

BNMT NEPAL

Serving the People of Nepal

ANNUAL REPORT

2076/77 (2019/20)



ACTING TOGETHER FOR A HEALTHIER FUTURE

This has certainly been a year unlike any other, with the coronavirus pandemic bringing us all unprecedented challenges as a global community. Amidst the struggle to prevent and address the physical and psychosocial consequences of the disease, the pandemic has reminded us of our global connectivity and interdependence as never before.

We would like to express our deepest gratitude to each and every one of those individuals, the health workers, key workers, groups, societies and nations who have fought the battle against COVID-19 and saved countless lives. We are deeply grateful for the enduring support and generosity of all our donors and partners across the planet. Our incredible donors and partners have allowed us to weather the storm and contribute to the resilience of our communities and health system.

Thank you for supporting our efforts and standing by our side to reach the most remote and vulnerable communities with quality services in these most turbulent of times.

Thanks to Our Funders

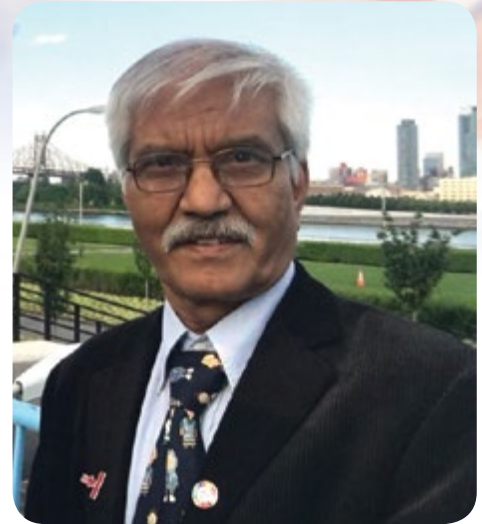




FOREWORD FROM THE CHAIRPERSON

MR MAHESH SHARMA

Chairperson
Birat Nepal Medical Trust



The year has been very exciting and satisfactory, as I reflect back sitting in front of a laptop during the lock down period, until the COVID – 19 hit the world. After the hit, suddenly an unprecedented impact was felt in all aspects of our life.

The country was gaining momentum in implementing the federal structures, health system was being restructured and strengthened to better deliver the services, and other development activities were also being realigned to the changing context. Covid-19 has been a setback to this progressing situation, but it has also, in no uncertain terms, reminded all of us the need for mutual cooperation and global connectivity for collective efforts in addressing the pandemic and other health challenges.

We are very pleased to share with you all the exciting and satisfying results that BNMT in collaboration with Ministry of Health and other partners has achieved during this period. Be it a voice of a satisfied TB patient or smile of the happy adolescents who benefitted from the SRHR activity; be it a publication and sharing of research result to international community or experiences of staff and volunteers while working with BNMT; be it continued support in addressing the TB challenges or an immediate response in supporting government initiatives to addressing COVID – 19 pandemic, all those were not only a landmark in organisational history but also a morale booster to staff, volunteers as well as supporting partners during this difficult time. We happily concluded that the BNMT made a meaningful contribution in addressing multiple dimensions of TB and health challenges.

We have an exciting year ahead, as we move to 'new normal' situation where we are prepared to take additional responsibilities in responding to unfolding realities while maintaining the confidence of the communities, Ministry of Health and other partners as well as the donors community.

We would like to express our sincere gratitude to Ministry of Health, donors community and other supporting partners for their enduring and generous support in responding to health challenges in the country.

Thank you
September 2020



MESSAGE FROM THE EXECUTIVE DIRECTOR

MR SUMAN CHANDRA GURUNG

Executive Director
scgurung@bnmt.org.np

I am delighted to present this year's annual report that has remarkable achievements reaching thousands of rural, marginalized and vulnerable communities of Nepal. This year we have implemented some highly successful, innovative projects such as IMPACT TB, Wellcome Trust, AmplifyChange, DrOTS, GF/SCI and ultimately contributed the SDGs, Government National Strategic Plan and WHO End TB Strategy by 2035. Our annual Report also spotlights one of the newest challenges to our work—COVID19 pandemic. Yet with this "new normal" we recognized that the upcoming projects such as IMPACT 2 TB, TARGET TB, Breaking the stigma - an alternative approach to cervical cancer screening, JGHT trial development grant - ASCOT, READ-IT will support the strategic directions of BNMT and add value to the lives of the communities.

This year we have worked to ensure that

- » Community based organization strengthened on SRHR and SRHR project brings positive change to perceptions in the community
- » Generate evidence to support policy reform that
 - Active case finding and socio-economic support interventions help to reduce the catastrophic costs dramatically for families. Manuscripts published in international journals, disseminated with broad range of stakeholders, international conferences.
 - Cost of diagnosing TB using GeneXpert can be substantially reduced if the government provides tax relief on import of both GeneXpert machines and cartridges.
- » Diagnosis and enrollment in the treatment of hidden TB cases in the community through the Global Fund/Save the Children-supported project in Eastern Nepal, diagnosing 1,308 TB cases to date.
- » Rapid relief and response initiative through Covid-19 response projects supported to develop HAMRO Swasthya app, MoHP and Sustain projects supported essential personal protective equipment and infection prevention and control items to front line health workers, food package for TB affected household, community awareness, mental health and psychosocial support services.

Our annual report will provide you an opportunity to understand how we continued our community engagement and partnership, advocacy work and research to influence the decision makers and bring positive changes in the life of people. This is not possible without the trust that BNMT gained from the community people, stakeholders, government authorities and donors. I would like to thank all the donors for their continued support for Nepal - particularly BNMT UK, European Union, Wellcome Trust, Amplify Change, Foreign Commonwealth and Development Office (FCDO), Nick Simons Foundation, Medical Research Council UK, GCRF, The National Lottery Community Fund, National Health Medical Research Council Australia (NHMRC), TB Modelling and Analysis Consortium, Farrar Foundation, Royal Marsden NHS Foundation UK, Save the Children. I am also grateful to Ministry of Health & Population, Ministry of Home Affairs, Department of Health Services, Nepal Health Research Council, Social Welfare Council, National Tuberculosis Care Centre, Provincial Health Directorate, Health Offices and volunteers for continue support and sharing our commitment to the people of Nepal. My sincere thanks go to our dedicated staff and the international team who have done incredible job for establishing and strengthening our programs in the community.



Strengthening health for the next decade

Dr Maxine Caws



Reflecting on this extraordinary year, it is of course dominated by the pandemic of COVID-19 and the impact that has had on all of our projects, plans and progress....Yet, during the period covered by this annual report- six months of it before coronavirus hit the world- I am struck by how much our BNMT team has achieved this year.

We have published the early findings of our IMPACT TB study, holding policy dialogue and dissemination meetings to ensure evidence is translated to action, contextualise our findings with the work of others and align with global research progress. This work in IMPACT TB has highlighted the severe consequences of TB for affected families in Nepal, but also shown that patient-centric care strategies such as active case finding, can dramatically reduce socioeconomic consequences for patients and their families (www.impacttbproject.org). The findings of these studies coincide with the publication of the first ever TB prevalence survey in Nepal, which has shown that the TB burden in Nepal is 1.5 times the previous WHO estimate- something which is no surprise to those of us working at the frontline

and witnessing the devastating impact of TB on Nepal's communities every day.

In October, we presented the findings from different aspects of our TB REACH and IMPACT TB studies at the largest international TB conference (50th World Lung Health Conference) in multiple formats including talks, seminars, posters and e-posters. These presentations included mathematical modelling studies, health economics, qualitative and operational research. We have also presented our work at the 5th National Summit of Health and Population Scientists in Nepal, the European Congress on Tropical Medicine and International Health, and the TB Modelling Analysis Consortium this year. We are now supporting three PhDs to develop national capacity for research.

We have continued to work in close integration with the National TB Centre and provide support to the National Strategic Plan for TB. Our team in Eastern Nepal have made significant progress with indicators for paediatric TB, private provider engagement and active case finding scale-up through work supported by the Global Fund (principal recipient Save the Children).

Our work in Sindhupalchowk district has shone a spotlight on crucial issues affecting sexual and mental health for adolescents. I had the privilege to witness a memorable performance by our partners Circus Kathmandu, bringing their unique brand of forum theatre to communities. These performances brings delight to young and old alike, while sparking community dialogue and nurturing solutions from within. This work has become even more important in the wake of COVID-19, when mental health issues have been dramatically amplified- the number of suicides in Nepal has tragically exceeded 1,500 in the first four months of the crisis. Much remains to be done to address these issues in Nepal. Excitingly, our drone project in Pyuthan has been

shortlisted for a prestigious international award: AUVSIXCELLENCE Award (www.auvsi.org/our-impact/auvsi-xcellence-awards), a recognition of the achievements of our consortium in establishing a drone transport network for health service delivery in rural Nepal.

BNMT has an exciting year ahead, as we expand our research team and start new projects in partnership with leading international research institutions, including Liverpool School of Tropical Medicine (UK), Karolinska Institute (Sweden), University of Melbourne (Australia)

and Johns Hopkins University (USA).

As we enter this new decade, we plan to test innovative solutions for some of our oldest problems, engaging our international network alongside our local communities. Reflections on this last year remind us above all of the proverb 'If you want to go far, go together'. The world has a long way to travel to reach the ambitions set out in the Sustainable Development Goals, but together- united- we will achieve our goal of health, wellbeing and sustainable prosperity for all Nepalese.

Nepal National TB prevalence survey findings

This year saw the much anticipated publication of the Nepal national TB prevalence survey findings. The survey was conducted by the National TB Control Centre with support from Research Institute for Tuberculosis (RIT), Japan, the World Health Organisation, and others. (Survey report: <https://bit.ly/2XtpudO>)

The results were not unexpected, but still shocking. The survey showed that TB incidence in Nepal is 1.5 times higher than the previous WHO estimate. This means that the scale of the challenge facing us to eliminate TB in Nepal is much greater. The new data shows that:

- » There are 117,000 people living with TB in Nepal today.
- » 69,000 people develop TB in Nepal every year.
- » 416 people in every 100,000 have TB (the prevalence of TB).
- » There are 245 new TB cases for every 100,000 people in Nepal each year (the incidence of TB).

This means that around 35,000 TB cases are 'missing' in Nepal each year. These cases are not notified in the government system and it is unknown if they are receiving the correct care and treatment. Many will receive incorrect diagnosis and care from private providers. There is a high risk of developing drug resistant TB with incorrect treatment, and this is extremely difficult to treat- the drugs for drug resistant TB can have horrible side effects- including deafness- and usually have to be taken for over a year.



The TB prevalence survey has made it clear that the essential work BNMT do in supporting the government to find cases of tuberculosis in remote and vulnerable communities with poor access to healthcare, is now more necessary than ever. As COVID-19 places unprecedented strain on health systems and government resources, there is a high risk that even more cases of TB will go undiagnosed in countries like Nepal with fragile health systems. The WHO STOP TB partnership has estimated that there will be 6.3 Million More People Ill with TB and 1.4 Million More TB Deaths globally by 2025, due to the complex effects of COVID-19 on health systems and healthcare access. It is vital that we intensify our efforts against tuberculosis now to ensure that we diagnose and treat every case of TB, everywhere and that our children live to see a world free of TB.

BNMT NEPAL STRATEGIC PILLARS (2020-2025)

**Accelerating
Elimination of Infectious
Diseases**



**Strengthening
Health Systems**



**Improving
Mental &
Adolescent Health**

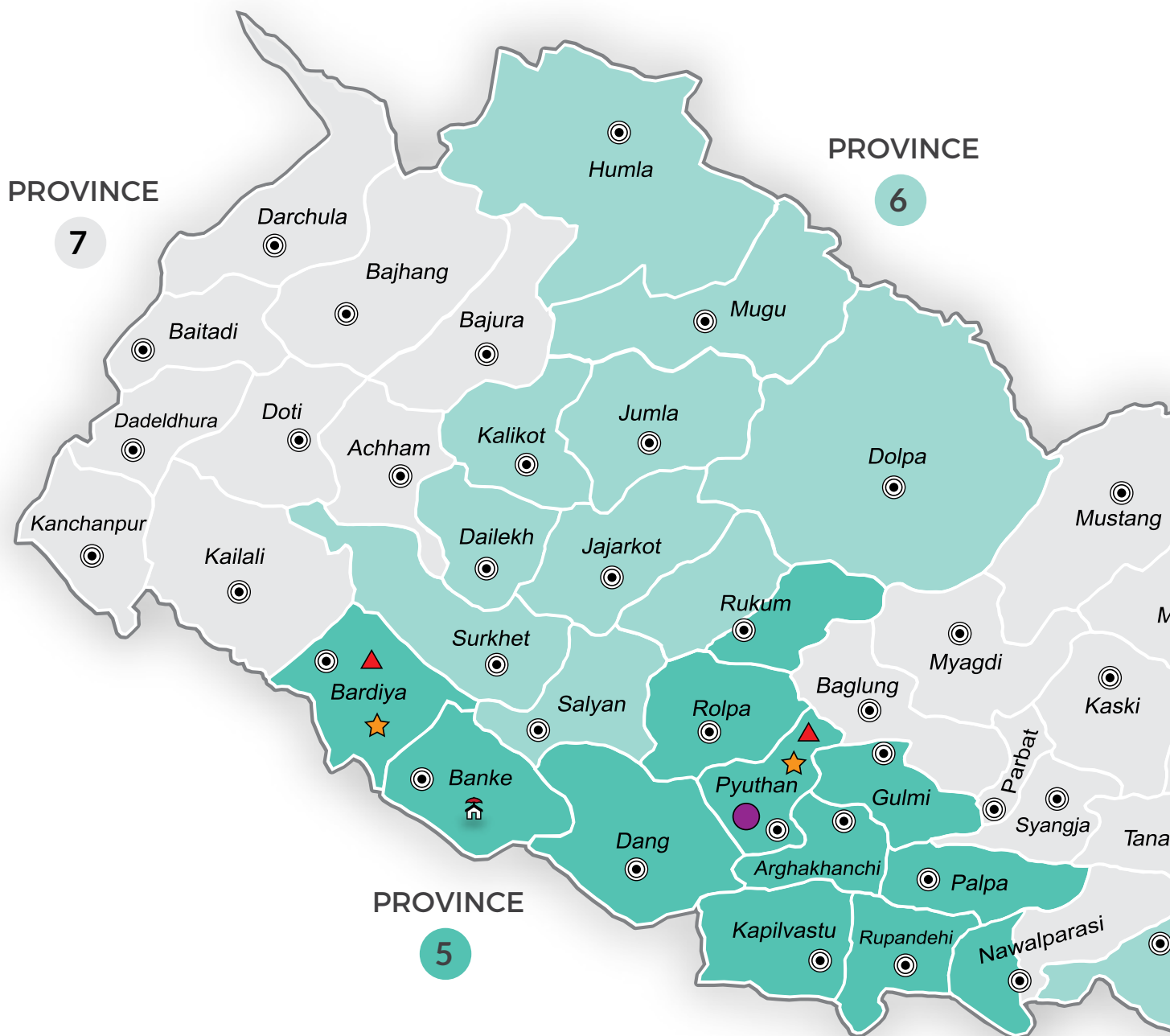


**Generate Evidence
to Inform Policy**



**Building Resilient
Prosperous
Communities**







PROJECTS IN 2019-20


 IMPACT 2 TB

 SUSTAIN

 DrOTS Nepal

 National TB Program

 Our Health Shield

 Advancing SRHR of adolescents of earthquake affected villages of Sindhupalchowk

INDI



↑
CHINA



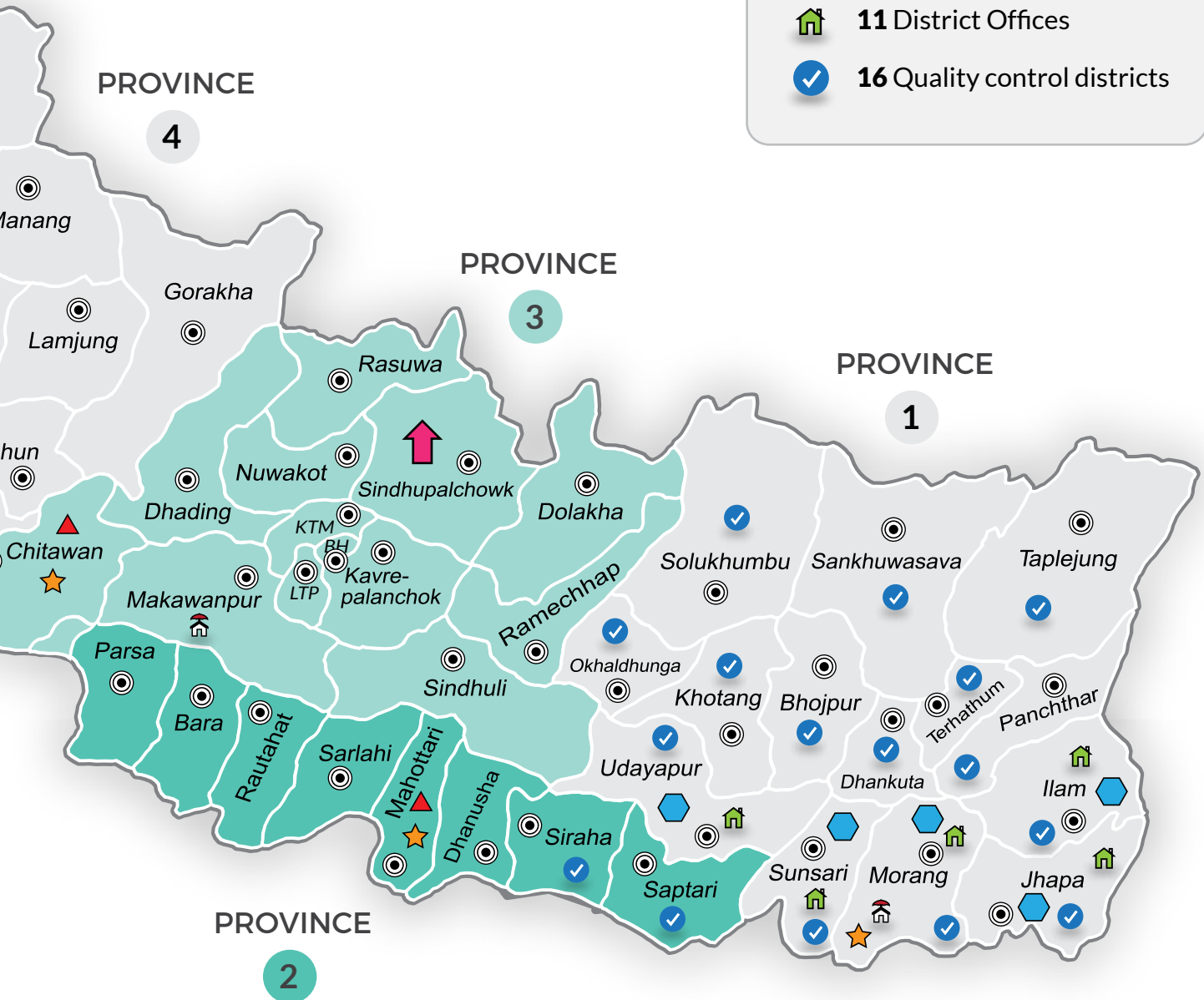
3 Regional Offices



11 District Offices



16 Quality control districts



BNMT UK support in Covid19 response

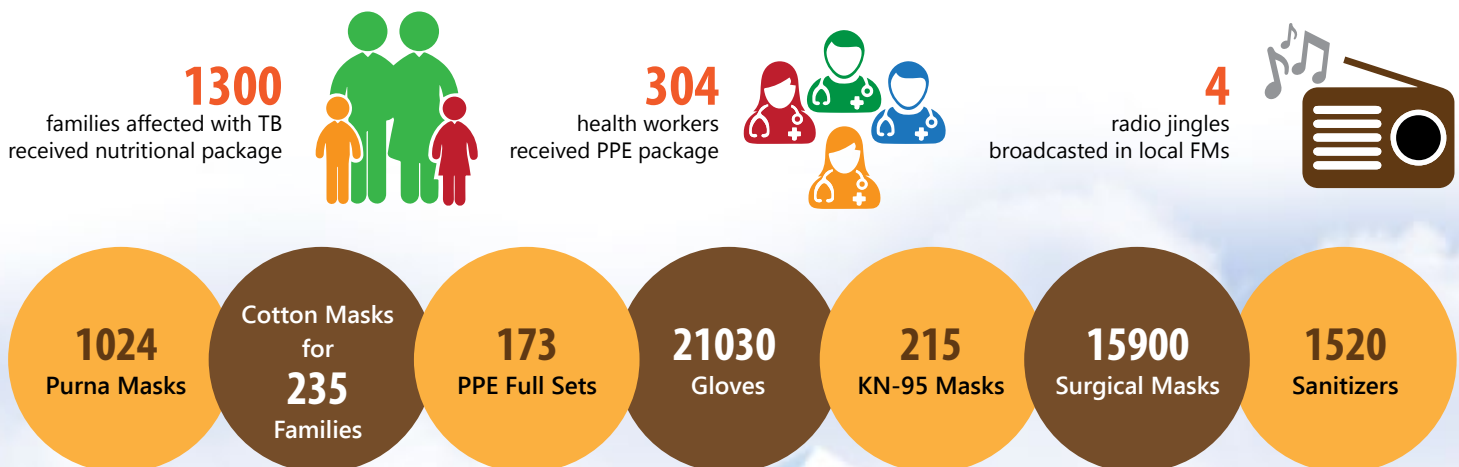
Emergency Support and Sustenance to Communities Affected by Crisis



The global pandemic of COVID-19 is an extreme threat to low income countries such as Nepal with fragile health systems and weak social welfare structures. Unfortunately, without an effective treatment or vaccine, governments around the world have been forced to impose 'lockdowns' on their populations to restrict movement and contain transmission of the virus. In Nepal many families are dependent on daily wage earners without any reserve savings to fall back on and have been precipitated into extreme poverty and food insecurity by this overnight loss of livelihood.

While the lockdown has slowed the spread of the virus in the short term, the immediate threat to the most vulnerable families in the early stages of the epidemic has been access to food, basic

sanitation materials, and essential medicines. BNMT responded by initiating the emergency relief project SUSTAIN in our project districts. We designed the project in consultation and collaboration with the Ministry of Health and Population, the local district authorities and community stakeholders. Project SUSTAIN was implemented in Morang, Chitwan, Pyuthan, Bardiya, Mahottari districts of Nepal, funded by BNMT UK and the Nick Simmons Foundation. The project has supported emergency procurement and distribution to the most vulnerable families via supply of Personal Protective Equipment (PPE), soap, hand sanitizer and thermometers for the front-line health workers; Food, sanitation materials and essential medicines for families experiencing food insecurity due to loss of livelihood; Food, sanitation materials and essential medicines for families experiencing food insecurity due to loss of livelihood.



Living through SUSTAIN!

*Poonam Bista, District Project Coordinator,
Morang*

I have worked in Morang district of Eastern Nepal to support the National Tuberculosis Program with BNMT, funded through Global Fund (Principal Recipient Save the Children) for the last 3 and a half years. I began working in BNMT COVID19 Response Initiative, SUSTAIN project from April 2020 in response to the crisis in my district.

The SUSTAIN project started amidst the strict lockdown. The COVID19 cases were increasing exponentially and few areas had been sealed after identifying positive cases. With the threat of the disease rising, the situation was quite panicky and stressful. But, as a public health professional I believe that fear lives in the mind, not in the world. I chose to confront my fear and contribute my best effort. The insurance provided by the organization and the availability of office vehicle round the clock reassured me and motivated me to work in such unprecedented times.

We consulted with the Ministry of Social development and Health office for design and approval of the project. We set the criteria for eligibility of households for relief distribution, such as low socio economic status with TB, Leprosy (disability), HIV, and those in quarantine centres. The Public Health Chief and TB /Leprosy supervisor provided substantial support for coordination with municipalities and arranging passes for the office vehicle. Our outreach workers (ORWs) supported the municipalities in priority assessment of households and patient communication for safe collection of the foods and sanitation materials in health facilities.

Procurement of goods was a challenge for us to avoid disrupting regular supplies. After a long deliberate search by the working committee, three major vendors were eventually identified and goods were procured in instalment basis. Our staff packaged each household set. We also procured emergency personal protective



equipment for the health workers in the district. We reached homes of the patients who could not visit health facilities. We were very careful for our safety, we practiced proper hand washing and sanitizing, wore masks, gloves and maintained social distancing. A total of 259 households and 80 health facilities benefited through the project in Morang.

The beneficiaries were very appreciative of the goods received. Reaching the households gave me personal satisfaction which I can never express in words. And the excitement and happiness in their eyes was the greatest happiness for me.

I received full support from my family during this period. My husband and mother in law prepared food for me and managed for self-quarantine at home, which I am grateful for.

Today I can say with pride that Project SUSTAIN has strengthened the bond between BNMT & government stakeholders in Morang. All the local bodies supported us even though their topmost priority were COVID 19 cases management. They were overwhelmed by BNMT's contribution. They eagerly want to work together again. And, I am ready!

Hamro Swasthya Dhal (Our Health Shield)

The COVID-19 pandemic overwhelmed government preparedness strategies at unprecedented speed around the world. In Nepal, one of the immediate priorities was for a reliable, secure government web-based application to rapidly gather and analyse data on the situation. This could inform a co-ordinated, evidence based response, prioritising allocation of minimal resources for highest effectiveness. There was also an immediate need to disseminate reliable information both within the government and to the general public.



It was realized that the provision of expert IT support to the government could play a vital role in improving the effectiveness of the government response. Therefore, a consortium comprising Progressive Engineers Association of Nepal, Soch Nepal, Naxa, Code for Core Innovations, Institute of Himalayan Risk Reduction and IT Maps and Consult rapidly mobilised to collectively develop the COVID-19 dedicated web portal and mobile application Hamro Swasthya, launched by the Ministry of Health and Population on 29 March 2019. BNMT joined this consortium to support financially and provide key expertise regarding public health communications, community engagement at all levels and trustworthy information sources.

Breaking the Silence: Advancing Sexual and Reproductive Health and Rights of earthquake affected adolescents of Sindhupalchowk



Sexual health is a fundamental aspect of wellbeing. Sadly, in Nepal, access to sexual reproductive health and rights is limited by a number of factors including cultural traditions, lack of resource allocation, and stigma. Our project in Sindhupalchowk district, 'Advancing sexual reproductive health and rights of adolescents of earthquake affected villages' aims to improve the sexual health of young people by improving their knowledge and advocating for their rights regarding SRHR. We aim to address this complex, multifactorial issue through a number of integrated strategies:

- » Capacity building of local civil society organizations for increased accountability
- » Improving knowledge of teachers, students and parents on comprehensive SRHR and its inter-linkage with mental health,
- » Improving communications between parents and adolescents on SRHR
- » Identifying and advocating to address curricula gaps on comprehensive sexual education (CSE) by engaging stakeholders in dialogue.

Engaging strongly with the community, schools, government, downstream delivery partners, and diverse population groups, the project has been

successful in its aim to break the silence on SRHR and stimulate change. The interaction on SRHR and harmful practices such as traditional menstrual beliefs and practices, child marriage, sexual abuse and violence, suicide have precipitated the government and community stakeholders to recognise the importance of SRHR as a priority that needs to be addressed.

For the first time, parents, children and teachers came together in a single forum to raise their voices regarding sex and sexuality and to seek ways to improve communication on these aspects in the future. Dialogues with the parents, teachers and students enabled them to recognise the important role of SRHR discourses in enabling adolescents to reach their full potential. Similarly, dialogue with health workers and community influencers the links between the SRHR and mental health. There is strong support, involvement, commitment and ownership from the downstream delivery partners (local CSOs) and youth clubs with commitment to work to improve SRHR at community level and create a platform for sustainability of the project.

Advocacy Work: Giving everyone a Voice



40

ward representatives
advocated for improved SRHR



1200

community people sensitized
on SRHR via forum theatres



231

CSOs representatives
capacitated on SRHR
and mental health awareness
for sustainability



423

students made aware on
mental wellbeing via interactions,
orientations and IEC/BCC



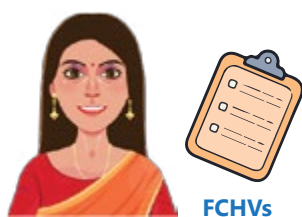
40

health workers oriented
on mental health



242

parents of adolescents
oriented on SRHR
and CSE



FCHVs

64

FCHVs and mothers
groups oriented/ capacitated
on SRHR



140

teachers reached
and oriented on
school mental health and SRHR



Fostering the Change: Forum Theatre on Child Marriage

Marriage before the age of 20 is illegal in Nepal, however almost 1 in 3 women get married before 20. According to gender profile, Sindhupalchowk, 2016, almost 72.41% of women aged 25-49 were married before the age 20. This early marriage and subsequent childbirth often traps women in a cycle of low-education, poverty and poor health which is often perpetuated through generations. Sindhupalchowk is one of the areas where child marriage remains prevalent and was an important topic of discussion put forth by the civil society organizations, community leaders, students, parents, teachers, community people and ward in the early stage of our SRHR work. Mr. Bir Bahadur Tamang, ward 7 chairperson for Indrawati Rural Municipality, reported receiving 2-3 cases of married couples under the age of 20 each week.



Therefore BNMT initiated a unique collaboration with Circus Kathmandu (<https://circuskathmandu.com>) using forum theatre to spark change from within affected communities.

Forum theatre is framed around a conventional play which is performed by trained artists using a participatory format such that spectators are transformed into "spect-actors" empowering them to explore or rehearse solutions to real-life dilemmas in a safe environment that stimulates debate. The forum

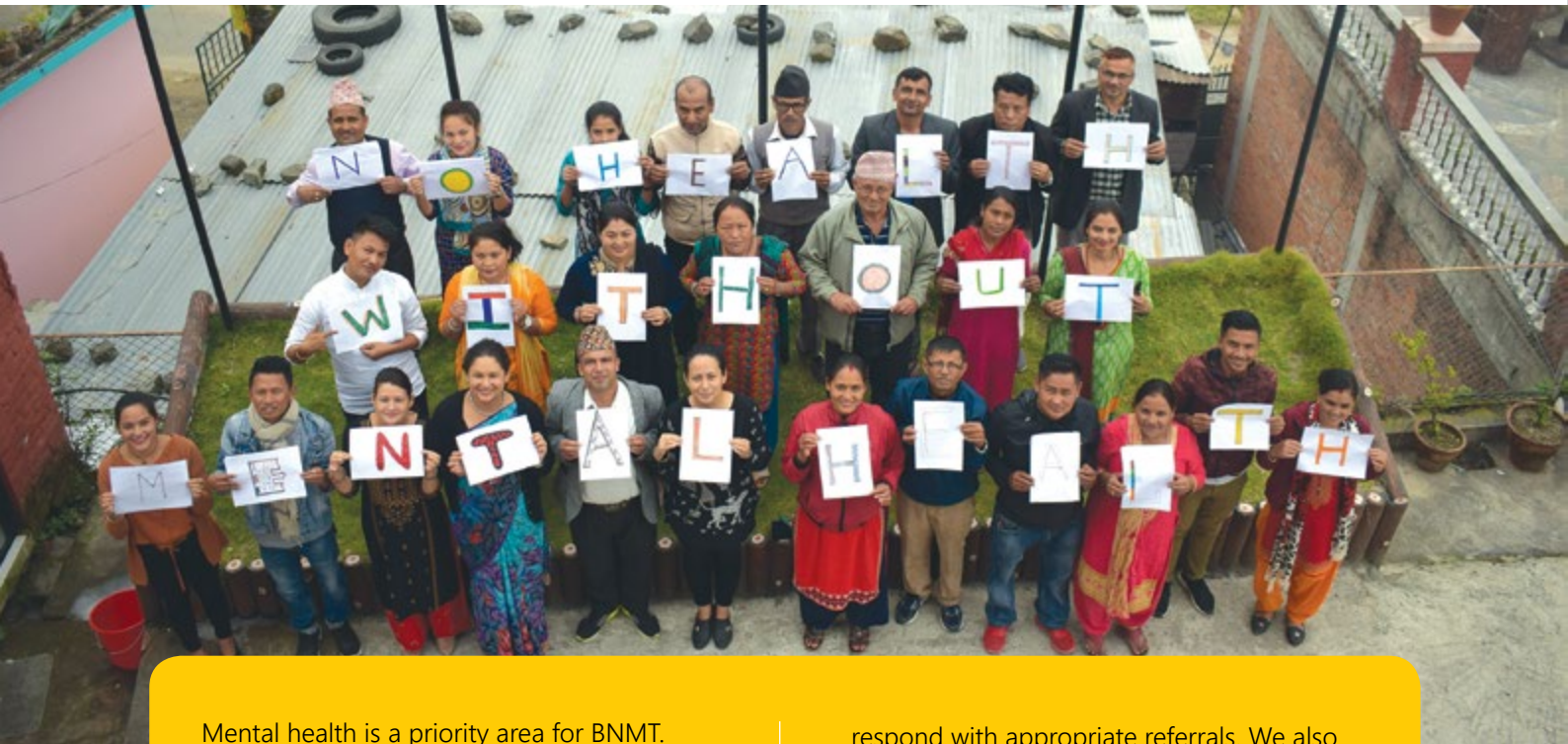
theatre was a huge success attracting a diverse audience, many of whom travelled long distances to participate. The events reached over 1,200 community members, ward representatives, school students and teachers and local civil society organizations in three places at Sipapokhare, Kunchowk and Badegaun in January, 2020.

The drama depicted story plots on harmful menstrual practices, child marriage and its consequences. The 'joker' stops the play at a point where the character of the mother forces her daughter into an underage marriage and the audience are engaged in dialogue, to convince the mother to stop forcing her daughter into the marriage. Audiences enthusiastically participated and proposed many solutions. Members of the audience also took turns to join the players to enact the role and debate in character with the mother to the great amusement of all. The drama was expertly choreographed by artists of our partner

Circus Kathmandu, an organization formed by survivors of trafficking. The audiences quickly connected to the stories of the artists, who were trafficked to the circus in India as children and rescued back to Nepal. These artists are now working at grassroots level to sensitise and empower communities for change on various social issues important to Nepal. Moreover, the circus workshops run by the team for students prior to the performance, teaching circus tricks and team building skills, empowered the students from the community with self-confidence and self-esteem and made the day an exciting and memorable experience for all.



Health priorities: Mental health



Mental health is a priority area for BNMT. Mental health disorders among adolescents are an understudied, under-resourced issue globally. The challenges are amplified in low income countries such as Nepal. Since the 2015 Nepal earthquake, BNMT has been working on community psychosocial programmes, focusing adolescents and school children.

One third of adults with mental health problems have symptoms in adolescence, therefore early recognition and management is essential to reduce severity. Tragically, suicide is one of the leading causes of death among adolescents and young people. BNMT is identifying gatekeepers including teachers, female community health volunteers and social workers/youth volunteers and providing orientation on psychosocial support services, where they learn to identify common problems and

respond with appropriate referrals. We also provide trainings to the non-specialized health care workers to detect issues. For example, if someone is having suicidal thoughts or ideation, we train people how to recognize the signs, recognize high risk groups and how to help them receive support from the specialist. For the students, professional counsellors deliver life skill trainings and psychosocial support. The global pandemic of COVID 19 has increased mental health issues with many people experiencing increased anxiety, depression, stress, social isolation, job loss and income security. Harmful alcohol and drug use, domestic violence and self-harm and suicide have all risen dramatically. In this aftermath, BNMT is committed to work, to develop and test intervention strategies to improve psychosocial support and mental health for our long term health and wellbeing as a nation.



Impact of COVID19 on SRHR: Prospective of the health service provider

Nepal has made progress in many health indicators in recent years, but these achievements are threatened by the Covid-19 pandemic. The pandemic has exposed social, economic and structural vulnerability for poor and marginalized population and further pushed the women and girls into poverty, violence, and inequality. Resources from government and donors have been diverted in responding to the pandemic. Access to SRHR services including access to family planning services, menstrual hygiene products, ANC check-ups and institutional delivery have been severely impacted. Suicide is at an all-time high and maternal mortality is increasing alarmingly. The risk of unwanted pregnancy, unsafe abortion, abuse, violence, stress, depression and suicide poses risk to Nepal's commitment to protect human rights and achieve global development goals.

COVID19 has drawn resources away from safe motherhood and family planning programs, echoing the situation seen in the aftermath of the 2015 earthquake. There are many vacant posts for Skill Birth Attendant (SBAs). Indrawati Rural Municipality of Sindhupalchowk, where BNMT works, has similar situation amidst covid19. Health post of Sipapokhare, Sindhupalchowk is facing difficulty in providing incentives for 4 Antenatal clinic visits (ANC) as many pregnant women returning to the locality due to lockdown did not have ANC cards with them. There has also been a sharp decline in post-natal clinic visits (PNC) due to movement restrictions. Cases of unintended pregnancies have reportedly increased. Bhimtar Heath post is also dealing with the similar situation. Due to fear of Coronavirus, those pregnant women and their families are not visiting health facilities for institutional delivery, preferring village birthing centres or restricted to home deliveries. The Family Welfare Division has published interim guidance for Reproductive Maternal Neonatal and Child health (RMNCH) services in COVID 19 pandemic. They are coordinating with civil society organizations and relevant stakeholders to provide orientations to health workers on the guidance however there is no any SRHR focused activities smoothly running in the district.

For the immediate comfort and support BNMT is providing COVID19 relief packages to pregnant and new mothers of the intervention area under the project.



Ambika's delight: Change is possible!

This is Ambika Dhungana, a female community health volunteer in Indrawati Rural Municipality Sindhupalchowk. She is outspoken and brave, talking about issues such as sex, child marriage, gender based violence, and menstrual health with confidence to transform attitudes. During the training when this photograph was taken, she shared an inspiring story.

"There is a general superstition in my villages that when a menstruating woman touches a tree, the flower or fruit will die or decay. My daughter participated in a BNMT orientation programme on menstruation. At home she told my mother-in-law, that when a menstruating girl or a woman touches a tree, flower or fruit, it won't fall or decay. Hearing this, my mother in-law said it was absurd of her to say that. Later, my mother in law also participated in a program organized by BNMT Surprisingly, she came back home to say that the decaying of flower/ fruit of a tree when touched by a menstruating women was just a myth, just like many other myths surrounding menstruation. Such a remark coming from my mother in law who holds a conservative thought was a complete delight for me. Nowadays, she lets us touch the fruit or flowers after bathing. Having worked on health for many years, and I had not been able to change the perspective of my community but it is starting from my own home now. So now, I understand change is possible, doesn't matter even if it is slow process. It is really possible."

Enhancing Community health in Nepal: an extended WASH programme to promote menstrual health of school girls of Sindhupalchowk district



Safe and effective menstrual health management is a critical component of women and girls' sexual and reproductive health. The transition from childhood to womanhood for adolescent girls is often bound by traditional and socio-cultural beliefs, limited knowledge and lack of basic services for safe and hygienic practices. The project "Enhancing Community health in Nepal: an extended WASH programme to promote menstrual health of school girls of Sindhupalchowk district" was designed as a continuation of our successful work last year funded by Big Lottery Fund, UK. The project was a response to stakeholder demand in the district and was designed to improve the menstrual health of adolescent school girls through access to accurate information, safe and affordable sanitary materials and appropriate sanitation and washing facilities. The project was implemented in three schools of Indrawati Rural Municipality, Sindhupalchowk from August to October 2019. The programme successfully promoted menstrual health and hygiene among school students, teachers and community leaders and reduced the barriers surrounding adolescent girls' right to education, health and dignity. 505 adolescents benefitted from the programme.

Achievements





The programme was appreciated by the government, school, students and other stakeholders.

The school management committee, teachers and local leaders are more committed to protect and respect privacy and dignity of every student and have committed budget for the maintenance of the toilet, maintaining a safe environment and adequate water supply to enable good hygiene practices in coming years. Students and other stakeholders have asked for follow up trainings. There was a strong voice from all the stakeholders that such a programme should continue and expand for future students at the schools in the district.



Journey to Remember- Liverpool Diary

Saki Thapa, Project Manager



Every journey is a quest, whether you know it or not. My journey started on November 02, 2019, the destination was the Liverpool School of Tropical Medicine, Liverpool, UK. I was not alone though-. My colleague Bikram Bucha travelled with me. I Suppose, I should have warned him before the journey, the journey he could never forget.

We were going to work for next two weeks with Prof. Paul Garner, co-ordinator of Centre for Evidence Synthesis for Global Health and Director of the Research, Evidence and Development Initiative (READ-It) at LSTM.

We found Liverpool so magnificent, historically rich and vibrant city. People were so warm and friendly that we hardly felt that we were far away from home. We were quite excited for the first day at LSTM but deep

down inside we were feeling nervous. What would happen next? It was 8 am chilling morning, and silently, we both walked to the LSTM from our hotel to meet the Professor and the team. It was some relief for us when we met Joy Gilroy, then IMPACT TB project administrator at LSTM, who we knew well.

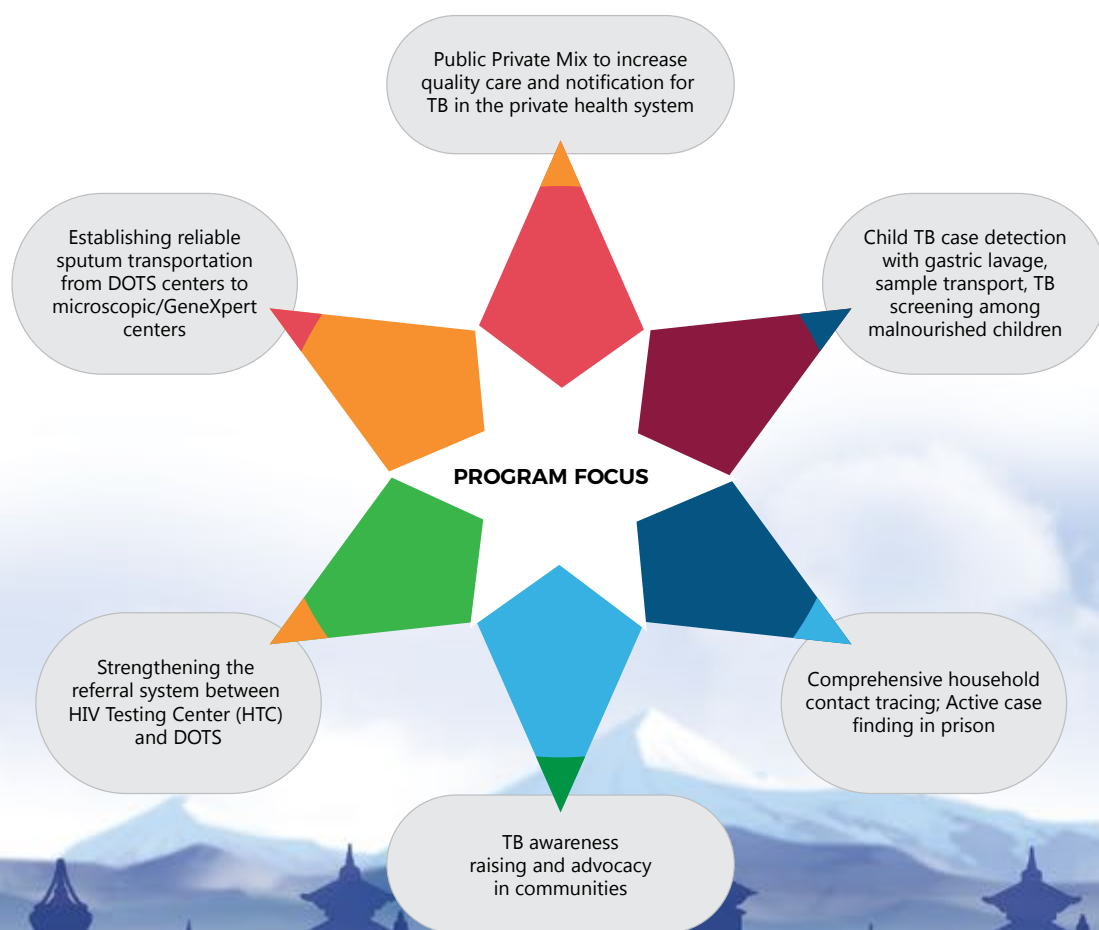
At the office, we met Prof. Paul Garner, Philomena Hinds, Christianne Esparza and Marylou Murray, Rebecca Thomas and Marty Richardson, Paula Waugh, Deirdre Walshe, Jessica Engen and James Moore. What lovely people they all were, fantastic team to work with and learn from. We discussed and looked for the scope for potential collaboration between READ-It and BNMT to work on systematic reviews of mental health, and suicide prevention. We spent time to analyse the content and delivery of BNMT work packages and understand, Cochrane review and systematic review processes. It was an enriching learning experience to personal and professional life.

For both of us, it was indeed an incredible journey to cherish and remember. The Liverpool history, art, architecture and the kindness of its people captured two Nepalese hearts. We were in love with the city and the people. We will never forget the time we spent in Liverpool and I personally will remember the time I spent with Marylou, a delightful and kind person. I hope, I will go back to Liverpool soon to explore, meet people, learn and share.

National Tuberculosis Program



National Tuberculosis Program funded by The Global fund via Principal recipient Save the Children is a nationwide tuberculosis project that aims to reduce TB incidence by 20% and increase case notifications by a cumulative total of 20,000 by 2021. BNMT is working in partnership with Save the Children, NTC and the government health system as a sub-recipient to deliver services in five districts of Province 1, Nepal. The project focuses on increasing case notification through the following strategies:

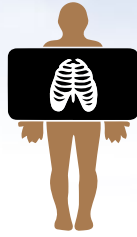




COUGH

11587

presumptive TB cases
identified through sputum
transportation and contact tracing

**836**

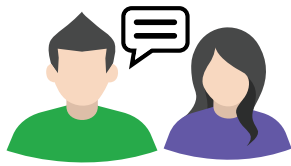
Diagnosed with
TB through sputum
transportation and contact tracing

**838**

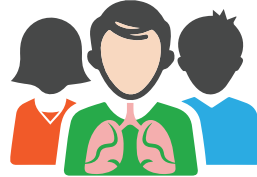
Presumptive DR
TB cases identified

**29**

Diagnosed with
DR TB

**188**

TB cases notified from
private health institutions

**348**

Diagnosed with TB via
FAST Strategy

**91**

Children diagnosed
with TB

Enjoying the Communication and Leadership Workshop



Implementing proven community based case finding intervention in Vietnam and Nepal



IMPACT TB (www.impacttbproject.org; twitter.com/impact_tb), is an EU Horizon2020 project to scale-up and evaluate TB active case finding strategies to support achievement of the END-TB targets. International consortium partners include Karolinska Institute (Sweden), KNCV (Netherlands), Liverpool School of Tropical Medicine (UK) and Friends for International TB Relief (Vietnam). IMPACT TB in Nepal was implemented from 2017-2019 in four districts with a high burden of undiagnosed TB cases: Dhanusha, Mahottari, Chitwan and Makwanpur.



The project achieved ambitious targets for TB case detection- 1,201 in total- and showed a strong additional contribution to case detection in the implementation districts. The new GeneXpert advanced molecular diagnostic test for TB is more accurate than the older smear microscopy test- but it is also more expensive. This leads some people to question if it is appropriate for a country like Nepal, so we compared both the costs and number of cases detected using each strategy (smear or GeneXpert for diagnosis). Our results showed that the districts applying GeneXpert needed to test fewer people to find each case of TB and that the cost per case detected was 513 USD compared to 909 USD using GeneXpert. The main driver of the cost of GeneXpert was the government tax on the test cartridges- granting a concession on this tax would reduce the cost of Genexpert to 681USD per case detected. This would make GeneXpert more affordable for Nepal and allow faster progress towards TB elimination in the country.



43,618
screened for TB



30,462
tested for TB



1,201
identified with TB

We also conducted a study with our patients to find out how much money they had to spend as a result of having TB. TB principally affects the poorest members of society, and can often cause families to fall further into extreme poverty and food insecurity, often taking out usurious loans or selling assets essential to the families' livelihood. If a family has to spend more than 20% of its annual income as a result of the illness, WHO calls this 'catastrophic costs', due to the long-term consequences. We were interested to understand if active case finding can help to reduce

these costs, especially for the most vulnerable families. Our work showed that more than one in three households affected by TB incur catastrophic costs, and that active case finding can help to reduce these costs dramatically for families. This is because the strategy brings healthcare to people living in areas with poor access to health services, and gets them diagnosed and onto treatment.

We are also developing mathematical transmission models with our partners to understand how TB active case finding scale-up can contribute to the END-TB target commitments of the Nepal government.

Implementing Modelling and Validation to accelerate TB elimination in Nepal (IMPACT 2 TB)

The World Health Organization (WHO) and global health community have set ambitious targets for 2035 in the END TB strategy. These are to reduce global incidence by 90% and deaths from TB by 95% between 2015 and 2035. However, it is universally acknowledged that these targets are not achievable unless there is a dramatic escalation in TB control efforts and significant paradigm shifts in our approach. To address this issue, IMPACT 2 TB project will build on the experience of IMPACT TB phase I to address knowledge gaps and increase the evidence base for novel approaches accelerate END TB strategy goals in Nepal. IMPACT TB 2 will implement intensive active case finding using high GeneXpert coverage in four districts: Mahottari, Chitwan, Pyuthan and Bardiya. The project will also pilot the WHO approved 12-dose novel short course TB preventative therapy regimen for the first time in Nepal, in Chitwan and Pyuthan districts. The project will start in 2021 owing to the delay in activities as a result of COVID19.

A fantastic November!

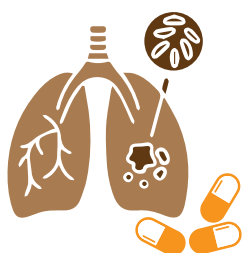
IMPACT TB Project Manager for Liverpool School of Tropical Medicine, (LSTM)

As Project Manager for the IMPACT TB project at the Liverpool School of Tropical Medicine, I was delighted to have the opportunity to spend two weeks at the BNMT office in Kathmandu in November 2019. We were approaching the end of the first phase of our IMPACT TB partnership and were finalising our reporting to the funder while also developing our collaboration on the TB-MAC and DrOTS programmes. The BNMT team and I worked together to share methods of best practice in safeguarding, financial management and communications. With the BNMT HR manager, Rajesh Parajuli, we drafted a new, modernised appraisal policy for staff, emphasising a two-way process that not only evaluates the performance of employees but also increases their future potential within the organisation. I was also a member of a communications working group that aims to highlight the work of BNMT to a wider national and international audience.

It has been a pleasure to work with BNMT over the past three years and now that further funding for IMPACT TB has been secured, I look forward to strengthening the LSTM - BNMT partnership in the future. I would like to thank the BNMT director, Mr Suman Chandra Gurung, and his amazing team for a very productive stay in Nepal!



Findings and recommendations



TB Case Detection

The project detected **1,201** TB cases in four districts over two years.



Socio-Economic Impact

2 out of **3** families affected by TB spend over 20% of the annual household income (called catastrophic costs), resulting in long-term financial consequences and increased poverty.



Additionality in Case Detection

GeneXpert installation in Chitwan and Dhanusha helped TB diagnosis increase by **13%** and **12%** respectively in year 1 and **23%** and **21%** respectively in year 2



Cost of GeneXpert

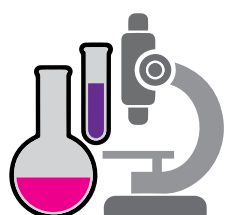
Smear microscopy costs 513 USD per TB case to 909 USD using GeneXpert. Removing import duties would reduce the cost of Active case finding by GeneXpert to 681 USD per case detected



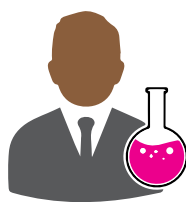
Effectiveness

Smear microscopy is cheaper (NNT=30)¹ But has a lower absolute case finding yield and additionality than GeneXpert testing

Laboratory Strengthening



33 laboratories strengthened and provided with technical Support



43 lab personnel trained on GeneXpert, and **32** trained on Microscopy



44 microscopes fixed/repared



6 GeneXpert machines, **11** microscopes and **20,000** cartridges supported in project districts

¹ NNT = Numbers needed to test for one positive case



A glance to PPM activities in Tuberculosis

Huynh Ba Huy

FIT, Ho Chi Minh City, Vietnam



The IMPACT TB consortium partner, FIT Vietnam, has been successfully piloting the public-private engagement activities in Ho Chi Minh City, Vietnam with a grant from TB REACH Wave 5. Successfully engaging the private sector for TB notification in Nepal remains a priority and a big challenge for the END TB strategy. To exchange ideas and share lessons learnt in Vietnam from the successful project, My Huynh Ba Huy, who has led the private sector engagement project in Vietnam, visited the BNMT team in October 2019 and shares his experience here.

In all countries, clinicians in the private sector can be reluctant to disclose that they are prescribing TB drugs because they want to raise income and provide customized regimens. Implementing the project in Vietnam and from my past experience, I learned that when working with private providers it is important to focus on three things: benefits, emotional motives and social responsibility.

To share and learn more about the PPM experiences of Nepal and exchange the Public-private model modality implemented in Vietnam, I had a chance to visit BNMT team led by Gyanendra Shrestha working under Global Fund TB project in Morang district. I also wanted to observe and learn more about the private hospital setting and services of Nepal. With warm welcome,

I could see the strong commitment of private providers in this district for fighting TB. Health staff demonstrated enthusiasm and friendliness. In some points, the coalition was amazing. I was impressed by the skill and dedication of staff at Birta City hospital and Research Center, particularly the Chief. Meanwhile, at Nobel Medical College and teaching Hospital, and B&C Medical College and teaching Hospital, BNMT had recruited health care workers conducting FAST strategy for detecting TB. I felt that the cooperation between BNMT and the partners was excellent!

Geographically, with the nearby border to India where TB drugs can be purchased, the control of TB treatment by the Private providers becomes harder.

To enhance the outcome of the PPM model, a comprehensive strategy to connect the Private providers need to be prioritized. BNMT, Provincial Health Department, Nepal Chemist and Druggist Association (NCDA) are all keen to work together to bring a concrete strategy to create a platform for the private providers. This is an important next step for TB control in Nepal and with such enthusiastic partners can be a great contribution to accelerate the END of TB in Nepal.

OUR PUBLICATIONS 2020: ASKING QUESTIONS AND QUESTIONING ANSWERS



Factors influencing active TB case finding policy development and implementation: a scoping review.

Biermann et al. British Medical Journal Open.
Evaluation of stakeholder perceptions regarding complex interplay of factors influencing active TB case finding scale-up in high TB burden settings globally.



The Role of Active case Finding in reducing patient incurred catastrophic costs for TB in Nepal.

Gurung et al. Infectious Diseases of Poverty.
Showing over half of families affected by TB incurred catastrophic costs in Pyuthan and Bardia districts and that Active case finding can substantially reduce patient incurred costs for TB affected households in Nepal.

Research protocol for a mixed methods study to characterise and address socioeconomic impact of accessing TB diagnosis and care in Nepal

Dixit et al. Wellcome Open Research

Protocol of our research study to strengthen understanding of the socioeconomic impact of TB in Nepal and develop locally driven solutions.

Power plays plus push: experts insights into the development and implementation of active TB case finding policies globally, a qualitative study.

Biermann et al. British Medical Journal Open

Expert stakeholder consultation highlighting key evidence gaps regarding the pathway from evidence to policy to implementation for tuberculosis active case finding strategies.

Developing feasible, locally appropriate socioeconomic support for TB affected households in Nepal.

Rai et al. Tropical Medicine and Infectious Disease.

Report of our stakeholder consultation to design appropriate, feasible and effective socioeconomic interventions for further robust evaluation by randomised controlled trial in Nepal.

My experience - Presenting at Union Conference

Raghu Dhital, Deputy Director

This year for the first time ever a group of BNMT staff and partners attended the biggest international TB conference. As the conference was focused on TB, which I have focused on for more than two decades, I felt profound happiness to attend presentations on the latest research findings and discussions about innovative practices in tackling TB and meet global leaders in the field.

The 50th Union conference on Lung Health with the theme "Ending the Emergency; Science, Leadership and Action", was held in Hyderabad, India. The happiest moment for me was presenting BNMT's TB REACH Wave 5 project", showing the strong contribution of contract tracing and the role of GeneXpert molecular test for active TB detection in 8 districts of Nepal, and answering questions from the audience. This was an excellent opportunity to reiterate the importance and potential of active case finding scale-up for a low-resource country like Nepal and build networks with international TB experts for future collaboration and learning.

Of the many innovative actions on active TB case detection, I learned about use of mobile vans in rural African communities to detect TB. Surprisingly, participants in this project received a bottle of beer as an incentive when providing a sputum sample for TB screening! I believe that a similar strategy with locally appropriate incentives, such as nutrition package instead of beer could be replicated in Nepal to increase case finding. By attending the conference sessions, I also learned about a large scale vaccine trial for TB in India, China, and Africa supported by WHO. I believe a successful vaccine would be the greatest breakthrough in the fight against TB. In addition, I was particularly overwhelmed by the speech of Ms. Nandita Venkatesan, a young Indian woman, who survived XDR TB. After she was cured, she



led a national campaign to advocate for rights to effective and affordable treatment for the people affected with drug resistant TB. She exceptionally showed this commitment and solidarity through an Indian traditional dance, which showed her energy to gain good health and life again.

Through her, I got to know about thousands of TB survivors in India, who are continuously advocating and supporting the people with TB through awareness programs, advocacy campaigns, and community actions to reduce prevailing stigma in the communities. I was overwhelmed when I met three TB-survivors, who live in India but are originally from Nepal. I discussed with them, the humanitarian work they have been doing in the field. I realized that empowering the TB survivors is crucial in ending TB related psychosocial issues and stigma. Therefore we invited them to visit BNMT in Nepal and are exploring ways to support the development of TB advocacy in Nepal in the future, to bring power and dynamism to the movement.

Therefore, attending the Union conference inspired us with the various ways we could act to support the national END TB strategy goal in Nepal.

Dear BNMT/IMPACT TB team,

A few months ago I would never imagine that I would have such an amazing experience to come to Nepal. That was really unexpected. But fortunately my paths crossed with Dr. Noemia during the IMPACT TB dissemination seminars in Brazil. Noemia was so passionate about the IMPACT TB project, BNMT, about Nepal in general and she could spread that passion to the audience, which included me. That was when I decided to contact Noemia and see if there was any possibility of an internship. After many discussions and arrangements with Dr. Maxine and Dr. Noemia, I finally came to Nepal. It seems like everything converged for me to come there and that experience was a very special gift. During this short time I have learnt a lot about the technical aspects of TB research, data analysis, project designing, the importance of establishing partnerships and collaborations. But I also learned about commitment, team work, hard work, kindness and respect. Each one of you has plenty of reasons to be extremely proud of yourselves and the excellence and relevance of your jobs for Nepalese population, as well as for the scientific world. I have no words to express how grateful I am for the opportunity to meet and work with such brilliant people. I hope it is just the beginning of a fruitful partnership! A few days before my arrival in Nepal, I have read a quote saying: "You first come to Nepal for the mountains, and then you return for the people". Now I just confirmed how true it is! Thank you

Rafaely Costa



International health conferences: an experience from the eye of an early career researcher

Kritika Dixit, Research Manager

Last year, I had some of the remarkable moments in my research career. On behalf of the BNMT research team, I presented our research studies at two high-level international conferences: European Congress on Tropical Medicine and International Health (ECTMIH, Liverpool, UK) and The 50th World Union Conference on Lung Health (Hyderabad, India).

The two conferences accepted five research abstracts for oral, poster, and e-poster presentations which was challenging to juggle time slots, clear messages, and different audiences. My supervisors Dr. Max and Dr. Tom supported my preparation. I also consulted Rob Hale- our Communication

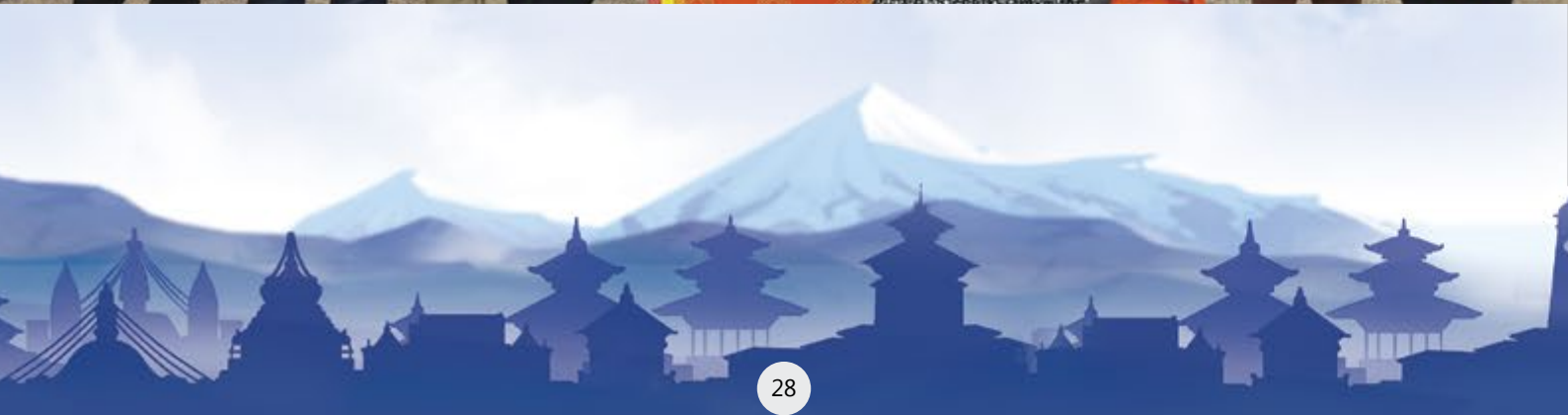


Specialist, who advised me on techniques to engage the audience. This prepared me to stand up boldly in the crowd of several thousand researchers.

The research studies at the conferences were based on high-quality evidence from multi-disciplinary areas of epidemiology of infectious diseases, modelling, advanced laboratory tests and digital innovations for global health priorities including social protection, and the newest vaccine development. I also participated in mentorship and career development sessions for early career researchers. What fascinated me the most at the World Lung Health Conference was the team of young people who were the survivors from tragic respiratory conditions. They raised a pledge from the global community to commit to 'Nothing about us without us' and to become more inclusive through community power consolidation to produce coordinated global advocacy.

It is even more challenging to present scientific papers than to write and publish them.. I presented BNMT research on barriers and facilitators to TB treatment, social determinants of TB in Nepal, and the role of active case finding in reducing catastrophic costs, which created curiosity and questions among people. I designed my posters look enticing and readily understandable, with clear key messages, which later seized the attention of many attendees. E-poster, was a new method of presentation for me but I found it an effective means of interactive discussion. For a young researcher like me, participating at such international conferences is an efficient and exciting social arena to learn about similar or different disciplines of global health issues. To attend the ECTMIH conference, I also received a travel scholarship from the Royal Society of Tropical Medicine and Hygiene.

In a nutshell, these conferences have not only been a platform for presenting my work at BNMT but have also boosted my confidence and raised a profound eagerness, enthusiasm and many exciting ideas to expand our research work. This has been one of the best experiences of my life-time. I acknowledge my sincere thanks to Dr. Maxine Caws, Dr. Tom Wingfield, Suman Chandra Gurung, and the entire BNMT team for their support, guidance, and trust.





Consequences of COVID-19 for TUBERCULOSIS IN NEPAL

Tara Prasad Aryal, District Program Coordinator for IMPACT TB, Chitwan



TB care services worldwide are one of the biggest casualties due to the global COVID-19 pandemic.

TB kills 4000 people each day worldwide- 1.5 million people each year. Nepal still has a very high TB prevalence and the impact of COVID -19 pandemic on TB here is likely to be severe. The first ever National TB prevalence survey in 2019 concluded that there are 70,000 cases of TB and an estimated incidence of 245 per 100,000 citizens. This means 40,000 TB cases in Nepal are 'missing' from notifications every year.

The WHO STOP TB partnership has released a study showing a conservative estimate of the consequences of the disruption to TB services caused by COVID-19 globally will be 6.3 million more cases of TB and 1.4 million more TB Deaths by 2025.

The fragile and inadequate progress towards "TB free Nepal" by 2025 could be completely derailed due to COVID-19.

Nepal has high rates of extreme poverty (28.6% multidimensionally poor) and chronic malnutrition (36%), coupled with increasing prevalence of chronic diseases. COVID-19 will affect those with TB in a number of intersecting ways, which include additional barriers to healthcare access due to lockdowns and diversion of scarce resources to respond to the pandemic. Access to testing, TB medication, and sputum testing for treatment monitoring are all reduced. Due to the overlap in symptoms of the two diseases, people with fever and cough may be refused testing and care due to fear of COVID-19, or be referred for COVID-19 testing, while they are actually suffering from TB. It is clear already in the early months of the epidemic that TB testing and notification of new cases has plummeted in most districts of Nepal. This increase in undiagnosed TB in communities will lead to increased transmission as lockdown lifts and many people with more severe long-term complications of TB disease due to delayed diagnosis. We also know that poverty increases vulnerability to TB and the COVID-19 pandemic is precipitating many families in Nepal into extreme poverty due to the sudden loss of livelihoods. More importantly, Interventions such as TB active case finding interventions and preventive therapy are likely to be de-prioritized, with reduced expenditure on TB.

It is clear that the coronavirus pandemic has just made it incredibly difficult to script the endgame for TB. However, if the COVID-19 response services can be effectively integrated with TB diagnosis and care by the government, the pandemic could lead to a strengthening of Nepal's epidemic preparedness alongside a strengthening of its TB elimination campaign. This is a natural alliance, which can be achieved utilising the same network of community volunteers evaluating similar symptom profiles.

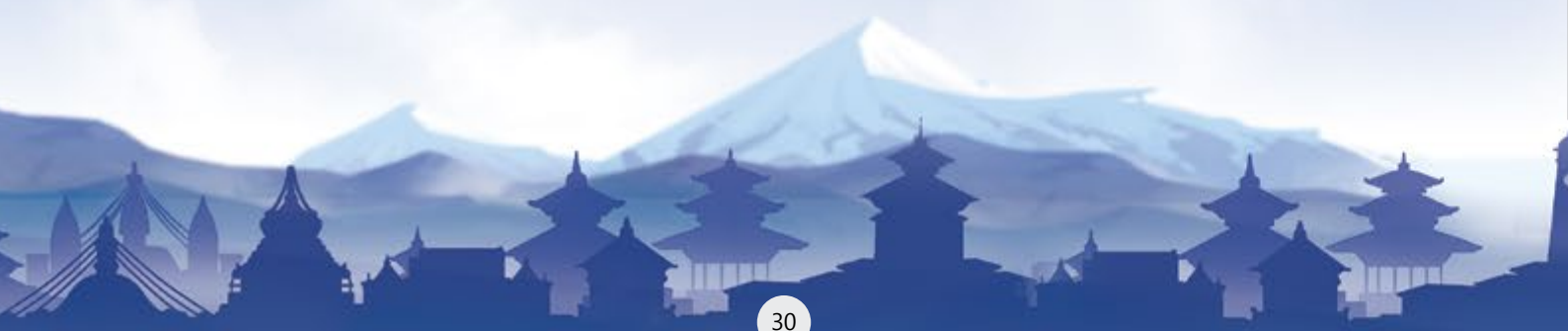
Thus the newest infectious disease may present us with a unique opportunity to achieve victory against one of our oldest foes, if we co-ordinate our response and intensify our work together for victory.

Drone Optimised Therapy System, Nepal



DrOTS Nepal (Drone Optimized Therapy System; www.drones4nepal.org) is a pioneering approach to address one of the biggest challenges facing rural healthcare in Nepal- transport networks for samples and medicines. BNMT, in collaboration with the government health services, and DroNepal has developed a network linking eight rural health posts in Pyuthan district to two GeneXpert testing hubs, at the district hospital and Primary Health Care Centre (PHC) in Bhingri. This project has been shortlisted for a prestigious international AUSVI xcellence award: (www.auvsi.org/our-impact/auvsi-xcellence-awards). During the project period, over 1,900 sputum samples have been transported for testing by the drones and 62 TB cases identified and enrolled to treatment. The project is also testing the use of smart pillboxes for the first time in Nepal to facilitate patient centric care and reduce the burden of daily observed treatment for patients. Following a successful pilot of feasibility among twenty patients, the use of smart pillbox, or e-DOTS, will be scaled-up in Chitwan and Pyuthan districts this year to provide a robust pilot evaluation for the National TB Control Centre.

The project conducted focus group discussions with health workers, community people and FCHVs to explore their knowledge and perception of using drones in TB diagnosis and smart pillboxes in treatment. The preliminary findings showed that drone is an effective and efficient tool in sputum transportation in rural communities as it saves travel time and costs to deliver samples and reduces long waiting period for report collection.



Meet Narayani KC – DrOTS Nepal Volunteer!

Every Monday the drone lands at Majhkot Health Post in Pyuthan district to receive sputum samples for TB testing. Narayani KC is a Female Community Health Volunteer, who has been working as a BNMT volunteer for the last three years. She joined our TB REACH wave 5 project and now works in the DrOTS Nepal Project. She works in Majhkot rural municipality, which is a remote area. Transportation is one of the challenges in Majhkot due to high hills and rugged road; to reach many places in her area Narayani has to walk for several hours on foot.

Initially acceptance of TB Screening was very low due to stigma about TB. Some times Narayani had to engage in extended counselling to convince people to provide samples for TB screening. After TB diagnosis, she keeps in touch with patients to support them to complete the long 6 month treatment. Due to her efforts for raising awareness, people developed strong trust and began to welcome and value her work in the community.

Before the drone project started, Narayani would wake up early in the morning and walk at least 2-3 hours to visit the house of people at risk of TB to collect sputum samples. She would walk for another 3-4 hours to reach the District Health office, or wait for hours to take the local bus to the office. When she saw the drone for the first time, she thought it was a 'helicopter'. Later, she was thrilled to know that this 'helicopter' was going to carry the sample to the health facilities, therefore she no longer needed to walk for so long to reach the patients or District Health Office. She received BNMT training on opening the drone container and putting the samples inside.

She receives report of the tests performed often within a day and informs people about the positive or negative results. She then provides counselling to the people diagnosed to get registered into the treatment.



Narayani is extensively involved in informing and educating school children and teachers of Majhkot about the new 'helicopter' in her area, also teaching the children that the drone is not a toy for 'target practice' throwing stones!

Narayani shares that the drones have made her personal life much easier. She can focus more on her household work and give time to her children as she does not have to consume her time walking for hours or waiting for the laboratory results.

Her greatest support is her husband, who is also a social worker. People in Majhkot regard drone as a new development of Science and this work has also increased Narayani's trust among her friends, family and community people. She is eager to learn more about drones to take responsibility to operate the drone in her community.





8
health centres mapped
and networked to
2 GeneXpert machines



1
additional Genexpert
installed at Primary Health
Centre in Bhingri, Pyuthan



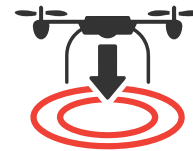
Approvals from **12**
ministries and government
offices



9
months sample transport
services to increase equity
of access to advanced lab
testing in district



Design and testing of
simple user interface for
flight operation



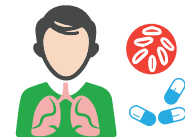
Design of QR landing code
system for precision landing,
to remove need for skilled
pilot operative training



220
drone flights performed



1915
presumptive TB samples
transported by drone and
tested by GeneXpert



62
diagnosed with TB



Local TB Transmission models to inform TB elimination strategies for Nepal

Sourya Shrestha, Johns Hopkins School of Public Health, USA

Mathematical models can serve as a useful tool for public health decision-making. In the context of infectious diseases, such as tuberculosis (TB), models can help capture complex dynamic processes, such as the spread of a disease, which can vary rapidly over time and depends on many factors, such as how people are interacting, and how people are accessing health care. Using such models, decision-makers can evaluate the potential impact or cost-effectiveness of different interventions before running costly evaluation trials. Thus, carefully developed models can be a tool to refine decision making.

To understand the potential epidemiological impact of IMPACT-TB active case finding activities, we developed TB transmission models for the four districts of Nepal, where activities were implemented: Chitwan, Dhanusha, Makwanpur and Mahottari. We used historical TB notification and demography data to inform the models initially, and then later validated the models using the data collected from the IMPACT-TB study. TB cases were found in a large proportion of Village development committees across the four districts where active case finding was conducted. Historical notification rates were generally not a reliable predictor of the number of cases detected

using active case finding, and cases were equally likely to be found in areas with lower reporting rates as those with higher rates. This suggests that TB is prevalent, and severely under-reported- a finding corroborated by the 2019 TB prevalence survey. Hence, actively testing individuals for TB can help detect significant numbers of TB cases. The modelling results suggest that each TB patient detected by active case finding would help prevent 1.5 to 2 cases projected to occur in the next 5-year period. The number of cases averted could be larger if the cases detected are either likely to be missed within the existing health care, or take longer than average to seek TB care. We found that this would result in up to 10% of potential TB cases being averted in the next 5 years through active case finding. The modelling results suggest that while Active case finding is an efficient tool for finding TB cases, and preventing transmission, Active case finding alone is not sufficient to reduce TB incidence in these regions- comprehensive strategies including scale up of preventative therapy are also needed. We will now test the effects of adding preventative therapy to our active case finding model in the IMPACT 2 TB project.

The work was funded by TB Modelling and Analysis Consortium (TBMAC) and IMPACT TB.



NEW PROJECTS

BREAKING the stigma: An Alternative Approach to Cervical Cancer Screening in Nepal

Project BREAKING the stigma aims to explore the feasibility and acceptability of an alternative method to cervical cancer screening - self-sampling for HPV delivered via online /phone based platforms. The project will work closely with local partners, local communities to understand their needs, drivers and barriers and develop and test service pathways. It will also explore contextual barriers and opportunities to create a feasible and acceptable prototype HPV self-sampling service which addresses current barriers to cervical screening and can be delivered through a sustainable business model.

TARGET TB (Understanding TB transmission dynamics in the context of rapid urbanization of Asia to optimally target interventions and accelerate the End-TB strategy)

TARGET TB will use whole genome sequencing of TB isolates from three contrasting districts of Nepal to understand how TB transmits within our communities and inform the development of more effective interventions for elimination. The project will be conducted by a consortium including BNMT, GENETUP, TB Nepal and the University of Melbourne (Australia), in collaboration with the NTCC. This project will be implemented in Kathmandu, Banke and Pyuthan district from January 2021 to December 2023.

Addressing the Social Determinants and Consequences of Tuberculosis (ASCOT): a pilot randomised controlled trial and process evaluation in Nepal

Project ASCOT is a process design study that aims to field-test socioeconomic support packages for TB-affected households to identify most feasible and acceptable in Nepal. This will inform design of a definitive, large-scale trial for funding applications. The project will aim to evaluate the potential impact of the selected support package on health, finances, and stigma of TB-affected households in Nepal and consolidate partnerships with communities, the Nepal NTP, and WHO, to ensure the future trial is achievable, act as a model for other Low income countries, and informs TB policy and practice. The 18 month ASCOT project will be carried out in four districts with high TB and poverty- Chitwan, Mahottari, Morang, and Pyuthan.

Active Case Detection (ACD) in Malaria Program

ACD in Malaria Program is designed with the aim of increasing the screening of malaria cases in different communities of Nepal to contribute to eliminate malaria from Nepal by 2026. Funded by Save the Children, Nepal, the project will be conducted in three municipalities of three districts -Homtang Gaun Palika, Bhojpur; Sunkoshi Gaun Palika, Okhaldhunga and Khadbarinagar palika, Shankhuwashabha This project has begun 16 February 2020 and will end in 15 March 2021.

READ IT project

The Research, Evidence and Development Initiative (READ-It) aims to improve health outcomes through the application of reliable evidence synthesis. This will be achieved through increased number of evidence-informed decisions by global, regional and national decision makers that benefit the poor, including women. BNMT is the Nepali partner in this consortium project, and will conduct systematic reviews tailored to national evidence gaps identified and prioritised in consultation with key government stakeholders, to ensure the review findings are directly relevant and feed into the national decision making.

In Memoriam of Ian Baker

Ex-Chair, BNMT UK

I was very sad to hear about passing of Dr. Ian Baker, Ex-Chairperson of the Britain Nepal Medical Trust on 12th April, 2020. It is a very sad news for all of us indeed in these unprecedented times.

Personally, I have known Ian since 25 years and I have met him twice while he came to Nepal in different times. I remember him as a smiling face, curly hair, and soft voice with a pleasant personality. Professionally, he was a visionary, strategic thinker, committed leader and trustee of BNMT. With his death, BNMT has lost its longest serving Trustee, a real Nepal lover and unequalled supporter for the trust over 38 years. It is a fact that without his continue support, it was impossible that the trust would have continued till today. He is sorely missed, and will be always remembered.

I express my deepest sorrow and heartfelt condolence on his demise. May god provide his wife Deborah and the rest of Ian's family to bear the grief at this sorrowful moment. I pray for the eternal peace of the departed soul.

Rest in peace Ian.

Rajesh Parajuli

HR and Admin Manager



From BNMT UK: An effort to strengthen palliative care!

BNMT has been collaborating with Professor Rosalind Eeles at the Royal Marsden Hospital NHS Foundation Trust and the Institute of Cancer Research to strengthen the provision of oncology services in Nepal. When Professor Eeles visited Nepal in 2014, BNMT facilitated her visits to some of the main cancer hospitals in the Kathmandu valley. In 2017, having secured funding from the Global Challenges Research Fund, Professor Eeles was able to offer four Nepalese oncology fellowships at the Royal Marsden Hospital and the Institute of Cancer Research. As well as enabling Nepalese and British doctors to exchange expertise in the care and treatment of cancer, for the Nepali participants the programme builds knowledge in cancer genetics and experience in research methodology. Drs Ujjawal Chalise and N. K. Bajracharya from Bhaktapur Cancer Hospital and Drs S. K. Thakur and Bishal Paudel from Bir Hospital each spent three months at the Royal Marden NHS Foundation Trust and Institute of Cancer Research in the autumn

of 2018. Professors Bishnudutta Paudel and Prathiba Bista Roka visited in May 2019.

Dr Thakur said 'I was very impressed with the data management system, multi-disciplinary teams and communication skills at the RMH/ICR, which were something to replicate in my institute in Nepal.'



BNMT UK continues to support this work at Bir Hospital with the help of the Institute of Cancer Research.

Dr Gillian Holdsworth

Chair, BNMT UK

Tongba to Trustee: An exotic experience

Jeff Mecaskey, Trustee, the BNMT UK

My earliest recollection of the Britain Nepal Medical Trust (BNMT) go back forty years, to a tongba shop in Hile Bazaar. I had recently come to Nepal as a Peace Corps Volunteer, posted in a village then two days walk from the road head. At that “pub” I met Andrew and Claudia, Eric and Simone.

My interest in health came quickly upon my arrival in Nepal. Within weeks, I could distinguish the cramps of amebiasis from the rumbles of giardiasis. Beyond myself, my interest focused with my first monsoon in Nepal when the seasonal wave of shigella swept over my village, killing adults as well as children and infants. By my third year in Nepal, I knew I wanted to work with BNMT. Even from my youthful vantage, BNMT’s approach, its strategy, was compelling. Here was a British NGO, imbedded in the Nepali rural Primary Health Care (PHC) system, using its “outsider” vantage, to experiment, test new ideas, take risk, but all with a view on what that PHC system could take up and take forward. There was the Hill Drug Scheme and the Bhojpur Drug Scheme as well as the Tuberculosis and Leprosy Control work and what became the Community Health and Development Programme.



In January 1984, I took on the role as coordinator of the “southern arm” of BNMT’s support for Nepal’s Community Health Leader Programme (CHLP). Working in close cooperation local health facilities, CHLP worked with local structures, training local “Health Leaders” providing a link between community health promotion and first aid services and the formal health system. CHLP also supported extension of tuberculosis control activities, as well as vaccination and contraception services. While our work maintained an operational focus on practical project delivery at the community level, we also played an active role in Nepal’s national discussions about how these practical insights could expanding services.

I continued working with BNMT though mid-1987. Seven years in Nepal, I had given and got. I learned so much about what development means—at the organisational, operational and individual level. Great ideas are necessary, but they need intensive engagement with stakeholders and meticulous attention to delivery to realise their potential in practice.

My work with BNMT led me to great academic institutions – University College London, Liverpool School of Tropical Medicine and Harvard School of Public Health. It also informed by contribution to major initiatives by United Nations, the UK and US governments and private sector aimed at enabling the world poorest to achieve improved health; improved health system governance and performance; and, more currently, pandemic preparedness and integrated health security.

My ties with Nepal and BNMT endure: 15 years after I completed my service in Nepal, I joined BNMT Board of Trustees, serving as Chair from 2005-10. I look back on my time with gratitude, as we all look to the challenges of the future. I was last in Nepal, leading the 2019 health sector review: this intensive three-month exercise made clear to me legacy of BNMT and its ongoing relevance in Nepal’s future.

Grateful for your support!

Sarah Gregory, one of our former interns, raised funds to support our work via Just Giving and provided support to one of the indigenous communities of Nepal, the Chepang Community. This June, she ran half marathon and collected 825 pounds more! Great effort –Go Sarah.



With the funds collected last year, Sarah bought some stationery, school bags, shoes etc. for the school students of the Chepang communities of Chitwan district.



Rosemary Boere, one of our former trustees and founding members, has also been supporting us by collecting funds via selling plants in her home town. She collected additional 350 pounds this year! Seed that grow good things!

Last year Rosemary had collected 230 pounds, and with the funds, warm blankets were distributed to 26 disadvantaged TB affected Chepang families of Chitwan district.



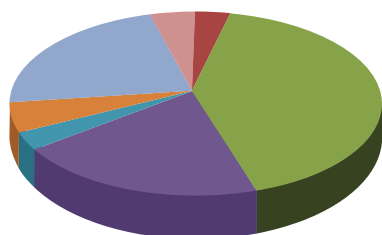
FINANCIAL OVERVIEW

BIRAT NEPAL MEDICAL TRUST

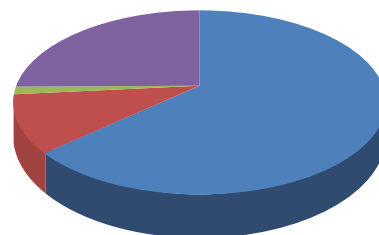
Balance Sheet as at 3/31/2077 (July 15, 2020)

Details	2076/77		2075/76	
	Amount (NRS)	Amount (NRS)	Amount (NRS)	Amount (NRS)
Fixed Assets:				
Tangible Assets		11,306,080		3,630,823
Current Assets:				
Debtors	5,899,504		4,181,070	
Investments	-		-	
Cash in Hand	22,247		60,000	
Cash at Bank	44,069,072		29,029,339	
	49,990,824		33,270,409	
Liabilities and Payables:	8,400,296	8,400,296	4,597,103	
Net Current Assets		41,590,528		28,673,306
Total Assets less Liabilities		52,896,608		32,304,129
Charity Funds				
Restricted Fund		26,064,545		31,882,778
Unrestricted Fund		26,832,063		421,351
		52,896,608		32,304,129

*unaudited

Total Income: NRs 120,903,456**Expenditure : 102,908,193**

● Farrar Foundation ● FCDO (PR:LSTM) ● NSF
 ● SCI ● Wellcome Trust ● AmplifyChange
 ● BNMT-UK ● Other Income



● Project Activities Cost ● Administrative Cost (Programme admin & General)
 ● OD & ST ● HR Cost



DONORS AND PARTNERS

ORGANIZATIONAL DONORS

1. The Britain Nepal Medical Trust, UK
2. European Union
3. Nick Simons Foundation
4. Wellcome Trust, UK
5. Global Fund/Save the Children International
6. AmplifyChange
7. Foreign, Commonwealth and Development Office (FCDO)
8. The National Lottery Community Fund, UK
9. TB Modeling Analysis Consortium
10. Farrar Foundation
11. Global Challenge Research Fund
12. Medical Research Council, UK
13. The Royal Marsden Hospital, UK

INTERNATIONAL PARTNERS

1. Liverpool School of Tropical Medicine, UK
2. Karolinska Institutet, Sweden
3. KNCV Tuberculosis Foundation, The Netherlands
4. Friends for International Tuberculosis Relief, Vietnam
5. John Hopkins University, USA
6. Stony Brook University, USA
7. SH:24
8. WeRobotics, Switzerland
9. University of Liverpool, UK
10. University of Melbourne, Australia

MAJOR NATIONAL PARTNERS

1. Ministry of Health and Population
2. Department of Health Services
3. National Tuberculosis Control Centre (NTCC)
4. National Health Training Center (NHTC)
5. Provincial Health Directorate (PHD)
6. Health Offices
7. Municipalities / Rural Municipalities
8. Health Facilities Operation and Management Committees (HFOMC)
9. Local NGOs/Civil Society
10. National Health Research Council (NHRC)
11. Social Welfare Council (SWC)
12. Nick Simons Institute
13. Nepal Flying Labs

GALLERY



Renovated Quality control lab in Biratnagar, funded by Everest marathon



IMPACT TB dissemination, Chitwan



Distribution of COVID19 relief materials to the local municipalities in Bardiya



Welcoming new Director General of DoHS, Dr Dipendra Raman Singh



Menstrual hygiene Day 2020 celebration



The ever smiling team in Biratnagar



Welcoming the new NTCC director Dr Anuj Bhattachan



Community excited to see the drone landing





BNMT NEPAL

Serving the People of Nepal

Birat Nepal Medical Trust (BNMT Nepal)

HEAD OFFICE

PO Box : 20564 Lazimpat-2, Kathmandu | **Phone :** +977 1 4436434, 4428240, 4441918 | **Fax :** +977 1 4439108
E : bnmtnepal@bnmt.org.np | **W :** <http://www.bnmtnepal.org.np> | **Twitter :** @BiratNepal | **Facebook :** /bnmtnp

REGIONAL OFFICE

Nepalgunj Sub-Metropolitan City-10
Bhrikutinagar, Nepalgunj
Tel. 081 525757

Hetauda Sub-Metropolitan City - 5
Latinath Marg, Hetauda, Makwanpur
Tel. 057 521023

Biratnagar Metropolitan City-11
JanapathTol, Biratnagar, Morang
P.O. Box - 9
Tel. 021 470608



Scan QR code
to visit Website