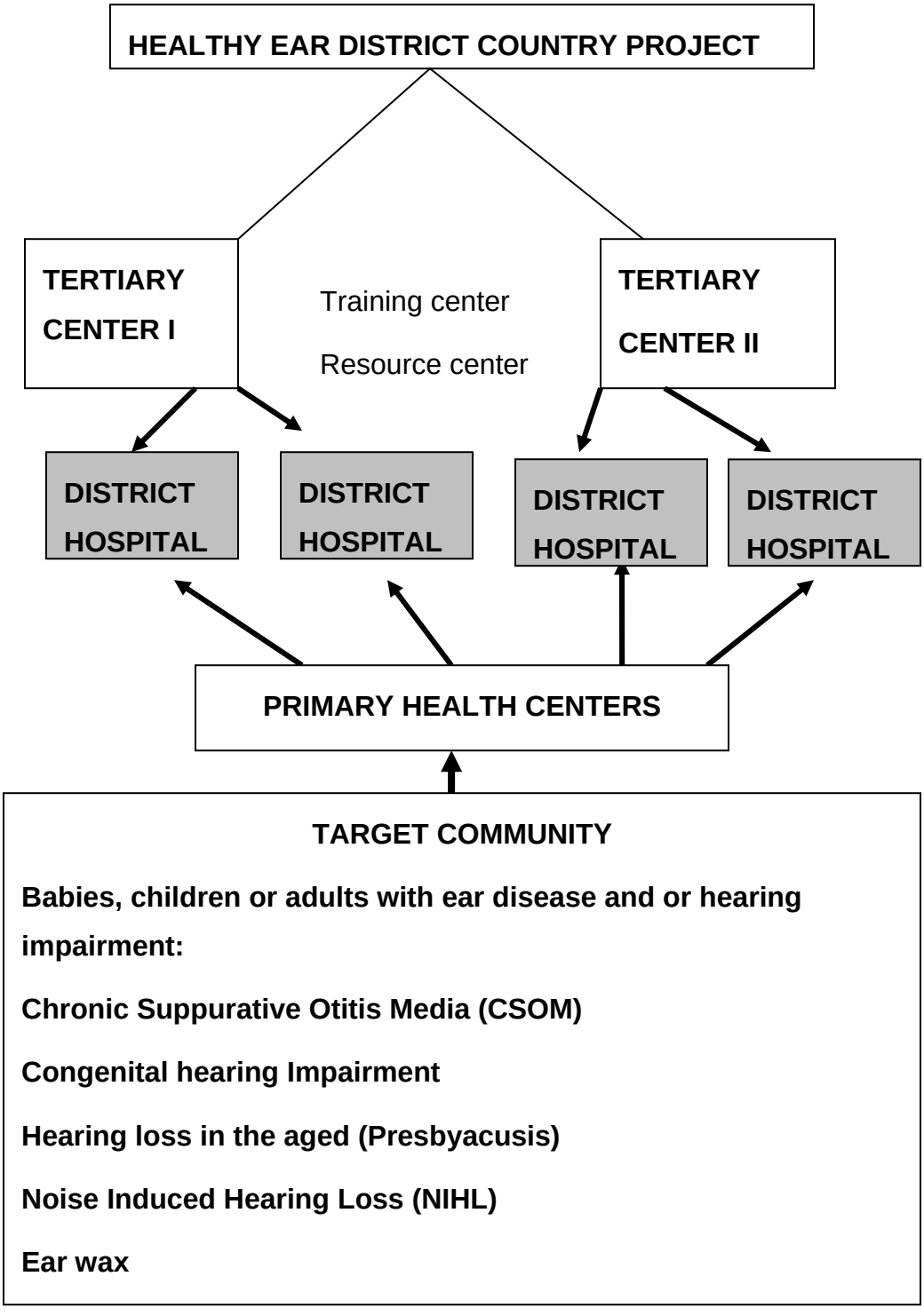

Figure: Healthy Ear District Country

7. PRIORITIES

1. Middle ear infections / chronis otitis media
2. Congenital deafness
3. Hearing loss due to aging (presbycusis)
4. Noise induced hearing loss (NIHL)
5. Ear wax

8. STRATEGY

- The policy should specially focus on providing services which target communities at **primary level in underserved areas** and populations, give attention to strengthening the **secondary (mid) level for referral**
- **Control of ear infection** should be the major goal in the initial years, beside **early detection**, early Intervention and management of hearing impairments including critical attention to upper respiratory infections especially in children.
- **Awareness** for public, PHC, physicians, pediatricians, obstetricians, pharmacists, paramedics, school teachers of ear infections (otitis media) and all other risk factors for hearing disorders.
- **Hearing Conservation Programs**: policies, legislation and enforcement of these for noise control with special attention industrial noise and to youth and their risk at entertainment centers music, children's toys, etc.
- Programs for prevention and control of deafness should be built around **existing health infrastructure**.
- Emphasis should be placed on a rapid development of all categories of human resources within the framework of a **team approach**. There was a

particular need to develop hearing and speech personnel and teacher for the deaf

- The program should be **sustainable**

9. SUGGESTED PROGRAMS

These are suggested programs to be started at the selected district hospitals - with supervision and support of the nearby tertiary teaching hospital or center.

1. Advocacy

- Give information to Provincial Government Officials, District Government officials, Professional Societies, Academics/ University / Medical Faculty, and other health infrastructures in the area.

2. Awareness

- Organize school awareness campaign and school screening program for ear problems and hearing loss
- Hearing conservation awareness programs to prevent occupational, environmental and recreational causes of noise-induced hearing loss
- Campaign for the public through seminar, radio talk or articles and media, focusing on middle ear infection, early detection and noise
- Public awareness campaign(s) using existing campaigns such as International Hearing Awareness Day, 3rd March and / or Noise Awareness Day in April.
- Dissemination of the pilot project to the policy makers of other districts through a seminar on Healthy Ear District on National scale
- A Multi-country seminar for sharing of experiences and lesson learned

3. Training

- Training / upgrading of the ENT specialists in microsurgery of the ear: tympanoplasty type 1 and Grommet insertion. This can be conducted at the tertiary center / teaching hospital, or as an outreach program from the center at the district hospital.
- Training of trainers (TOTs) conducted by a tertiary center in the area for district level medical officers and its staff in the field of community ear and hearing care and rehabilitation, using the WHO developed PEHC training resource
- Training of primary level health officers and health workers by the above trained officials
- If necessary, organize training of technician or paramedical staff at the district hospital for hearing testing, hearing aids and earmould fitting, follow-up and repair

4. Services: Screening and Intervention

- Ongoing services for early detection of hearing loss through in building as well as outreach services
- Including school children in the ear and hearing check or screening program
- If appropriate, organize and equip mobile hearing health Units for especially rural/ remote provinces.

5. Infrastructure support

- Provision or maintenance of basic equipment : audiometer, tympanometer, sugery equipment, operating microscope
- Ear mould lab (for adult cases)

- Low cost, good quality hearing aids and distribution systems - source affordable hearing aids and services for poor or under-privileged populations (for adult cases)
- Education / rehabilitation: support for the local school for the deaf if such facility exists, or, the introduction of the integration program of the hearing impaired children in the normal schools with special support.

6. Community based empowerment

- Parental groups for parents of deaf children to share information and experiences through monthly parental meetings
- Groups of hearing aid users
- Groups of the hard of hearing and or the deaf

It is up to each district to choose which programs are feasible according to local needs. For each prevention or intervention program item, the targets, output and indicators should be defined.

10. LOCATION / TARGET AREAS

For the first phase, it is recommended that the eleven countries included in The THE SOCIETY FOR SOUND HEARING will be a priority, although this program is also open to other countries in the region. Districts will be chosen by the implementing CBM regional offices, in consultation with the local government.

Several districts, each with a population of 1 million or more, will be selected. A variation of districts types in favorable, for instance including rural as well as urban poor areas, areas where there are many noisy industry, and areas with higher altitude as well as lower altitude. These districts will be under the support of the nearby teaching hospital or referral hospital that has tertiary level facilities.

11. TIME SCHEDULE

The program should be scheduled for five years:

- Supported : year 1 and 2
- Assisted: year 3
- Independent: year 4
- Sustainable: year 5 and onwards

12. BUDGET

Each country project will have to propose their own budget according to their needs and cost. It is roughly estimated that around 20.000 US$ per country per year will be needed, but there should not be any restriction in the budgeting.

Each country project has to define a counter budget from their own available resources.

13. MONITORING AND VISITS

The implementing NGO will execute the monitoring and feedback at the country level. If needed, visits by resource persons appointed by The THE SOCIETY FOR SOUND HEARING will be conducted as technical advisor for the program.