**Part II**  
**Content of the project**

Application form for projects over 100,000 euros - bengo

Promotion of development projects by private German organisations

The application form consists of two parts, both of which must be submitted via the Engagement Global application portal (see www.antragsportal.de).

**Part I is processed online in the above-mentioned application portal** and is then generated automatically. Please enter the following information there:

Contact details of the private German executing organisation, the project executing organisation, basic key data on the project such as project country, duration, project title, financing plan, requested share of funding; details of project personnel, any additional information in the case of construction measures and the application for settlement of accounts with independent audit and other declarations.

**Part II is this document in Word format**, which can be downloaded from the above-mentioned application portal or from the bengo website (see https://bengo.engagement-global.de/dokumente.html).

For each section, you will find specific instructions as to which information is absolutely necessary. These passages can be deleted when editing. The specific key questions from the comprehensive guide are also linked to the relevant section. If you require further information, the guidelines for the project application are available at the following link: [https:](https://bengo.engagement-global.de/leitfaden-zum-projektantrag.html)//bengo.engagement-global.de/leitfaden-zum-projektantrag.html. Please note that the total length of Part II should not exceed 30 pages.

**Project number: P7933**

**Project country:** Zambia

**Project title:** Strengthening the integration of community-based ear and hearing health care in Zambia

**Private German sponsor:** Christoffel Blindenmission Christian Blind Mission e.V.

**Project duration:** 01.08.2024- 31.01.2029

1. **Details of the local project organiser** 
   1. **Legal form, institutional objectives, main areas of work**

*Beit Cure Children's Hospital* (BCH) was founded in 2006 and performs reconstructive, orthopaedic, ENT and audiological operations on children with treatable disabilities. Located in Lusaka, the state-recognised teaching hospital comprises six buildings, 54 beds and three operating theatres. BCH is a non-profit organisation recognised by the Government of the Republic of Zambia and as a local organisation is subject to the *Societies and NGO Acts* and is registered with the Ministry of Finance and the Zambia Revenue Authority (ZRA) as a non-profit organisation. BCH is part of a global network of children's surgical hospitals all supported by *CURE International*, a faith-based non-profit organisation based in Michigan, USA. BCH is governed by an autonomous leadership team that can make local decisions independently.

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| **Local registration as a non-governmental organisation (NGO) / non-profit status** | **Institutional** *goals* | **Sectoral areas of** *activity/focal* **points of work** |
| Registration with the *Department of Home* Affairs under the Societies Act Cap 119 **ORS/102/35/3682)**  Registration with the Ministry of Community Development, NGO Act No. 16 of 2009 (**DRNGO 101/0088/2013)**  **Charitable organisation** approved by the Ministry of Finance in accordance with the Income Tax Act (Cap 323)  Registration with the Zambian Ministry of Health in accordance with the Health Professions Act No. 24 of 2002 (**HPCZ/101/3/0124)** | BCH is a 54-bed hospital dedicated to the treatment of children with disabilities in Zambia, regardless of religion, gender, ethnicity or social status.  In co-operation with state health facilities, ear and hearing health services are also to be extended to adults. | Early detection of hearing impairment in children and provision of timely treatment.  Clinical and surgical interventions for children with hearing loss or at risk of hearing loss.  Providing comprehensive access to audiological examinations, hearing aids, rehabilitation of hearing loss and speech therapy.  Early recognition of the need for orthopaedic treatment and corresponding surgical interventions.  BCH also runs livelihood and empowerment programmes for people with disabilities to promote self-determination, inclusion and improve the overall well-being of children with disabilities and their families. |

* 1. **Personnel, technical and financial capacities**

BCH is currently the only hospital in the country to offer specialised ear and hearing health services. These include audiometric examinations, including *Auditory Brainstem Response* (ABR) tests (which measure how well each ear can pick up sounds and how well the auditory nerve sends information to the brain) and the provision of hearing aids. The hospital has its own ENT outpatient clinic, an infirmary, an ENT operating theatre with the necessary equipment, an audiology centre and a hearing aid maintenance laboratory where all types of hearing/amplification devices can be repaired.

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| **Personnel and technical capacities** | **Annual sales per financial year (FY)** | **Donor** |
| 06 Specialists: (3 orthopaedic surgeons, 1 plastic surgeon and 2 ENT specialists (1 full-time and 1 part-time))  04 Anaesthetists  01 General practitioner  01 Paediatrician (part-time)  31 full-time nurses and 12 registered nursing assistants  03 Physiotherapists  03 Hearing aid technicians  01 Nutritionists  09 Employees for prosthetics and orthopaedic technology  05 Spiritual and psychosocial counsellors  24 Administrative employees  43 Auxiliary staff | 2023: 2,281,000 euros  2022: 2,561,000 euros  2021: 1,210,000 euros | *Cure International*  *Churches Health Association of Zambia (CHAZ)*  CBM  BMZ-CBM  *Zambbeef*  *Smile*  *Janus Continental Group*  Scottish Government  Zambian Ministry of Health |

* 1. **Experience in the realisation of similar projects**

BCH has had experience in the implementation of BMZ co-financed projects since 2009. Together with CBM, BMZ supported the **project with the number 2009.1578.5** with an amount of EUR 664,860. The funding supported the establishment of tertiary ear and hearing health services at BCH from 2009 to 2012. The funds were used to build and equip an ENT outpatient clinic at BCH, equip the ENT operating theatre in the existing operating block at BCH and train medical staff.

The second project, which was co-financed by BMZ and CBM between 09/2018 and 04/2022 under **project number 1867**, had a total volume of EUR 1,000,330. The project strengthened ENT and audiological medical services in three provinces of Zambia (Lusaka, South and Central). Among other things, three large hospitals - the *University Teaching Hospital* (UTH) in Lusaka, *Livingstone Central Hospital* (LCH) and *Kabwe Central Hospital* (KCH) - were equipped with clinical and surgical ENT equipment, the capacities of health personnel in the field of ear and hearing health were strengthened and audiologists were equipped with the necessary audiological equipment and soundproof hearing test booths. A temporal bone laboratory was set up at the UTH in Lusaka and has since contributed to the training of ENT surgeons. In addition, the project supported the implementation of the first ever population-based survey in Zambia on the prevalence of ear and hearing problems, severity and factors associated with hearing loss in the three target provinces of the programme.

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| **Term (from - to)** | **Title/ content of the project** | **Donor** | **Centre circumference** |
| 2018-2022 | BMZ-ENT project (BMZ number **1867**) - Strengthening ENT and audiological medical care in Zambia. | BMZ/CBM | EUR 1,000,330 |
| 2017-2022 | PrevENT project - Community-based ear and hearing health care and rehabilitation of hearing loss. | Scottish Government/CBM | EUR 1,360,000 |
| 2018-2023 | Provision of clinical and surgical ENT services as well as audiological services for people with hearing impairments | CBM | EUR 1,040,377 |

* 1. **Relationship between the private German executing agency and the local project executing organisation(s)**

CBM has been active in Zambia since 1977. Supporting people with disabilities in cooperation with governmental and non-governmental Zambian institutions laid the foundation for sustainable inclusion in Zambia. Since the 2000s, CBM has been promoting the development of ear and hearing health services in Zambia. In collaboration with the Cheshire *Community Based Rehabilitation (CBR) Programme* and *Beit Cure Hospital, CBM* initiated a training programme for *community health workers* in primary ear and hearing health. This laid the foundation for a lasting partnership between CBM and Beit *Cure Hospital*.

Due to the lack of availability of quality ENT services, CBM began working with *Beit Cure Hospital in* 2006 to plan the development of tertiary ear and hearing health services at *Beit Cure Hospital* in Lusaka. The commitment to this vision secured co-financing from the German Federal Ministry for Development and Economic Cooperation (BMZ) in April 2009 for a period of four years. To ensure the success of the project, CBM seconded Dr Uta Fröschl, an experienced German ENT surgeon with work experience in Africa, to the Beit *Cure Hospital* as head of the ENT department.

In 2011, CBM took a decisive step towards sustainability by funding a five-year ENT course at the University of Nairobi for Dr Harrison Phiri. After Dr Phiri's successful graduation in 2016, he worked together with Dr Fröschel for 18 months and then took over the management of the ENT department at BCH from her. Since then, the ENT department has been managed under Zambian ownership.

Another milestone in the joint efforts of CBM and *Beit Cure Hospital* to progressively develop ear and hearing healthcare in Zambia was the development and official launch of the National ENT Strategic Plan 2017-2022 by the Ministry of Health in 2016. With financial support from BMZ and the Scottish Government, CBM and Beit *Cure* were able to contribute to the implementation of the multi-year plan for community ear and hearing health care and the strengthening of audiological and ENT medical services in Zambia from 2017 to early 2023.

The long-standing cooperation between CBM and *Beit Cure Hospital* in the joint endeavour to improve ear and hearing health in Zambia is characterised by mutual trust.

1. **Initial situation/problem analysis** (relevance)
   1. **Initial situation and problem description**

In the first World Hearing Report (2021), the World Health Organisation (WHO) estimates that more than 1.5 billion people (almost 20% of the world's population) currently live with hearing loss; 430 million of these people are hard of hearing. It is estimated that by 2050, almost 2.5 billion people - one in four - will be living with some degree of hearing loss and at least 700 million people will require rehabilitation services. Hearing loss is the third leading cause of the number of years lived with a disability and has a significant impact on an individual's life across the life course. In sub-Saharan Africa, the prevalence of hearing loss is very high. It is estimated that more than 65 million people in the region are affected by hearing impairment (WHO, 2021). In Zambia, an estimated 4-6% of the total population has a hearing impairment. However, specialised ENT health services were not available in Zambia in almost all 10 provinces of the country until the early 2000s to ensure treatment. There are also major differences in healthcare provision between rural and urban areas. The two provinces of Lusaka and Copperbelt are categorised as predominantly urban provinces, while the remaining eight are considered to be predominantly rural provinces. People in rural areas have to travel long distances to access health services. The same applies to the distribution of health workers, who are mainly found in urban areas.

Together with CBM, BCH is working on a long-term strategy to support the Ministry of Health in the sustainable introduction of ear and hearing health services:

A first step was the project (BMZ No. 2009.1578.5) which enabled the establishment of tertiary ear and hearing health services at BCH in Lusaka. Under the leadership of ENT specialist Dr Uta Fröschel, permanent ear health services were set up at BCH and are now being run by local staff.

The Government of the Republic of Zambia also recognised the need to develop ear and hearing health services in Zambia. In 2014, at the National ENT Conference, the National Ear, Nose and Throat Committee was established, comprising government representatives, various non-governmental organisations (including BCH and CBM), the national organisation of persons with disabilities and the WHO. The committee supported the development of the first National Ear, Nose and Throat Health Strategic Plan (NENTHSP), which was adopted by the Ministry of Health in October 2017 and presented at a nationwide stakeholder workshop supported by CBM in Lusaka in February 2018. The plan provided a strategic direction for the development of ENT services and provided baseline information on the state of health infrastructure, human resource capacity, ear and hearing health promotion initiatives and exposed the lack of reliable data in the ear and hearing health sector.

At the beginning of the strategic plan, ear and hearing healthcare was offered in the following healthcare facilities with varying degrees of specialisation:

* **Lusaka Province** - *University Teaching Hospital* (UTH), *Levy Mwanawasa General Hospital* (LMGH) and *Beit CURE Hospital* (BCH).
* **Copperbelt Province** - Ndola Central Hospital, including audiology infrastructure, Arthur Davison Children's Hospital and Kitwe Central Hospital
* **Western Province** - *Lewanika General Hospital*

In the other provinces of the country - Central, Eastern, Luapula, Muchinga, Northern, Southern and North-Western Provinces - there was no ENT infrastructure at all.

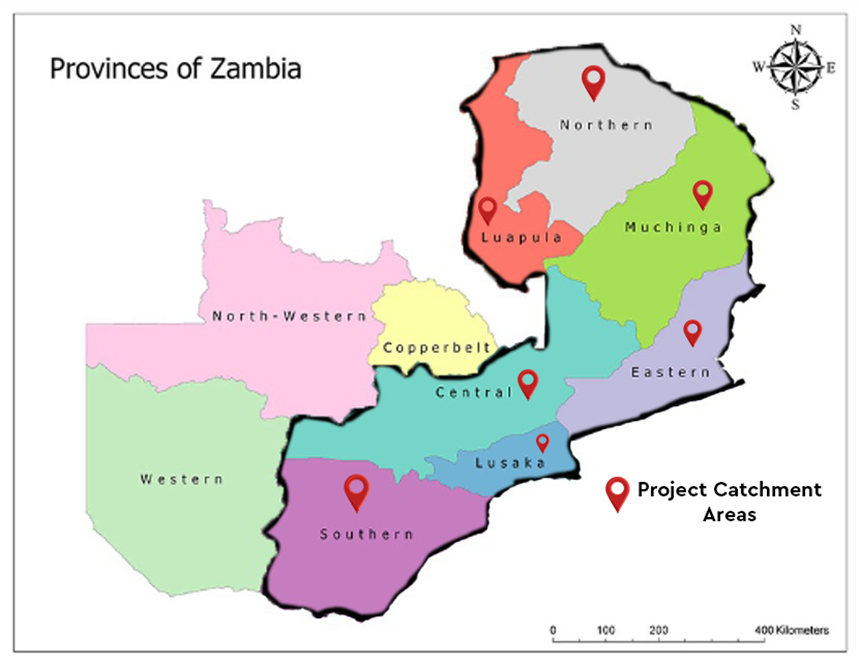
Based on the strategic plan for ear, nose and throat health, CBM and Beit Cure were able to contribute to improving ear and hearing health care in Lusaka, Central Province (three districts) and Southern Province (four districts) with financial support from BMZ and the Scottish Government. In 2016, the first two Zambian ENT surgeons graduated from the University of Nairobi and are now spearheading the further development of ear and hearing health in the country. Between 2021 and 2022, three more specialists graduated, bringing the total number of Zambian ENT surgeons to five. The training of 212 nurses and 265 *community health workers* laid the foundation for the expansion of ear and hearing health care to other regions of the country. In addition, 14 nurses/clinical *officers* were trained to become the first hearing health care professionals, who are now working in Lusaka, Central and South. 3 health facilities were equipped as referral centres for clinical and surgical ENT interventions and 6 audiology centres and the first state-of-the-art temporal bone laboratory were established at UTH. As part of the BMZ co-financed project, the first population-based prevalence survey on ear and hearing health was also conducted in three provinces.

With these projects, BCH and CBM demonstrated to the government and other stakeholders how integration of primary ear and hearing health care into the country's health system can work. In addition, the projects provided a model for scaling up an effective ear and hearing health referral system utilising existing government structures.

Based on this experience, the continuing challenges in the nationwide provision of ear and hearing health services to the population and the inclusion of people with hearing impairments are to be further addressed:

* There is still a shortage of trained personnel for ear and hearing healthcare, especially in rural areas.
* There are not enough trainers who can ensure the sustainable training of specialised staff
* Health centres lack equipment for primary ear and hearing health care
* Ear and hearing health services are underrepresented in the national health plan
* There is a lack of evidence-based data to plan for better integration of ear and hearing health services in the national health plan.
* There is a lack of awareness for citizen-centred ear and hearing healthcare among government representatives and the media
* Self-advocacy groups of people with hearing impairments are inadequately organised and structured to represent their interests.
* People with hearing impairments and their families are often discriminated against and excluded from participation in society, meaning that they are disproportionately affected by poverty.

This project aims to tackle the above-mentioned challenges on several levels, based on the experience already gained. On the one hand, the achievements that have already been realised through previous projects in the provinces of **Lusaka, Central and South** are to be consolidated and further expanded. In the provinces of **Eastern, Muchinga, Luapula and Northern,** ear and hearing health care is to be established for the first time and sustainable training of ear and hearing health personnel is to be introduced. This is based on a hybrid training model, which is intended to train staff within the framework of "task-sharing"[[1]](#footnote-2) in order to sustainably counter the shortage of personnel in the ear and hearing health sector. In all target provinces, awareness of ear and hearing health and the inclusion of people with disabilities is to be raised, self-help groups established and income-generating measures promoted. In all of these measures, particular attention is paid to ensuring that all target groups have equal access to resources, representation and rights. The focus of this project is on reducing discrimination against marginalised groups (people with hearing impairments) and strengthening the rights of people with disabilities. Women and girls with disabilities in particular are often in vulnerable situations. For this reason, the programme will ensure that women and girls are sufficiently represented in the management bodies as decision-makers and have equal access to the resources of the savings groups, particularly when setting up self-help groups and savings groups.



The population structure in the target areas is made up as follows:

Ein Bild, das Text, Screenshot, Schrift, Zahl enthält.

Automatisch generierte Beschreibung <https://www.zamstats.gov.zm/> 2022 Census of Population and Housing for Project Catchment Areas

* 1. **Preparation of the project and cooperation with other stakeholders**

The National Ear and Hearing Health Committee, largely represented by Dr Rachel Hapunda as the National Ear and Hearing Health Coordinator, has worked with Beit Cure to develop a proposal to further improve ear and hearing health care in Zambia and has asked CBM for support. The proposed project builds on successes already achieved in the area of ear and hearing health, which were described in the previous chapter.

The evaluations of the previous projects emphasised the potential for expanding ear and hearing health care to other parts of the country.

Important recommendations from the evaluations that were taken into account for the new programme were

* **Recommendation:** The ENT prevalence study should be conducted at the beginning of the project.

**Implementation**: A prevalence study for the provinces of East, Muchinga, Luapula and North was not included in the present application as, according to bengo, this is not eligible for funding under the private executing agency title.

* **Recommendation**: Educational institutions lack qualified teachers with knowledge in the field of ear and hearing health, which is why cooperation with universities to train teachers is recommended.

**Implementation**: This application introduces an innovative training concept in which trainers are trained to ensure the long-term training of ear and hearing health personnel. As part of the concept, international universities will be involved in the initial training in order to cover parts of the training that cannot currently be provided by Zambian teaching staff. The newly trained specialists will ensure the training of further specialised staff, which can then take place without international experts.

* **Recommendation:** For medical equipment, it is important to establish sustainable calibration processes for the devices and to strengthen local capabilities for repairing and maintaining the devices.

**Implementation:** In this proposal, it is planned to hand over responsibility for these tasks to the Ministry of Health in the long term. Corresponding lobbying activities are planned in the application. For devices from the previous project, the costs for calibration are already shared with the Ministry of Health according to a cost-sharing model.

* **Recommendation:** A stronger contribution to mobilising the Ministry of Health to enable the inclusion of ENT medicines in the list of essential materials and medicines for healthcare facilities.

**Implementation:** In this application, more lobbying activities were planned under sub-objective 2.

* **Recommendation**: The shortage of ENT surgeons persists despite the further training of specialists and has been identified as the greatest obstacle to ENT care in Zambia. The evaluation team therefore recommends building on the achievements of the project with further measures.

**Implementation:** In this application, ENT doctors will receive further training on the subject of ENT surgery.

Due to the lengthy evaluation of the previous project, a feasibility study was also commissioned to cover the project's catchment area. Key recommendations from the feasibility study were incorporated into the project concept. These are the following in particular:

* **Avoiding overloading the healthcare system**: In order to avoid overloading the healthcare system, almost all training courses in this application are offered using a hybrid model (online and face-to-face). In addition, the ENT specialists are relieved by the qualification of additional healthcare personnel for the implementation of primary treatments (*task-sharing* concept). Telemedicine provides healthcare staff with regular support from ENT specialists.
* **Reducing inequality in access to services**: To address inequity in access to specialised ear and hearing health services, this proposal includes a mobile health model that combines hands-on training with *outreach* and *screenings*, which is further complemented by telehealth services. These activities bring services closer to the rural population.
* **Combating potential stigmatisation**: To counteract the stigmatisation of people with hearing impairments, campaigns are planned in the target communities to raise awareness of the inclusion of people with disabilities in sub-objective 2, as well as activities to improve their income opportunities.
* **Extended involvement of interest groups**: To ensure the active involvement of local authorities, *Ward Development Committees, Community Welfare Assistant Committees* and the *Department of Social Welfare,* regular coordination meetings with all stakeholders are planned in sub-objective 2.
* **Integrated awareness campaigns in rural and urban areas**: This proposal plans to utilise local radio and community events in rural areas and television, radio and social media in urban areas to effectively disseminate information about ear and hearing health care.

Beyond the project evaluation and feasibility study, the new project was planned with key stakeholders, including government institutions (National Ear and Hearing Health Coordinator) and organisations of persons with disabilities, represented by ZAFOD (*Zambian Federation of Organisations of Persons with Disability*) in cross-sectoral meetings, which provided valuable information for the orientation of the activities, such as the design of the training of health personnel as a hybrid model (face-to-face and online) and the sensitisation of teachers for the identification of children with hearing difficulties. In a joint planning workshop at the beginning of November 2023, which was also attended by the consultant for the feasibility study, the most important issues were discussed once again and the project concept was finalised together.

Cooperation with the Ministry of Health, the Ministry of Education and the Ministry of Social Affairs is very important in the planning and implementation of the project. The partnership between BCH and the Zambian government has strengthened over the years, as demonstrated by the ongoing renewal of the MoU first signed in 2009. BCH will continue to work with the government structures as part of the project, with the selection of health centres and health workers to be included in the project being done jointly with the government at national, provincial and district levels. This inclusive approach is also applied to other line ministries such as the Ministry of Social Affairs and the Ministry of Education to ensure that beneficiaries of the project not only receive health services but also have access to social services and can participate in the school screening programme. The close collaboration aims to promote ownership and sustainability of the project activities.

In addition, cooperation with the Zambian Association of Organisations of Persons with Disabilities (ZAFOD) is of central importance to the project. BCH will work with ZAFOD to promote the inclusion of people with hearing disabilities. Planned activities include joint awareness-raising campaigns and income-generating activities for people with hearing impairments. ZAFOD will support BCH in lobbying for health services tailored for people with hearing impairments.

BCH has taken full account of gender-specific aspects in all activity planning. Wherever possible, participants in training courses should be equally represented. All project data is collected and analysed disaggregated by gender.

1. **Direct/indirect target group**

The direct target group comprises **594,000** adults and children in the seven target regions who will be screened for ear and hearing problems and referred to appropriate services as needed. This figure is based on the assumption that each of the 120 newly trained community *health workers* will be able to screen 100 people per month for 36 months (totalling 432,000 people). The 30 *community health workers* already trained in the previous projects will continue to screen people in Lusaka, Central and South Provinces for the duration of the project (162,000 people).

Other direct target groups are

**266** healthcare professionals such as ENT doctors, nurses and *clinical officers* and community health workers trained in ear and hearing healthcare.

**270** people with hearing impairments and their families who are organised in self-help groups;

**210** people with hearing impairments who pursue income-generating activities

**1,**000 teachers and

**30** decision-makers/media representatives who are sensitised to ear and hearing health.

In total, the direct target group amounts to **595,776**

Indirectly, the project benefits all family members of people with hearing impairments, whose improved life situation also has a positive effect on the entire family.

The Ministry of Health and the Ministry of Education have an important mediating role to play. They ensure the effectiveness of the planned measures. Their close involvement in the project also ensures the ongoing development of ear and hearing healthcare that is close to the people.

1. **Impact matrix** (significance and effectiveness)

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| **Overall objective** | **Indicators OPTIONAL** | | **CBM STANDARD**  **INDICATORS** |
| Initial value (actual)  (quantitative and qualitative) | Target value (target)  (quantitative and qualitative) |  |
| The quality of life of people with a hearing impairment or at risk of hearing impairment in the provinces of Central, East, Luapula, Lusaka, North, Muchinga and South in Zambia has improved. |  |  |  |
| **Project Objective** | **Indicators** | |  |
| **Initial value (actual)**  **(quantitative and qualitative)** | **Target value (target)**  **(quantitative and qualitative)** |  |
| People who suffer from a hearing impairment or are at risk of acquiring one make use of competent medical counselling and treatment in the target areas, and people with hearing impairments demand their rights. | Currently, about 3,000 people per month (100 people per month for every 30 community health workers) with ear and hearing problems in the Central, South and Lusaka provinces are examined and treated if necessary. | By the end of the project, around 15,000 people per month (100 people per 120 newly trained community health workers and 30 already trained community health workers in Central, South and Lusaka Provinces) in all project areas will be examined for ear and hearing problems and treated accordingly if necessary. (For a total of 594,000, see target group chapter) | IND6000 Total number of persons reached by ear and/or hearing care services (screened/examined/treated) |
| The training and further education of healthcare professionals in the field of ear and hearing health is currently not sustainably anchored in the training system. | A hybrid training system for task sharing in the ear and hearing health sector is functional at the end of the third project year and certified by the Zambian Qualification Authority. The 9 trained audiology officers and the 8 trained hearing care professionals started training further audiology officers and hearing care professionals in the fourth year of the project. |
| In the province of Lusaka, there is currently only one self-help group for people with hearing impairments that campaigns for the rights of people with hearing impairments. | The 18 newly founded self-help groups for people with hearing impairments in the provinces of Central South, Luapula, North, Muchinga and East organise at least one activity per year from the third year of the project to demand their rights. |
| In the existing self-help group for people with hearing impairments in Lusaka Province, no income-generating measures are being implemented. Existing savings groups in the target regions are not inclusive. | At the end of the project, at least 168 members (80%) of the 14 savings groups that have been set up are carrying out income-generating activities. 4 existing savings groups have included people with hearing impairments. |
| **Subgoals** | **Indicators** | |  |
| **Initial value (actual)**  **(quantitative and qualitative)** | **Target value (target)**  **(quantitative and qualitative)** |  |
| 1. A cascade training model for capacity building and task sharing in ear and hearing health care was introduced in the target regions. | At the end of the project, 8 ENT doctors have strengthened their capacity to perform complicated surgical procedures and integrate this knowledge into the training of ENT doctors at UTH. | At the end of the project, 8 ENT doctors will have strengthened capacities to perform complicated surgical procedures and integrate this knowledge into the training of ENT doctors at UTH. | IND6008 No. of ENT specialists and audio logical professionals trained or in training.  IND 6010 No. of other persons trained to deliver Ear and Hearing Care services, excluding ENT specialists and audio logical professionals. |
| There is currently only one *Audiology Officer in Zambia* | At the end of the project, a hybrid training model was introduced for the sustainable training of *audiology officers,* and 9 *audiology officers* (at least 50% women) were trained to fulfil their role adequately in accordance with the task-sharing model. |
| There are currently 14 hearing care professionals in Zambia working in the provinces of Lusaka, Central and South. There are currently no hearing care professionals in the provinces of Luapula, North, Muchinga and East | At the end of the project, a hybrid training model for the sustainable training of hearing care professionals has been introduced and 8 hearing care professionals (at least 50% female) have been trained to adequately fulfil their role according to the task-sharing model in the provinces of Luapula, North, Muchinga and East. |
| At present, healthcare staff are not adequately trained to take on the tasks of the task-sharing concept for ear and hearing health services. | 121 *nurses/clinical officers* (at least 50% female) and 120 *community health workers* (at least 50% female) are empowered to provide or adequately refer primary ear and hearing health services according to the task-sharing model in the target regions. |
| In the provinces of Luapula, North, Muchinga and East there are currently no basic ENT medical facilities and no audiology centres | 120 municipal healthcare facilities have basic ENT equipment and 4 audiology centres with the corresponding equipment are set up and operational. |
| 1. Key stakeholders, including organisations of people with disabilities, government agencies and media representatives, have strengthened their capacity to actively advocate for citizen-centred ear and hearing healthcare and inclusion of people with hearing impairments. | Based on the experience from the previous project, it is estimated that only 5% of the population in the catchment area have a sound knowledge of ear and hearing health and an understanding of the needs of people with hearing impairments (see Chapter 5.3 for studies on the survey of the level of knowledge). | By the end of the 4th year of the project, 50% of respondents had improved their knowledge of ear and hearing health and their understanding of inclusion of people with hearing impairments in the community compared to the pre-study  (See chapter 5.3. for studies on the survey of the state of knowledge). | IND2006 No. of members in parent to parent, peer support and/or self-help groups.  IND2007 No. of all community level government participants in community based inclusive. Development/disability inclusion trainings.  IND0005 No. of campaigns in the community to create awareness about disability rights, prevention and services |
| People with hearing impairments are only networked with each other in Lusaka through a self-help group in order to support each other and exchange experiences | By the end of the project, 270 people in the provinces of Central South, Luapula, North, Muchinga and East are networked in 18 self-help groups for people with hearing impairments, whose leadership structure is staffed by at least one woman, and regularly exchange information. |
| People with hearing impairments and their families often have no access to financial resources/savings and no platform to discuss economic issues | 14 groups for income-generating activities for people with hearing impairments and carers of children with hearing impairments, whose management structure is staffed by at least one woman, are established and operational |
| Currently, teachers are not sufficiently informed about ear and hearing problems and their treatment options. | 1,000 teachers (at least 50% of whom are female) are sensitised to ear and hearing health and can identify children with hearing problems and refer them appropriately. |
| Decision-makers and media representatives are not sufficiently informed about the needs of people with hearing impairments and are therefore unable to adequately advocate for their interests. | 30 decision-makers and media representatives are strengthened in their capacity to advocate for the inclusion and medical care of people with hearing impairments |
| There are currently few information opportunities for the population in the target communities about inclusion and ear and hearing health. | The population in the target communities has access to information about ear and hearing health and inclusion via TV, radio, information brochures and social media |

1. **Measures to achieve objectives** (effectiveness and efficiency**)** 
   1. **Timetable and measures**

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| **Measures** | **1st project year** | | | | **2nd project year** | | | | **3rd project year** | | | | **4th project year** | | | | **5th project year** | | | | |
| **Sub-objective 1: A cascade training model for capacity building and *task sharing* in ear and hearing health care is in place.** | | | | | | | | | | | | | | | | | | | | |
| 1.1 Training in ear surgery for ENT specialists |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.2 In-service training to become an *Audiology Officer* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.3 In-service training to become a hearing aid acoustician |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.4 Training of nurses in primary ear and hearing health care |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.5 Training of community health workers in primary ear and hearing health care |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.6 Mentoring during surgical camps |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.7 Mentoring of trained staff during community and school screenings |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.8 Procurement of tents for *outreaches* and *screenings* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.9 Support for trained nurses/clinical officers and community health workers through telemedicine |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.10. Equipment of municipal healthcare facilities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.11. Construction of hearing test booths and procurement of audiology equipment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.12. Procurement of laptops for hearing aid technicians and *audiology officers* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Target 2: Key stakeholders, including organisations of persons with disabilities, government agencies and media representatives, have strengthened their capacity to actively advocate for citizen-centred ear and hearing health care and inclusion of persons with hearing impairments**. | | | | | | | | | | | | | | | | | | | | |
| 2.1 Community mapping |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.2 Promotion of self-help groups |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.3 Further training for income-generating measures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.4 Investment costs for income-generating measures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.5 Sensitisation of teachers to ear and hearing health |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.6 Training decision-makers on the importance of ear and hearing health |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.7 Coordination meetings with national decision-makers and OPDs |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.8 Publication of adverts and articles on ear and hearing health and information material |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.9 Community awareness campaigns on inclusion and ear and hearing health |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

* 1. **Description of the measures, methods and instruments**

**Calculation of costs in the activities:**

BCH will pay the costs of accommodation for participants during the training courses and workshops directly to the service providers. The rate included in the proposal is based on an average rate of service providers registered and approved by BCH. Catering during the workshops and trainings will also be paid directly by BCH, either to external service providers if the workshops are external or to the BCH catering team if the trainings are held at BCH.

Participants and staff (during monitoring visits) will be paid a lump sum for dinner during training sessions and workshops so that they can purchase their own dinner. The amount per dinner/participant is based on the BCH guideline of January 2024 and amounts to approx. 16 EUR per business trip night.

If no lunch is provided (e.g. for monitoring trips), participants/employees will be paid a lump sum of approx. 9.40 EUR.

Transport costs for participants are also budgeted in this application based on the BCH guidelines from January 2024: The outward/return journey will be reimbursed at bus fare plus taxi costs where there is no bus for all participants in a training course, workshop, meeting or other approved event. Reimbursement will be made on presentation of receipts for the outward journey; for the return journey, the receipts for the outward journey will be used as proof. A flat-rate transport fee totalling approx. 9.40 EUR for the outward and return journey from/to the meeting point for joint trips or for local travel to the event location will be paid if the participants are not picked up and dropped off at their place of residence by the BCH driver.

**Sub-objective 1: A cascade training model for capacity building and *task sharing* in ear and hearing health care is in place.**

To further expand the provision of community-based ear and hearing health services in Lusaka, Central and Southern Provinces and to establish them in Eastern, Muchinga, Luapula and Northern Provinces and ensure their sustainability for other provinces, the project plans to introduce a cascading training model for capacity building in line with the *task-sharing* model*.*

Task sharing is a concept recommended by the WHO[[2]](#footnote-3) as a means of eliminating gaps in the workforce for ear and hearing health services.

*Task sharing* involves redistributing clinical tasks or their main components between different teams of healthcare staff. Unlike task sharing, tasks are not transferred from one cadre to another, but additional cadres are given the opportunity to take on certain tasks or measures. The appropriate redistribution of tasks from highly qualified health personnel to other health personnel with less training and fewer qualifications enables more efficient utilisation of available human resources. Tasks traditionally performed by ear and hearing health professionals can be taken over by non-specialists, e.g. community health workers or nurses. This approach has already been successfully applied in other health areas with resource needs; in ear and hearing health, the principle of *task sharing* can improve access to

* Recognition and treatment of common ear diseases at the primary level (e.g. earwax, acute and chronic otitis media)
* Hearing examination and screening; and
* Fitting of hearing aids and counselling after fitting

Hearing assessment is usually entrusted to *Audiology Officers* who have limited availability in many parts of the world, especially in low and middle income countries. In Zambia, with a population of more than 17 million people, it is estimated that more than 600 *Audiology Officers are* needed to assess the hearing of all those who could potentially have a hearing loss. As there is only one qualified *Audiology Officer* and 14 hearing care professionals to cover the needs of the whole country, this presents a major challenge to the provision of ear and hearing health. The ratio of existing to required staff is 0.01, meaning that current availability only covers around 1% of the staffing needs for the assessment of people with hearing loss. Therefore, a sustainable hybrid training system is to be introduced to ensure the sustainable training of *audiology officers* and hearing care professionals. In addition, nurses and *community health workers are* to be trained as part of *task sharing* so that they can carry out hearing health tasks in addition to their standard tasks. This will lead to a reduction in the workload of *audiology officers* and ENT doctors.

Task sharing should look like this:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Task/squad | *Community Health Workers* | Nurses/Clinical *Officers* | Hearing aid technicians | *Audiology Officers[[3]](#footnote-4)* | ENT doctor |
| Hearing screening | Community screening and referral | Community screening and referral | Community screening and referral | Community Screening | Community screening |
| Hearing loss assessment | For adults with a *red flag* for a referral | For adults with a *red flag* for a referral | For adults with a *red flag* for a referral |  |  |
| Hearing aid fitting | Follow up in the community | Follow up in the organisation |  |  | Not applicable |
| Hearing aids & earmoulds maintenance and repair | Selected simple tasks | Selected simple tasks |  |  | Not applicable |
| Hearing rehabilitation | Counselling for adults | Hearing training and counselling for adults | Hearing training and counselling for adults |  |  |
| Recognition and treatment of common ear diseases (earwax, acute and chronic middle ear infections, etc.) | Identification and transfer in the municipality | Identification and initial care in the community, referral | Triage, diagnosis and referral | Triage, diagnosis and management of uncomplicated ear diseases |  |

Legend:

Traditional task

Tasks according to the task sharing model

In order to prepare the various cadres of the health system for the tasks of the *task-sharing* model and to anchor the model in the Zambian health system in the long term, a cascading training model is required in which health personnel are trained, who in turn will ensure the continuous training of further health personnel in the long term.

The training model follows a hybrid approach for the majority of the training courses, combining online study and face-to-face training (see package of measures **a**). In addition, the training concept also includes phases of practical application and telemedical online counselling (**package of measures b**). In some trainings, international experts will take over parts of the training for areas in which there are no trainers in Zambia yet. European experts from the University of Southampton are proposed for the selection of international experts, as there is already an existing, certified training programme there and the experts have agreed to provide the training at minimal cost (flight, accommodation and meals as well as a very low fee). Due to the general shortage of personnel in the field of ear and hearing health, it is also very difficult to recruit regional personnel for training programmes at a reasonable price. Once the training has been completed, the trained staff will be able to train themselves so that international expertise is no longer required for follow-up training.

To enable the newly trained staff to carry out the new tasks in accordance with the *task sharing*, the **package of measures c** also includes the initial procurement of ENT equipment.

1. **Further training for medical staff**

The following medical staff are to be trained as part of the project:

|  |  |  |
| --- | --- | --- |
| **Further training** | **Staff to be trained** | **Target region in which the trained personnel work** |
| Advanced training in ear surgery | 8 ENT: Doctors | Lusaka, Central, South, Luapula, North, Muchinga and East as well as the rest of the country |
| Audiological Officer | 9 Hearing aid technicians | Lusaka, South and Central |
| Hearing aid technicians | 8 Nurses or *clinical officers* | Luapula, North, Muchinga and East |
| Advanced training in primary ear and hearing health care | 121 Nurses or *clinical officers* | Luapula, North, Muchinga and East |
| Advanced training in primary ear and hearing health care | 120 *Community Health Worker* | Luapula, North, Muchinga and East |

The individual training programmes are described below.

Verbal commitments have already been obtained from the Ministry of Health and UTH for the sustainable continuation and support of the training concept, which are currently being finalised and will be presented during the first year of the project.

**Activity 1.1 Training in ear surgery for ENT doctors**

In the previous project, a milling laboratory was set up at the UTH, which has since been used for ear surgery training courses. The temporal bone laboratory was set up in the final phase of the previous project, with only two rounds of training for trainers. Currently, the available specialists use this facility to train future ENT specialists. However, there is an urgent need for the continuous development of the current trainers through guidance and expertise from internationally recognised specialists on highly complex surgical procedures on the ear. Therefore, two multi-day training courses on this topic will be organised. The training will be delivered by two ENT doctors from the *University of Brighton* and *Operational Ear Drop* based in the Netherlands. The trainers from these two organisations will teach four already practising ENT specialists and four newly trained ENT specialists at both *Beit Cure Hospital* and *University Teaching Hospital*. After completing the training and practical exercises in surgical camps, the trained ENT specialists will continue the training of future ENT specialists on this topic at UTH, so that foreign expertise will no longer be required in the future.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.1 | Two multi-day training courses on ear surgery for at least 8 beneficiaries | Meals, accommodation, transport, course materials and printing costs, flight ticket for trainers, trainer's fee per person per stay (500 EUR\*2 persons\*2 times =2,000 EUR), | 11.542 |

**Activity 1.2 In-service training for *audiology officers***

There is currently only one trained *audiology officer* in Zambia. In order to be able to introduce the *task sharing* model sustainably, it is necessary that further *audiology officers* are qualified and it should be ensured that this important position in ear and hearing health care continues to be trained in the long term. As part of previous projects, audiologists were trained in the three regions of Lusaka, South and Central. In the new programme, it is now planned to train nine hearing care professionals to become *audiology officers* on a part-time basis. The three-year part-time qualification programme will - like the training of hearing care professionals under activity 1.3 - be carried out in collaboration between BCH, UTH and the two British audiologists from the *University of Brighton* (*Sussex Medical School*) and the *Institute of Sound & Vibration Research* at the *University of Southampton*. The training programme will be certified by the Zambian Qualification Authority and will meet the requirements of the Zambian Health Professions Council. The training programme is designed as a hybrid work-based learning model so as not to deprive the health system of key positions over an extended period of time. Participants will continue to work in their current jobs. All participants in the training programme must sign a contract with the Ministry of Health in which they commit to working as an audiology officer in the relevant region for a period of time to be determined. The period will be determined by the government (as employer) in co-operation with the Beit CURE hospital. As a rule, the person who has completed the training is obliged to work in the new position for a minimum period of time that is at least equal to the duration of the training programme. However, this period is often longer. If this period is not fulfilled, training costs must be repaid in proportion to the time not completed. Every year, four weeks of face-to-face training are planned with the two British audiologists, who come to Zambia at regular intervals and carry out parts of the training that cannot yet be provided by Zambian staff. The attendance of the British audiologists is coordinated with activity 1.3. so that travelling costs are only incurred once. In addition to the face-to-face events, regular online courses and online counselling sessions will be held. Three hearing care professionals work at BCH. The six participants who are not employed at BCH will be stationed at BCH for two months each year to attend the face-to-face events and to be supervised by BCH specialist staff. This hybrid training model is being trialled for the first time in Zambia. After completion of the training, the in-service model will be established as a regular training programme at UTH in collaboration with BCH. The *audiology officers* trained through this project will act as trainers in the future. The presence of British audiologists is no longer required for future training courses. However, they will be available on a voluntary basis to provide online support for further training courses in order to support the new instructors if necessary.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.1 | In-service training for *audiology officers* for at least 9 beneficiaries for 3 years | Internet costs, catering, accommodation, transport, trainer's fee per person per stay (500 EUR\*2 persons\*2 times per year\*3 years=6,000 EUR), flight costs for trainers | 69.084 |

**Activity 1.3 In-service training for hearing care professionals**

There are currently no hearing care professionals in the project regions of Luapula, North, Muchinga and East. Therefore, as part of the project, 8 nurses or *clinical officers[[4]](#footnote-5)* are to be trained as hearing care professionals for one year (2 per region) to be able to take on the tasks of the task sharing concept. The concept of in-service, hybrid training is intended to introduce a training concept that ensures the long-term training of hearing care professionals. The candidates for the training programme will be selected by the district health management in collaboration with the project team according to jointly defined criteria. One criterion will be that candidates have participated in the Primary Ear and Hearing Health training (see activity 1.4.). The one-year training programme is run in collaboration between BCH and two UK audiologists from the University of Brighton (*Sussex Medical School*) and the *Institute of Sound & Vibration Research* at the University of Southampton. The training is based on an in-service training programme developed by the University of Southampton, which is run as a hybrid (online and face-to-face). Within the one-year training programme, participants will be trained online for four months and receive eight months of practical training at BCH by ENT specialists and hearing care professionals from BCH. In addition, the two British audiologists will conduct face-to-face training sessions at BCH twice a year and supervise the participants online outside of the face-to-face sessions. At the end of the one-year training, the participants will be certified audiologists who will work in the newly established audiology centres (see activity 1.10). All participants in the training programme must sign a contract with the Ministry of Health in which they undertake to work as hearing care professionals in the relevant region for a period to be determined. The period will be agreed with the Ministry of Health in the same way as for audiology officers. Costs for the two British audiologists are included in activity 1.2. The audiologists trained through this project will act as trainers for other audiologists in the future to further roll out the concept of task sharing. The principle of in-service hybrid training will enable the trainers to carry out the training activities alongside their regular duties. For future training programmes, which will be systemically linked to UTH in cooperation with BCH, the presence of British audiologists is no longer required. However, they will be available for online support for further training courses to support the new trainers if necessary.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.1 | Eight-month stay at BCH as part of the training to become a hearing aid acoustician for at least 8 beneficiaries and 4 months of online training | Internet costs, catering, accommodation, transport | 45.568 |

**Activity 1.4 Practical training of nurses in primary ear and hearing health care**

Ear and hearing health topics are included in the Zambian curriculum for nurses. Due to the lack of internship places where trainees can effectively learn the theoretical knowledge in practice, nurses have no practical experience in ear and hearing health services, so they are not able to take over the treatment of ENT cases. To close this gap, the project is planning an intensive practical training programme using the training manual recommended by the WHO. In this training programme, participants will be exposed to a variety of real-life scenarios that will enable them to take on tasks in the field of ear and hearing health according to the *task-sharing* model. In selecting participants, the programme will focus on the Eastern, Muchinga, Northern and Luapula regions to improve the coverage of ear and hearing health at the primary level of the health system in these four regions and bring services closer to the people. In each of these regions, 30 *nurses/clinical officers* will receive practical training in primary ear and hearing health to be able to take over tasks in the field of ear and hearing health according to the *task-sharing* model. The focus of the training is on the identification, diagnosis and treatment of simple ear problems. The participants are selected by the respective district and provincial health authorities. The training will utilise a hybrid model where five days of practical training will be conducted at BCH by BCH ENT specialists. The *Audiology Officers play* an important role in the sustainable anchoring of the training. The higher number of *audiology officers* created by this project will also increase the number of opportunities where practical ear and hearing health services can be learnt. In the future, this practical part of the training will be covered by the *Audiology Officers*, who will teach newly qualified nurses practical ear and hearing health topics on site. This is part of the Audiology Officers' job description to practically introduce new nurses to the implementation of the system as part of the task sharing.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.1 | Multi-day training programme for a total of 120 beneficiaries | Meals, accommodation, transport, teaching materials, internet and work clothes, external trainer Fee: 5 days for 6 groups (30 days) of EUR 118.66 per day = EUR 3,560 | 68.314 |

**Activity 1.5 Training of *community health workers* in primary ear and hearing health care**

The *community health workers* play an important role in raising community awareness on ear and hearing health, identifying cases during home visits and referring them to a health centre for further treatment. Although the curriculum here also covers ear and hearing health for the training of CHWs, there is no opportunity for CHWs to gain practical experience on the topic due to the lack of ear and hearing health infrastructure where practical experience can be gained. In each of the four regions East, Muchinga, North and Luapula, 30 *community health workers* will therefore receive practical training on ear and hearing health. The participants will be selected by the district health teams of the Ministry of Health. The training of the 120 community *health workers* lasts approximately 3 days and is carried out in smaller groups in one of the districts of the respective province. The training is conducted by *Beit Cure Hospital* staff. Upon completion of the training, referral registers are provided to the community health *workers* to document all patients who are to be referred to the local health centre or community for hearing screening (the cost of the referral registers is budgeted under project-related operating costs). Following the expansion of the ear and hearing health infrastructure in the four regions, the practical training will be continued by the trained nurses and audiology officers for new community health workers. This is part of their job description as part of the task sharing model.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.1 | Multi-day training courses on primary ear and hearing health for at least 120 beneficiaries 1 driver and 4 trainers. | Catering, transport, accommodation, materials, room hire, work clothes | 31.803 |

1. **Practical guidance and support from trained medical staff**

An important aspect of the training concept is that everything learnt must be applied in practice in order to be anchored in the long term. Surgical camps and community and school screenings are therefore organised to give the trained staff the opportunity to directly apply what they have learned.

**Activity 1.6 Surgical camps**

In addition to the ear surgery training, a total of 4 surgical camps are to be organised (one per year from the second year of the project), whereby only 3 are budgeted as part of the project. These camps are intended to enable the ENT doctors trained under activity 1.1. to apply their knowledge in practice under supervision. Each surgical camp will last approximately 5 days (1 day ENT clinic and 2-3 days surgery) plus 1-2 days for travelling to and from the surgical camp location. The team consists of 8 specialists, including 1 experienced ENT doctor and 1 newly qualified ENT doctor, 2 anaesthetists, 2 surgical nurses and 2 hearing specialists. In addition, the team is supported by *nurses/clinical officers* and *community health workers* who have been trained in primary ear and hearing health (see Activity 1.4. and Activity 1.5.). The project will organise a surgical camp every year. They will be scheduled as needed according to the patients identified. The *Beit Cure Hospital will organise the* logistics of the camps and provide accommodation for the entire surgical team at the respective surgical sites. The costs for these camps are budgeted on a degressive basis, as the costs will be covered by the relevant institutions of the Ministry of Health from 2028. A corresponding written agreement will be submitted in the first year of the project. In addition, negotiations are also being held with the Zambia Ear, Nose, and Throat (ENT), Audiology, and Speech Therapy Society (ZENTAS) regarding the assumption of costs.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.1 | At least 3 multi-day surgical camps with at least 8 specialised staff each, 1 BCH and a driver and 5 *community health workers/clinical officers/nurses* | Catering, accommodation, transport | 11.193 |

**Activity 1.7 Mentoring of trained staff during community and school screenings**

Ongoing mentoring in practice is part of the strategy of continuous medical learning that the project aims to implement. In addition to the training for *nurses/clinical officers* (activity 1.4.) and the *community health workers* in primary ear and hearing health (see activity 1.5.), *outreaches* and school screenings will enable the trained staff to apply and deepen their knowledge in practice under supervision. The project will utilise *outreaches* and school screenings in the respective districts of the *community health workers to* coach them. The eight hearing care professionals trained under activity 1.3. will be supervised and guided by the already practising hearing care professionals during the *outreaches* and school screenings, so that this professional group can also gain practical experience. The community and school screenings are budgeted on a degressive basis, as the costs are gradually taken over by the Ministry of Health. This will be part of the agreement with the Ministry of Health, which will be presented during the first year of the project. (3 screenings are planned in 2025 via the project budget, 2 in 2026, 1 in 2027 and 1 in 2028).

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.1 | At least 7 multi-day screenings with at least 8 staff and 5 *community health* workers/nurses | Catering, accommodation, transport, advertising material, consumables | 31.583 |

A total of at least **594,000** ear and hearing health consultations are planned at *Beit Cure Hospital*, in the local health centres in the seven target regions, at community screenings and at school examinations over the entire duration of the project. Data collection will be done electronically through the Zambian Health Management Information System (ZHMIS), the *Beit Cure Hospital-based* Electronic Medical Record (EMR) system for managing patient records and Android-based mobile data collection tools for community-based outreach. The project works with the Zambian Ministry of Health's existing data management system and ensures that data is disaggregated using WHO standard ear and hearing health indicators. Data collection at the health facility level is carried out by the trained *community health workers*.

For the ear and hearing health consultations, only the costs listed above are budgeted for the community and school screenings. All other consultations are covered by the current budget of the healthcare facilities.

The people identified by the screenings who require ear treatment (in particular operations and hearing aids) are funded from the following sources:

1. Most treatments are covered by the national health insurance scheme for better-off families who generally have health insurance. This is an important source of income for Beit Cure to cover free treatment for economically disadvantaged families According to 2022 NHIS data, 35% of the population in Zambia is insured.
2. Special treatments that are particularly expensive and not covered by health insurance are carried out free of charge by Beit Cure if patients are unable to pay for the treatment.
3. The provision of hearing aids is ensured through close cooperation between BCH and DeafKidz International, who regularly supply Beit Cure with hearing aids. This cooperation is already being practised in the audiology centres set up at state health centres with the support of the predecessor project. This cooperation will also be introduced in the four newly established audiology centres at state health facilities in the new target regions (activity 1.11).
4. Beit Cure also receives regular support from long-standing cooperation partners (see chapter 1.1.) for the provision of hearing aids.
5. By promoting income-generating measures, capacities are built up so that people with hearing impairments can finance smaller costs such as transport or battery changes for hearing aids themselves

**Activity 1.8 Procurement of tents for *outreaches* and screening**

A large marquee and two smaller tents are to be purchased for Beit Cure Hospital to protect patients from the sun and rain during the waiting time and to offer them sufficient privacy during the screenings.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 1.1. | Procurement of tents | 1 marquise tent and 2 small tents | 3.560 |

**Activity 1.9 Supporting trained nurses/clinical *officers* and community health workers through telemedicine**

120 trained *nurses/clinical officers* and 30 already active community health workers trained by BCH will be supported online in WhatsApp and Telegram groups by ENT specialists, audiologists and others trained in primary ear and hearing health for identified cases of ear and hearing health problems. The platform will also be used for official communication about all upcoming virtual training and continuing education events for nurses, as well as for the assessment of capacity gaps in trainees by ENT specialists for future refresher training in ear and hearing health. The costs for the data volume are budgeted on a degressive basis, as they are gradually taken over by the healthcare institution where the person in question is employed. The project budget includes costs for 10 months in 2025, 6 months each in 2026 and 2027 and 2 months in 2028.

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| --- | --- | --- | --- |
| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.1 | Support for at least 150 nurses and community health workers through telemedicine for at least 24 months | Data volume | 8.544 |

1. **Equipping healthcare facilities with the necessary ENT devices**

**Activity 1.10. Equipping community health facilities**

The health facilities that have sent a *nurse/clinical* officer/midwife to the training in Primary Ear and Hearing Health will receive ear and hearing health screening equipment to provide the services in their facilities upon successful completion of the training. These are government health centres and all nurses trained under the project are employees of the Ministry of Health. This will include the following: Otoscope Heine Beta 200 F.O ENT Diagnostic Set LED - Rechargeable, Portable headlight system with fixed headband and cable, 50 pack of reusable otoscope tips (2,4,3,4 & 5mm), Nasal speculum Vienna model for adults 14cm, Probes Currates/FARREL cotton wool holder spiral threads 1.2mm, 14cm. Under Activity 2.7, the project will engage all relevant stakeholders (including the *National Health Insurance Management Authority* (NHIMA)) to ensure that the maintenance of the equipment and regular supply of consumables is sustained.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 1.1 | ENT equipment for 120 municipal healthcare facilities | Otoscope, ear probes, headlamp, kidney shells, ear tips, laryngeal mirror, charger for the otoscope | 53.768 |

**Activity 1.11. Construction of hearing test booths and procurement of audiology equipment**

In the four new regions (East, Muchinga, North and Luapula), where audiological facilities are not yet available, audiology centres are to be set up to ensure that the population is provided with audiological services. An audiology centre will be set up in each region and appropriate equipment procured: This includes an all-in-one desktop computer designed for various functions within the facility, a Piccolo audiometer for the audiology room, a Triangle screening device for *outreaches* that does not require a computer connection, a versatile tympanometer for use in the booth and during *outreaches*, a portable *Otoacoustic Emissions* OAE device, a HiPro hearing aid programmer to be used for comprehensive in-cabin hearing assessments, programming cables for device configuration and annual calibration services from the third year of the project from a South African based company to ensure accuracy and reliability in diagnostic procedures. Upon completion of the project, it is envisaged that the government will take over maintenance, including calibration of the equipment. Lobbying activities under sub-objective 2 are intended to secure the necessary funding. For the existing devices from the previous project, there is already a cost-sharing agreement for the calibration of devices that works well and is effective. In this procedure, BCH and all state institutions whose devices need to be calibrated pool their resources. This allows the technician from South Africa to make a single visit to the country. Each facility covers the costs according to the number of devices that need to be calibrated at the facility. In the written agreement that will be submitted during the first year of the project, the equipment will be extended to the newly established audiology centres. This agreement will be extended to the new project.

The provision of hearing aids for identified needs is covered by the cooperation with BCH and its cooperation partners.

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| --- | --- | --- | --- |
| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 1.1. | Audiology equipment for 4 locations | Construction of hearing test booths and procurement of audiology equipment and calibration | 91.681 |

**Activity 1.12. Procurement of laptops**

Laptops for 17 hearing care professionals and *audiology officers* are to be procured. The laptops will be used for training during the hybrid training as described in activities 1.2 and 1.3 above. The same laptops will later be used for *outreach* in the communities as laptops are required to operate the mobile audiological equipment to read hearing test results. The laptops are not the personal property of the hearing care professionals and audiology officers but become the property of the structure where the person works.

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| --- | --- | --- | --- |
| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 1.1. | Laptops for at least 17 beneficiaries | Laptops and Microsoft software | 20.174 |

**Target 2: Key stakeholders, including organisations of persons with disabilities, government agencies and media representatives, have strengthened their capacity to actively advocate for citizen-centred ear and hearing health care and inclusion of persons with hearing impairments.**

Sub-goal two aims to increase understanding of ear and hearing health, particularly among decision-makers, and to promote the participation of people with hearing impairments through awareness-raising and income-generating measures. These are also key recommendations of the feasibility study.

**Activity 2.1 Community mapping**

A stakeholder mapping exercise will be carried out as part of the project. The mapping team will consist of 6 BCH staff and 2 *community health workers*. The mapping will help the project to identify community leaders, clergy, self-advocacy organisations of persons with disabilities and NGOs that provide services that could be used as part of the project. This will also include a comprehensive mapping of existing savings groups that could be relevant to Activity 2.3 (Income Generating Activities). The mapping will take approximately 6 working days per province and will be carried out in 6 of the 7 provinces. The mapping will not be carried out in Lusaka as the information on Lusaka is already available to the project team. The team will meet with the District Ministries of Health, Education and Community Development to present the objectives of the project and explore opportunities for collaboration. The mapping will form the basis for further activities in the new target areas that have not previously benefited from ear and hearing health interventions.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.2. | Multi-day community mapping in 6 provinces with 3 BCH staff and 2 *community health workers* per region | Catering, transport, accommodation | 9.528 |

**Activity 2.2 Promotion of self-help groups**

As part of this project, 18 self-help groups for people with hearing impairments will be set up in 6 provinces (Lusaka already has a functioning self-help group). There will be 3 self-help groups in each of the 6 provinces. Members of the groups will be recruited mainly through information sessions in schools and during community screenings. The self-help groups will be based on the community-based inclusive development (CBID) model. Support groups will play a crucial role in providing emotional support by providing a platform for sharing experiences. These groups will promote the exchange of information between people with hearing impairments, parents and carers of children with hearing impairments about resources, therapies and assistive technology. In addition, parents will be trained to advocate for the rights of children with hearing impairments, raise awareness of their unique challenges and promote their inclusion. To encourage better interaction between members, each support group will consist of a maximum of 15 members. The group meetings will primarily focus on advocating for better inclusion of children and adults with hearing impairments. In addition, the project will utilise media campaigns and events to create a space for the self-help groups to highlight the importance of inclusion of children and adults with hearing impairments in their communities. The project will fund 10 meetings per group and invite the formed groups to participate in organising the meetings. The organisation of further meetings from 2027 onwards will then be the responsibility of the individual groups. The CBID Officer will support the groups beyond the period of the funded meetings.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.2. | At least 10 meetings per group (18 groups) with at least 15 people | Catering, transport costs, workshop material | 8.972 |

**Activity 2.3 Income-generating measures for people with hearing impairments**

In order to sustainably improve the living conditions of people with hearing impairments and their families, it is important not only to strengthen their ability to stand up for their rights, but also to enable them to contribute to their livelihoods and thus become a respected part of the community. The project therefore plans to give people with hearing impairments and their families access to income-generating measures. Between 2017 and 2022, BCH, together with the support of CBM, gained initial experience in implementing income-generating activities for people with disabilities in the Lusaka region. In this project, BCH worked with external consultants in the areas of finance, entrepreneurship and agricultural techniques. Strategic partnerships were also established with companies such as chicken farms, mills and seed growers.

Based on the results of mapping activity 2.1., 21 community health workers selected from the 120 CHWs trained in activity 1.5. will be used to identify people with hearing impairments who are interested in income-generating measures. An important point of contact for the CHWs are the self-help groups established under Activity 2.2. and information from the community and school screenings. Based on Beit Cure's experience with income-generating activities and self-help groups, it can be assumed that not all participants from self-help groups are interested or have the need to participate in income-generating activities. It is also important that participants in income-generating measures do not have to travel long distances to attend meetings. An important selection criterion will be the willingness of the participants to make a personal contribution to the income-generating measures. Since not all members of the self-help groups are interested or fulfil the necessary criteria, we assume that 14 savings and credit groups will be formed for income-generating measures. Individuals from self-help groups who are unable to join an income-generating group because no group can be formed will be referred to existing savings groups with the support of BCH, which will be encouraged to organise their activities inclusively. Information events are planned for the formation of the 14 income-generating groups, which will be organised by BCH staff with the support of 21 CHWs. Appropriate information material on income-generating measures and the funding opportunities offered by the programme will be distributed at the events. Communication will be ensured by sign language interpreters.

After 14 groups have been formed and three leaders per group have been selected, these 42 group leaders will undergo several days of training on setting up and managing savings and credit groups, financial management and criteria for selecting transparent income-generating measures. When forming the groups and selecting the leaders, particular attention will be paid to ensuring that women are sufficiently represented in the decision-making body. Modelled on a BCH project with an income-generating component that is already being implemented, the training aims to enable the groups to identify and implement sustainable business projects. The main ventures include free-range chicken farming, handicrafts, vegetable growing and baking. The training will be delivered by 3 external experts who have already worked with an existing project. The training courses will be held at central locations in the respective regions.

In addition to the 42 group leaders, 4 BCH employees will also take part in the training, as they will provide mentoring and support for the selected measures throughout the duration of the project.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.2 | Identification, formation and training of 14 groups for income-generating activities (with a total of 210 people and 21 CHW). | Drinks, snacks, transport costs for 21 CHW, visibility and training material, fee for 2 sign language interpreters for 5 days (5\*2`\*118,70 EUR= 1.187 EUR) | 15.226 |
| Multi-day training in the management of savings groups and income-generating measures for at least 46 participants (42 group leaders and 4 BCH staff) | Accommodation, catering, transport, room hire, training materials, fee for 2 sign language interpreters (2\*5 at 118.70 EUR=1,817 EUR; fee for 3 external trainers (3\*5\*237.33 EUR=3,560 EUR). | 27.872 |
| Total | | **43.098** |

**Activity 2.4 Investment costs for income-generating measures**

After completion of the training described under 2.3, each of the 14 groups will be supported with up to approximately € 2,136 for the procurement of equipment / agricultural products for a business project chosen by the group itself. The selection of business activities for each group will be made after a comprehensive analysis of the local conditions as well as the interests and strengths of the group members. The experience already gained by BCH in previous projects will be incorporated into the counselling of the groups. The value of the seed capital was calculated on the basis of previous project experience and covers around 60 % of the capital actually required for a business idea. The remaining 40 % is contributed by the group members either in cash or in kind. This cost-sharing approach is intended to ensure the sustainability of activities from the outset.

The capital contributed is managed as a revolving fund, with the group members choosing how the material received is paid back to the group according to the income-generating measure chosen. For example, if parts of the group have opted for chicken breeding as a measure (based on previous experience, this is a very likely measure), the members who have received free-range chickens in the laying phase will provide the group with adult chickens that have emerged from the offspring of the laying chickens. This repayment mechanism is managed by the trained group leaders. The repayment mechanisms are determined within the group for each selected measure, so no details about the repayment mechanisms can be provided at this stage. Part of the training under activity 2.3 will be that equal access to the groups' resources must be ensured for all members, especially women.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 1.2. | Income-generating measures for 14 groups | Material/agricultural products for income-generating measures (e.g. chickens, craft materials/seeds etc.) | 29.904 |

**Activity 2.5 Raising teachers' awareness of ear and hearing health**

*Beit Cure Hospital* will work with the Ministry of Education to sensitise teachers to help identify children with hearing impairments. As part of the project, 1,000 teachers across the catchment area will be sensitised. In organisational terms, the project will combine teacher awareness-raising with school screenings. The aim is to train 10 teachers per school screening. The WHO manual for basic ear and hearing health care will be used as training material for the teachers. After completing the sensitisation, the teachers will receive a certificate of participation and information material on ear and hearing health, which they can display in the school. It is intended that the sensitised teachers will act as "*Ear and Hearing Champions*" in their respective schools and ensure that children with hearing impairments are identified earlier and referred for treatment.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.2. | One-day sensitisation of at least 1,000 teachers | Catering, sensitisation material, training material | 14.240 |

**Activity 2.6 Training decision-makers on the importance of ear and hearing health**

For the success of the project and the sustainability of the measures, a solid understanding of decision-makers in the field of ear and hearing health and the inclusion of people with hearing impairments is necessary. Therefore, the project is planning 3 trainings for decision makers on ear and hearing health. Participants will be political and traditional decision-makers at provincial and municipal level, as well as media representatives. Representatives of organisations of people with disabilities will also participate. The workshops will be led by *Beit Cure Hospital* staff in collaboration with CBM. No costs are budgeted for this. The workshop will last about 2 to 3 days with at least 30 participants from different parts of the country. The workshops will be conducted by renowned CBID/inclusion trainers and ENT specialists in the country.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.2. | At least 3 multi-day training courses on the importance of ear and hearing health, each with at least 30 participants and 5 trainers, one of whom is external. | Conference room, catering, accommodation, transport, workshop material, sign language interpreter fee (71.25 per day for 2 sign language interpreters\*2 days \*3 trainings=855 EUR)  Trainer fee Inclusion Expert:in 142,50 EUR per day for 2 days \*3 trainings=855 EUR | 21.813 |

**Activity 2.7 Coordination meeting with national decision-makers and OPDs**

The project will bring together various national decision-makers with organisations of people with disabilities in coordination meetings to lobby for better provision of ear and hearing health. From 2025 to 2027, a coordination meeting with at least 30 participants will be organised every year. *Beit Cure Hospital* staff will ensure the organisation of the meetings. In addition to an exchange on the current situation of ear and hearing healthcare in Zambia and the status of the project, sustainable financing concepts will also be discussed. The coordination meetings will be attended by all relevant stakeholders such as the Ministry of Health, Ministry of Education, Ministry of Social Welfare (including the *National Health Insurance Management Authority (NHIMA)*), self-advocacy organisations, and ZENTAS to ensure that the maintenance of equipment and regular supply of consumables is maintained after the project ends.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.2. | At least 3 multi-day coordination meetings with at least 30 participants each | Conference room, accommodation, catering, transport, workshop materials, sign language interpreter fee (EUR 71 per day per interpreter for 2 sign language interpreters for 3 coordination meetings = EUR 426) | 15.108 |

**Activity 2.8 Publication of adverts and articles on ear and hearing health and information material**

*Beit Cure Hospital* will work with media organisations to ensure that at least two advertisements per year are published in mainstream media (newspapers/health magazines) and social media on the topic of ear and hearing health, especially on key international days such as World Hearing Day and World Disability Day.

In addition, the project will publicise progress in the area of *task sharing* for the provision of ear and hearing health in inclusion journals and on information platforms in the form of articles.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.2. | At least 8 articles, 16 adverts and 1600 flyers on ear and hearing health | Costs for adverts, articles and information material | 4.744 |

**Activity 2.9 Community awareness campaigns on inclusion and ear and hearing health**

The project aims to organise 4 campaigns each year to raise awareness of the inclusion of people with disabilities, the prevention of ear and hearing problems and their treatment options. The campaigns will take place, for example, on World Hearing Day, World Day of the Deaf and World Disability Day to raise awareness of ear and hearing health. The media campaigns will be broadcast in both traditional media and social media to reach a large proportion of the population. The project will also develop and disseminate IEC awareness materials that will be translated into local languages and Braille. Materials such as posters, flyers and brochures are distributed in hospitals, schools and community centres so that they are easily accessible to the public. Other materials, such as project descriptions and summarised project reports, will be disseminated. The project will also utilise the services of influential media personalities to raise awareness of ear and hearing health (with a focus on prevention, integration and access to ear and hearing health services) on various public platforms and media broadcasts.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.2. | At least 20 media campaigns, 2400 IEC materials and content for social media | 5 radio/TV adverts per year, printing of 400 IEC materials/year and annual costs for the production of content for social media. | 9.491 |

* 1. **Project support measures, coordination and monitoring**

The local project organiser BCH is responsible for implementing the activities on site in accordance with this application. As the legal project executing organisation, CBM is responsible to BMZ for the overall monitoring of project progress and full reporting to BMZ.

To ensure high-quality implementation of the project, two activities are planned, which are described in more detail below.

**BMZ Requirement Training and Project Launch**

At the start of the project, a kick-off event is planned in Lusaka with CBM and BCH staff to go through all donor regulations, plan communication and reporting for the project and define responsibilities between CBM and BCH. In addition, the final project concept will be presented in detail to relevant stakeholders in a project launch to ensure their support.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.4. | Multi-day workshop with at least 16 people | Catering, transport, accommodation, room hire | **3.798**  (included in the table below |

**Studies to review knowledge on ear and hearing problems and inclusion of people with disabilities**

The *Beit Cure Hospital* monitoring and evaluation team will conduct a baseline survey at the beginning of the project to measure the impact of the interventions in the area of ear and hearing health knowledge and inclusion of people with hearing impairments. For the data collection, up to 10 data collectors are needed, who will be accompanied by the BCH M&E staff during the data collection on site. The data collectors will be trained in the use of the data collection tools for 5 days prior to data collection at *Beit Cure Hospital.* After determining an appropriate sample size, the team will collect data for up to 10 working days in 2025, 2026 and 2027. The surveys will include a systematic analysis of the existing perceptions of the population in the target provinces on ear and hearing health. The results of the pre-survey will be used as a basis for comparing whether changes in knowledge, attitudes, practices and perceptions of the community within the project catchment areas have been achieved by the project. In this way, it can be determined whether the perception of the community has changed positively and has had a positive impact on the quality of life of people with hearing impairment.

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| **Budget line** | **Measure** | **Types of expenditure** | **Total Euro** |
| 2.4. | Multi-day training of at least 10 CHW and implementation of the survey with at least 10 persons on at least 12 days including travelling days for 3 surveys each. | Accommodation, catering, transport, room hire, safety waistcoats | **28.935**  (included in the table below |

The following table summarises the investment and operating costs for project-related measures.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project support measures by the local project organiser** | | | | |
|  | **Investments by local project organisers (equipment)** | | **Operating expenses of the local project organiser** | |
| Output types | Total Euro | Output types | Total Euro |
| Project-related equipment and operating expenses for the BCH office (pro rata/ 10%) for 54 months | Computer, printer including scanner function, virtual training equipment | 16.494 | Utilities (water/electricity/cleaning), office supplies, telephone, internet | 84.550 |
| Monitoring activities |  |  | Catering, accommodation, transport, printing of remittance registers | 8.148 |
| Transport, and more | All-terrain Sprinter minibus for BCH with 18 seats for regular trips to the project regions for screenings and transport of patients when special operations are required. (Most cost-effective alternative) | 64.791 | Petrol, vehicle maintenance and insurance | 9.947 |
| BMZ Requirement Training and Project Launch |  |  | Catering, transport, room hire | 3.798 |
| Studies to review knowledge on ear and hearing problems and inclusion of people with disabilities |  |  | Transport, catering, accommodation, room hire, safety waistcoats | 28.935 |
| External audit (audit EUR 6,000 per year for 5 years) |  |  | Fee | 30.000 |
| Bank charges |  |  | Fees | 2.664 |
| **Total project-supporting measures by local project organisers** | **BL 1.4.** | **81.285** | **BL 2.4.** | **168.042** |

In addition to the operating and investment expenses mentioned above, the following costs are included in the application:

Personnel costs: **EUR 293,838**

Feasibility study, interim evaluation and final evaluation: **EUR 54,924**

Project trips for CBM employees from Bensheim:**EUR 12,500**

1. **Risks and risk minimisation measures**

BCH and CBM have identified various risks as part of a risk analysis and planned appropriate measures to minimise risks. In addition, CBM will ensure continuous risk management through monitoring and routine project visits. The following table lists the most important risks and the corresponding measures to minimise them.

|  |  |  |  |
| --- | --- | --- | --- |
| **Description of the risk** | **Probability of occurrence (high/medium/low)** | **Impact on the project (high/medium/low)** | **Remedial measure (must be included in the budget if the remedial measure involves costs)** |
| Changes in government policy priorities so that ear and hearing health and the *task-sharing* model do not get the attention they need. | Low | Medium | Continuous monitoring of government policy and lobbying of decision-makers at the Ministry of Health |
| The difficult economic situation in Zambia can lead to protests by the population against the increased cost of living and to politically fuelled demonstrations. | Medium | High | Utilisation of local structures to gather information on the current situation in the respective project regions and to plan project activities accordingly. |
| Poor roads and infrastructure | Medium | Low | Procuring an off-road vehicle and ensuring field mapping is carried out to develop a solid itinerary for field visits. Liaising with local *community health workers* to provide logistical support for mapping. |
| Patients do not attend follow-up appointments. | Medium | Medium | The social workers will work closely with the *community health workers* in the municipalities to ensure that follow-up appointments are kept. Utilising *Beit Cure*'s electronic medical record system to monitor patient data. |
| Mismanagement of medical equipment | Low | Medium | Training and instruction of personnel in the use of the devices and signing of MoUs |
| COVID-19 pandemic | Medium | High | *Beit Cure has* a working group to monitor the COVID-19 pandemic |
| Road traffic accidents | Low | Medium | Conducting appropriate risk and safety management training for all drivers of the project vehicles. |
| Flash floods, especially in rural areas during the rainy season | Low | Medium | Travel planning is only carried out in close coordination with local structures in order to have real-time data available on the current situation. |
| Employees move to other organisations | Medium | Medium | Conducting annual employee satisfaction reviews and planning intangible incentives, such as the provision of continuous professional development programmes. |
| High drop-out rates among participants in training programmes, e.g. nurses and other staff trained as part of the project. | Medium | High | Careful selection of candidates and building and maintaining relationships with key people in the Ministry of Health, the *Health Professionals Council of Zambia* and the *Nursing and Midwifery Council of Zambia*. |
| Exchange rate fluctuations | Medium | High | Regular monitoring of the exchange rate and timely communication to CBM and BMZ |

1. **Sustainability** (structural, economic, social, ecological**)**

The financial sustainability of Beit Cure consists of a combination of free services and cost coverage by the National Health Insurance. Beit CURE Hospital provides services to all children who have a hearing impairment or are at risk of acquiring one. The services are free of charge for patients under the age of 18 who come from socially disadvantaged families and require the hospital's specialised services if they are not covered by national health insurance. The insured are mostly better-off families from urban areas. Nevertheless, all patients are treated equally and receive the same quality of services regardless of their insurance status. In addition, the introduction of the task-sharing model will also ease the financial burden on Beit Cure in the long term, as more treatments can be carried out directly in the target regions through structures of the national healthcare system.

The sustainability concept for the project is based on four main aspects:

1. Establishment of a hybrid, in-service training concept
2. Establishment of the task-sharing model
3. Qualification of trainers to secure skilled personnel in the long term
4. Utilisation of existing infrastructure and training materials

A training concept that reflects the realities of the Zambian healthcare system is necessary in order to sustainably train staff for ear and hearing health services. With the training concept used in the planned project, the health system is not deprived of trained personnel for further qualification, but rather personnel who have already been trained receive in-service training. This in-service training is made possible by the hybrid training concept, in which online and face-to-face teaching alternate. People already employed in the healthcare system continue to receive funding from the Ministry of Health during the training programme, so that the participants' livelihoods are secured. The training is cost-efficient thanks to short face-to-face events, as accommodation and catering are only required for short periods. This makes the training concept more easily scalable for the Ministry of Health.

To ensure long-term financing of community-based ear and hearing health, the project introduces a *task-sharing* model based on capacity building of existing staff instead of hiring new staff. *Nurses/clinical officers* and community health workers will be able to take over ENT tasks through their strengthened skills in primary ear and hearing health care, thus relieving the burden on ENT professionals such as ENT doctors *and audiology officers.* By training existing healthcare staff to take on ear and hearing health care tasks, the healthcare system will be relieved of long-term financial burdens, as more highly qualified and expensive specialised positions will be required to a lesser extent to ensure adequate ear and hearing health care services for the population.

The further qualification of existing specialist staff as trainers will build up local expertise in the long term, who will continue the established training concept with new participants. This secures the need for local specialised personnel in the long term, reducing the need for international specialists. In addition, sustainability is achieved through the training concept's collaboration with the Ministry of Health's Directorate of Human Resources to provide training resources for *community health workers* and ENT doctors.

To ensure the structural sustainability of the project, BCH will set up the ear and hearing health infrastructure within the existing government health facilities. Existing buildings will be adapted so that they can be used as audiological examination rooms. The project will utilise the ear and hearing health training materials provided by WHO, including manuals, guidelines and procedure manuals, which are easily accessible on the WHO website. These will continue to be available after the project and will be updated regularly. The self-help groups that are set up are linked to existing government support programmes so that they can exist in the long term.

The project will also promote the use of the *National Health Insurance Management Authority* (NHIMA) for all patients to cover their medical costs and expenses. This will be done through participation in the relevant Technical Working Groups in which Beit Cure regularly participates and is also part of the awareness campaigns. In addition, BCH will utilise the existing government grant framework and encourage health facilities to use grants from the *Constituency Development Fund* (CDF) to procure equipment and support local businesses. The project will also ensure that all deaf people are screened and issued with a disability card, which will grant them tax exemptions for their income-generating activities. This promotes self-sufficiency and reduces dependence on external assistance.

**Ecological sustainability:**

The project uses practices and technologies that minimise the impact on the environment, such as the use of electronic data collection systems used by the Ministry of Health to avoid the use of paper. In addition, the project will utilise tablets; currently the Zambian Ministry of Health uses the *Smart Care* electronic health system and the Health Management Information System as part of its telehealth strategy for reporting and managing patient data. The project will also focus on the responsible disposal of medical consumables and waste at mobile clinics to reduce the impact on the climate. BCH staff have already been trained on how to sort waste to reduce their environmental footprint.

1. The principle of "*task-sharing*" is a concept recommended by the WHO to counteract staff shortages in the healthcare sector. Task sharing involves the redistribution of clinical tasks or their main components between different teams of healthcare staff. More detailed explanations can be found in the description of sub-goal 1 (Chapter 5.2.). [↑](#footnote-ref-2)
2. World Report on Hearing, pages 173-174, WHO Press 2021 [↑](#footnote-ref-3)
3. There is no adequate translation for audiology officers in German, as this position does not exist in the German healthcare system. In Zambia, the audiology officer works at the interface between the audiologist and the ENT doctor. He/she checks hearing ability and is authorised to treat uncomplicated ear diseases. [↑](#footnote-ref-4)
4. There is no comparable job title for clinical officers in the German healthcare system. In the Zambian healthcare system, clinical officers fulfil an important role that lies between a doctor and a nurse. In regions without a doctor, a clinical officer can also make diagnoses and prescribe treatments. [↑](#footnote-ref-5)