Empowering Communities through University Partnerships in Public Health: A Pilot Project in Nepal and the Philippines

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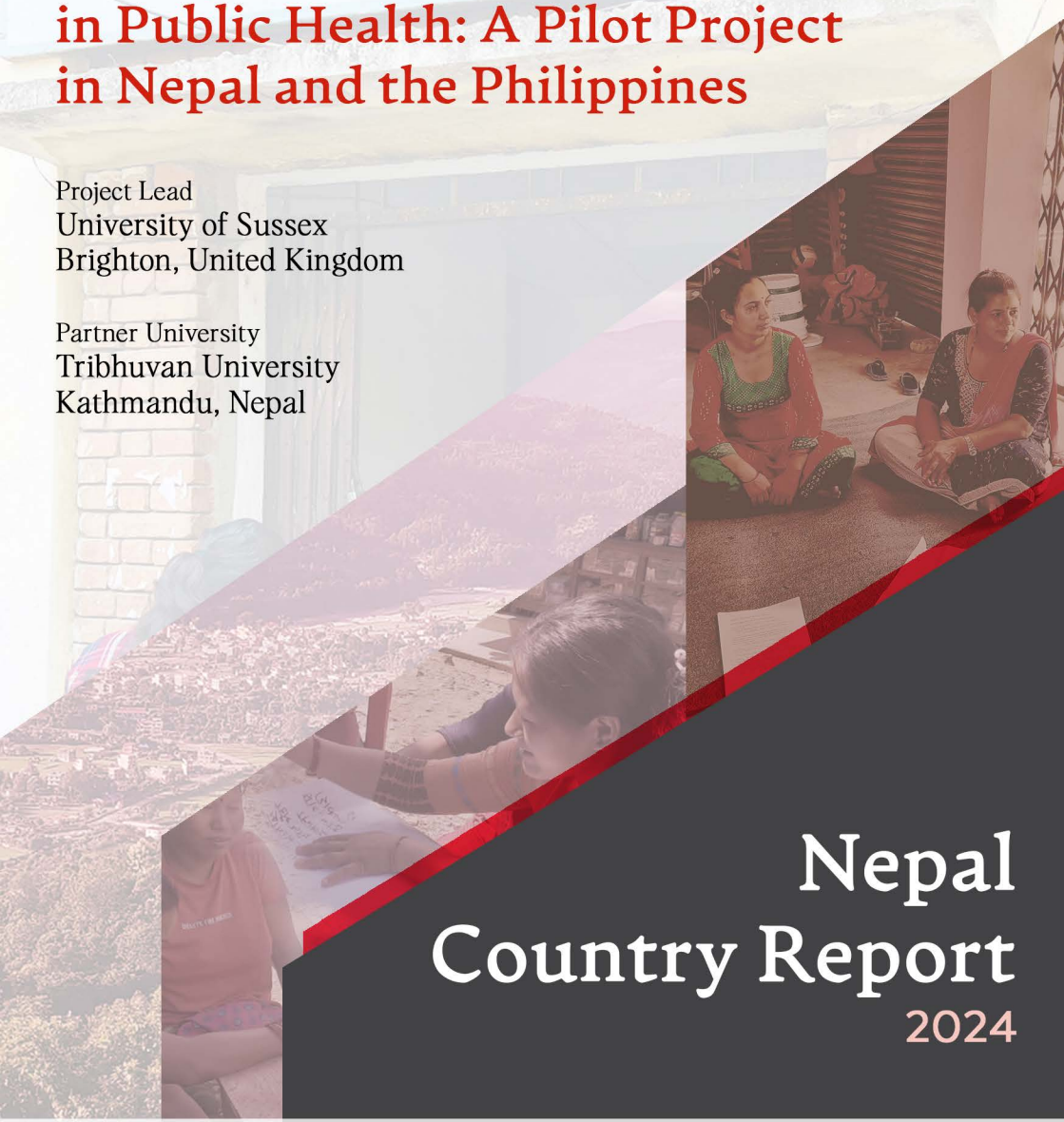

Nepal Country Report

2024

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List of Abbreviations

BPH	Bachelor in Public Health
MBBS	Bachelor of Medicine and Bachelor of Surgery
BNS	Bachelor of Nursing
CDPH	Central Deparment of Public Health
CBE	Community Based Education
CHD	Community Health Diagnosis
CLC	Community Learning Centre
IoM	Institute of Medicine
LPG	Liquified Petroleum Gas
MMHIS	Manmohan Memorial Institute of Health Sciences
MPH	Master in Public Health
PAR	Participatory Action Research
PPI/E	Patient and Public Involvement/Engagement
SLRM	Sahid Lakhan Rural Municipality
TU	Tribhuvan University
VDC	Village Development Committees

Figure 1: Mountain view in Sahid Lakhan Rural Municipality

Country-Specific Report: Nepal

Introduction

Overview of the Project

This research project on empowering communities through university partnerships in public health, was designed to pilot a democratic approach to public health partnerships between medical institutions and local communities. Nepal's Tribhuvan University (TU) Institute of Medicine (IoM) led this research. At the time of this project, IoM was in the process of revising its curricula, aware of the need to critically review the curricular contents and the implementation of community-based education. In this context, the current research proved to be timely and relevant.

Drawing expertise from both the education and public health sectors, this research was a unique endeavour, as cross sectoral collaborations are rare in Nepal. The research was undertaken to explore curricular aspects, as well as Community Based

Education (CBE) that students from health sciences, particularly medical and public health, participate in. In order to achieve this objective, IoM designed a community-based health profession education programme, consisting of a three-phase community study (community health diagnosis, family health exercise and district health systems management field), spread over the entire programme period. The concept of CBE in TU's IoM, emerged with the main objective of opening new avenues for future health professionals to learn from life and become socially accountable health professionals. In the final year, Bachelor of Public Health students also participate in various concurrent field activities and a comprehensive practicum in a community health organisation.

Various national and international guidelines have emphasised the importance of more equal partnerships between universities and communities in health profession education. CBE is informed by such guidelines. However, in practice in Nepal, communities have had little say in designing community engagement approaches and activities. Community-university partnerships have focused instead on mobilising communities solely for the purpose of producing graduates and research outputs. While academic programmes have benefited considerably in this process, inequalities in partnership raises ethical concerns and causes impediments to realising the full potential of the CBE approach. Thus, the review of IoM's health professions education included fostering a more equitable community-university partnership that would serve the community's needs and aspirations. Our previous research endeavours have focused on working with communities more respectfully, while creating space for co-learning as well as enriching teaching and learning experiences. In this context the current research aimed to address the following overarching research question:

How best can universities engage communities in a mutually respectful and equal partnership, to advance public health education?

To explore the implications for enhancing current public health practice in medical schools and investigate community perspectives, the following sub-research questions informed the research:

1. What approaches to university-community engagement in public health are in evidence?
2. How do communities perceive partnerships with universities?
3. What health practices and knowledge can university partners learn from communities?

4. How can medical schools apply this model in practice? How can this intervention support the national public health system/strategies?

The project aimed to improve the effectiveness and uptake of public health knowledge and initiatives in Nepal through developing deeper relationships of respect and collaboration between university and local communities in under-served areas. Two clear evidence gaps were identified in the field of public health: i) methodological evidence on participatory research as an approach to co-production of public health knowledge and interventions, and ii) research on how university courses for health professions engage with indigenous knowledge, beliefs and practices. The need to fully engage communities in the planning, implementation and evaluation of CBE had been identified in earlier research by Choulagai (2019), a co-investigator in this project. His assessment of the community- based components of IoM's professional programmes, informed the conceptualisation of this research.

Patient and public involvement/ engagement (PPI/E) has been seen as important in ensuring that health technologies take account of local conditions. However, there has been little discussion as to what kind of health knowledge and practices should inform public health interventions, despite research findings on indigenous and local knowledges. Furthermore, debates about decolonising global health have drawn attention to the need to challenge the 'hegemony' of high-income countries over knowledge (Binagwaho et al. 2022) and for universities in low-income countries to develop more equitable community partnerships.

This study aimed to contribute to such debates by providing evidence of how public health education interventions can be developed through participatory action research (PAR). This is a methodology that not only enables participants to voice their views and influence interventions (as in PPI/E), but to go a step further in helping to decide the research agenda and taking forward future action. Whereas PAR has been used extensively in education and development studies in Nepal to understand and engage with local beliefs, knowledge and assets in communities, university health departments have not promoted this methodology thus far.

Structure of the Report

The report has seven sections. The first section provides the background to the research topic, i.e. CBE and community-university partnerships for more meaningful CBE, from the community perspective. The second section reviews the policies

and curriculum in terms of CBE. The third section discusses the methodology of the research, a key aspect of the piloted intervention. Sections 4, 5 and 6 of the report present the field research findings and PAR activities. Section 6 also describes the process and outcomes of the impact activities. The last section consists of conclusions and recommendations.

International and National Policy and Guidelines for Community-Based Education for Health Professionals

This review begins by identifying international and national policies, along with relevant curricula as they relate to CBE in the health sciences. The aim is to explore how to integrate the new intervention, as well as to identify curricula gaps in relation to CBE in the health sciences. The review was guided by the participatory approach to community engagement. The importance of CBE is recognised within WHO's guidelines for transforming and scaling up health professionals' education and training. Nepal's National Health Policy emphasises the need for community involvement and for partnerships between communities and academic institutions, laying the foundations for more equitable and inclusive health practices. While the Medical Education Act promotes community engagement and the new National Curriculum Framework generally encourages community participation, CBE is currently not designed for community empowerment. In this regard, the culture of co-learning and co-creation at the community level needs to be encouraged. In the context of health, local and indigenous practices of food, nutrition and health need to be recognised.

1. International Guidelines

WHO guidelines for transforming and scaling up health professionals' education and training, emphasise the importance of CBE in ensuring that health professionals are socially accountable, ethical, and aware of the needs of the community, with the aim of achieving an equitable health system. The guidelines also highlight community engagement as fundamental to changing medical education. According to these guidelines, it is the state's responsibility to protect the people and patients from underqualified and non-qualified health care providers, by developing a system that ensures proper communication and information between service providers and the receiver. CBE is defined as comprising educational activities that use the community environment as a learning situation that involves not only the learners but also the educators, community members, and other stakeholders (WHO,

1993). To identify and solve priority health problems in and with the community, it advocates for the creation of links with new partners. Community participation is important because people's willingness and ability to modify their lifestyles or to contribute in a community health action, is closely related to their belief, values, and felt needs.

2. Nepal's National Health Policy

The objective 5.6.5 of Nepal's National Health Policy (NHP, 2019) is to promote multi-sectoral partnership and collaboration between governmental, non-governmental and private sectors and to promote community involvement. Policy No. 12 specifically states that individual, families, societies and concerned agencies shall be made responsible for prevention and control of non-communicable diseases and integrated health system shall be developed and expanded.

In terms of health professionals, strategy 6.8 makes reference to the need for skilled health human resources and 6.9, to the importance of health professional councils to ensure the accountability and quality of these human resources. Section 6.8.8 proposes the formulation and implementation of an umbrella act for the development and expansion of health science academies. Section 6.16 states a clear intention to strengthen the voice of the population by enshrining the right to information related to health and the right of the beneficiary to know about the treatments being proposed.

Section 6.13 also addresses public health through food consumption: to improve nutrition, it states, adulterated and harmful foods shall be discouraged and promotion, production, use and access to quality ingredients and healthy food shall be expanded. Section 6.13.4 states that the consumption of nutritious and healthy food items is to be promoted and domestic production, encouraged (MoHP, 2021/22).

3. The Medical Education Commission: The Medical Education Act and Regulations, The National Curriculum Framework and Medical Education Policy

Nepal's Medical Education Act 2018 stipulates that in addition to theoretical knowledge pertaining to the practice of medicine, the curriculum should include the development of practical skills, human sensitivity, communication skills, professionalism, social accountability, cooperation, integrity and leadership ability. The Act states that community stakeholders should be involved in curriculum development and its implementation.

Before the National Curriculum Framework was put in place in 2023, health science education was entirely in the hands of the

universities themselves: it was led by the universities rather than by the community and there was no active community participation. Now all Nepal's health institutes develop their curriculum based on the framework, with the participatory approach as a guiding principle for the governance and management of medical education. The participatory approach is seen as providing contextual learning for health science students, as well as strengthening community health leadership and incorporating community health concerns. The framework requires the curriculum development process to be participatory, involving health professionals, students, patients and other stakeholders, including the local community. During field practicum, students are now expected not only to provide health services but to be involved in carrying out some health research in the area.

The Medical Education Policy 2023 also states that undergraduate students should contribute to preparing/implementing health sector planning in the municipality where they work:

> *Depending upon the topic being discussed, inviting patients and community people for interaction, in or outside the classroom [the participatory approach] is a preferred pedagogical approach as [it] help students understand patient and community health concerns. Involving students in clinical and sociocultural research is an important pedagogical approach (Medical Education Commission, 2023a, p.34).*

The Medical Education Policy, 2023 outlines medical education institutes' responsibilities in terms of carrying out regular and systematic academic and social audits. These should initially be self-audits but then all key stakeholders (students, parents, faculties, staff, patients, people's representatives at municipality level, community people, management/ governing bodies) need to be included and audit reports made available on the website (Medical Education Commission, 2023).

While planning, management and governance should primarily be driven by the community, provincial and local governments, as well as medical education institutes, are expected to work collaboratively. For example, provincial and local governments can support medical education institutes with management-related concerns, with the social audit process, and with identifying health issues in the area. Medical education institutes support local authorities through making community engagement activities a part of the curriculum.

The curriculum framework developed by the Medical Education Commission identifies the competencies required for

the Bachelor in Public Health (BPH), which include: recognising community relationships and inter-related factors that affect people's health; demonstrating the ability to work in community-based engagement research work; identifying the participants and collaborate with public partners to upgrade the wellbeing of the people; and contributing to advancement of a health ideas for a public to be healthful (e.g., focus on prevention, impartiality of health for all, quality and improvement); understanding the prospects for improving health beyond his/her practice through outreach community based clinical and health promotion educational activities (Medical Education Commission, 2023b, *p. 132)*. The curriculum design takes an interdisciplinary approach, allowing faculties to deal with any topic from a broader perspective. A range of health-related courses offered at universities in Nepal include an element of community engagement within their programmes (Medical Education Commission, 2023).

According to the Medical Education Policy 2023, CBE involves not just learning within the community, but also learning alongside and from it. When communities engage in CBE, they both contribute to and benefit from the process. The primary aim of CBE is to help students grasp the social dynamics of health promotion and disease prevention, while fostering a sense of social justice and cultural humility in health professions through education. Community field programmes, as part of CBE, enhance students' abilities to understand and address community issues. These field activities are designed to be community-based and responsive to needs, encouraging students to provide service while developing clinical, public health service, and communication skills. Under the community engagement element within CBE, a key activity is the community health diagnosis, a field practicum in which students are required to carry out research and health -related actions in a specified community (Medical Education Commission, 2023).

Curriculum Review

As the Community Health Diagnosis (CHD) is seen as a central approach to community engagement, we begin by reviewing CHD in each of the programmes. The TU IoM Bachelor in Public Health (BPH) includes 30 days residential field activities as part of CHD. Students are required to conduct a household survey, analyse the data collected and organise a health 'action' with existing resources in the community. They receive a one-week orientation about the field site at the university and the faculty assesses the feasibility of a student's proposed study before they begin. Creating rapport and encouraging community participation are encouraged

as part of the process. IoM's Bachelor of Medicine and Bachelor of Surgery (MBBS) course also includes a CHD element similar to the one described above. Its aims are to identify and prioritise the 'real' needs of the community and address them through community participation and available local resources.

Nursing students attending IoM's Bachelor in Nursing Science (180 hours) are required to conduct a CHD with a focus on child and maternal health, with each nursing student gathering data on 20 families and presenting two family case studies. They are also required to give formal and informal health teaching to families they work with. The Bachelor of Science in Nursing includes a CHD in the first year, with a focus on environmental health and an additional four weeks in the third year, with a focus on maternal and child health. Lastly, the Masters in Nursing includes a two-week field programme on geriatric nursing and primary health care management. This involves analysis of a health care issue in the community, as well as how care is delivered and managed.

A number of other medical institutions in Nepal offer similar styles of community engagement on their health- related programmes. Karnali Academy of Health Sciences' BPH includes a CHD residential programme, consisting of a one-week orientation at the university and four weeks in the field. As with TU programmes, the aim is to use different methods required for community diagnosis and identify community resources to address the issues. Karnali Academy's MBBS involves 240 hours of residential CHD. Students take part in social mapping and diagnosis and explore participative learning approaches to assess and analyse community health and to implement a health action. In addition, MBBS students at both the university and the academy, as well as BPH students in the academy, carry out a Family Health Exercise (120 hours) field practicum (non-residential). The focus is on individual families' health issues, with groups of five to six students working with five families. As the programme is non-residential, students work with families in the vicinity of the university for easy in follow-up.

Purbanchal University's BPH (120 hours) comprises CHD but does not include micro-health project planning and implementation. Instead, this element is included in another practicum named 'comprehensive community practicum' as a part of district health system management. The Post Basic Bachelor of Nursing at Purbanchal University (252 hours) adopts a comprehensive approach to community nursing, which includes providing care to community members and identifying health issues.

The CHD in Kathmandu University's MBBS lasts four weeks. Fieldwork includes assessing the problems of the community, learning about survey methods, epidemiology and biostatistics, and performing health promotion activities. The Bachelor of Nursing (BNS) and BSc. Nursing at Kathmandu University requires six weeks of community diagnosis activities.

Methodology

This multi-method study began by investigating community-based health learning through a desk review of existing national and university policies (see previous section). This was followed by a review of community engagement reports prepared by the students after their community placements. For a deeper understanding, we also conducted ethnographic research, including focus group discussions with students and interviews with faculty members from the IoM and Manmohan Memorial Institute of Health Sciences, and with community members. In the community, we adopted PAR, consisting of participant observation in ten households, followed by an activity involving taking photographs, and a workshop. We concluded our study with reflections and an evaluation that included dissemination workshops with stakeholders. Based on the findings, we were also able to carry out impact activities both in the community and the university. Below are the stages of the research process, followed by descriptions of what we did in different stages.

The Context of the Study

The first three research questions regarded current approaches to university-community engagement in public health; perceptions of communities regarding partnerships with the universities; and health practices and knowledge that university partners can learn from communities. The study was therefore in health education settings associated with the university and in the community. Data collection consisted of extensive interactions with concerned stakeholders.

Site I: Tribhuvan University's Institute of Medicine

Tribhuvan University's Institute of Medicine is situated in the Maharajgunj area of Kathmandu Metropolitan City. The IoM runs various health science academic programmes, including medicine, nursing and public health, through its constituent and affiliated campuses. We visited IoM's medical campus and Central Department of Public Health (CDPH) as well as an affiliated college of IoM – Manmohan

Fig 2: View over Sahid Lakhan Rural Municipality

Memorial Institute of Health Sciences (MMIHS), where we interviewed faculty members, held focus group discussions with students and collected and reviewed field reports prepared by the students. We interviewed faculty members from CDPH, conducted focus group discussions with students from MBBS and CDPH and interviewed one faculty member from MMIHS.

Site II: Community

Sahid Lakhan Rural Municipality (SLRM) was established in 2017. This rural municipality is administratively divided into nine wards and includes diverse communities, including Magar, Gurung, Newar, Chhetri, Brahman, Chepang, Dalit, and Muslims. Covering a total land area of 149.03 km^2 with 23076 inhabitants, the municipality's headquarters is in Ghairung, Gorkha. One of several indigenous communities in SLRM, Magars have their own language, culture and health practices related to Shamanism and herbal medicine. Our study involved two communities in SLRM. One community consisted of Brahmin-Kshatriya and Dalit. The second community consisted of Magars only. MBBS students had spent a month in the same communities as part of their community health diagnosis field activities the previous year.

Research Ethics

Underpinned by the Declaration of Helsinki[1], the principles of a no-harm policy were adhered to in this study, with a focus on maximizing benefit to and autonomy of, research participants (Armond et al., 2021). The purpose and process of the research were explained and discussed with the participants. The 'photovoice' activity directly involved community women taking pictures about their food related practices,

1 Developed originally in 1964 by the World Medical Association (WMA) for the medical community, the Declaration of Hesinki (DoH, Finnish: Helsingin julistus) is a set of ethical principles regarding human experimentation. (Source: https://www.wma.net/policies-post/wma-declation-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/)

to be used in different forums during the research project. Therefore, it required particular attention with respect to ethical considerations. Ethical approval was also sought and granted from the Nepal Health Research Council (Registration number 236/2023). Informed written and verbal consent was taken from participants prior to the study. Whilst maintaining the confidentiality and privacy of the participants, access to the information and pictures was given to strengthen credibility and ownership of the study.

Stage 1: Inception stage

A review of literature around university-community partnerships in public health was carried out during the inception stage. A full team meeting was held at TU, Nepal in April 2023, to finalise the design of the project and crucially, to share comparative perspectives on public health and community-based learning. The research teams from Nepal and the Philippines were introduced to PAR and ethnographic approaches that were required for conducting the entire study. Relevant policy documents, community-based learning related curriculum, and students' field reports were reviewed. The outcomes of this review are integrated in the relevant sections. After completion of their field-based learning (community diagnosis and health care management system study), BPH and MBBS students are required to write a report. Fifteen of such reports were reviewed.

Stage 2: Understanding existing community-university health partnerships

Stage 2 consisted of two components: first, BPH and MBBS students and faculty members participated in interviews and focus group discussions to explore strengths and gaps of the community-based learning curriculum; student experiences regarding community placement; and engagement and suggestions for change. The second component consisted of the ethnographic scoping research, involving informal and semi-structured interviews and participant observation. We interviewed the chairperson and other elected representatives of SLRM, chief administrative officer, health section staff, traditional healers, education staff, school teachers and staff from local health institutions, including the Ayurveda hospital.

Stage 3: Community-focused study on food and health

Adopting ethnographic approaches, we conducted participant observation in ten households in relation to current food practices, food handling, cooking and food preparation, as well as socio-cultural beliefs related to food and nutrition, and health

practices. For this purpose, we selected two communities from SLRM: Magar and a mixed community of Brahmin-Kshatriya and Dalit, based on their different food cultures. Households were purposefully selected; however, because of our focus on intergenerational knowledge transmission, priority was given to households consisting of at least two generations and from different castes and ethnic groups. Interactions were multi-layered, involving stakeholders; community leaders from various political parties; community people, particularly local people from the community where IoM students had spent their month-long residence; female community health volunteers and ten women from Magar and Brahmin-Kshatriya and Dalit communities (for the photovoice).

These interactions focused on identifying the communities' cultural practices related to food and nutrition. We also visited Namjung Community Learning Centre (CLC) and the health facility that students attended during their placement. The information generated provided valuable background for the PAR.

From the initial findings, it was clear that people are increasingly forgetting their cultural food practices and are becoming more dependent on modern, readymade food. This insight led to discussions about actions that would support them in preserving this knowledge. Photovoice was proposed because of our focus on intergenerational knowledge transmission: it would enable knowledge about food to be shared and local practices documented for future generations.

Fig 3: Magar women developing food chart: Orientation of PAR

Fig 4: Food Preservation

Stage 4: Participatory Action Research (PAR) for local food/ health/indigenous practices

The PAR stage of this study, informed by the ethnographic method, was the key research approach and aimed to better understand the community, explore current food practices, food handling, and socio-cultural beliefs related to food and nutrition, further transforming knowledge about food and documenting these local practices. As PAR researchers, we believe that research should not just collect and analyse data and report on the findings, but also focus on empowering individuals and communities to improve and continue their local food practices. To this end, a multi-phased cyclic model of PAR as a reiterative process, was implemented, engaging participants in planning, action and reflecting on a series of collaborative activities. Those layers are explained below under different titles. We worked with local communities, especially women, to identify the need for this local knowledge and to co-design activities that would help them in developing new knowledge, skills and applying these skills to their personal and social lives.

Scoping Research

Before the PAR intervention itself, the study team made two visits to the sites: the first visit occurred between 21-29 September 2023 and the second, between 17-23 January 2024. This corresponds to Stage 3 described above, which included interviews with community members and participant observation at household level.

Photovoice: Intervention for PAR

Photovoice was used as both method and action. We specifically chose females because in the Nepali context, most cooking and food handling is done by them. The aim was to amplify the voices of women, often accorded less importance in many Nepali communities. However, interested males were also welcome. Since we planned to conduct photovoice using mobile phones, which is cost effective and does not require extra training, we approached women who could handle mobile devices and knew how to take pictures.

During the first field visit, women were briefed about the photovoice approach and asked if they wanted to participate. A total of ten women from ten households - five from the Magar community, four from the Brahmin community and one from the Dalit community, were signed up. Initially, they lacked confidence about participating but seemed interested in doing so. They were given four months to take photos of cultural foods practices, along with whatever they thought important. In-between, the study team was in touch with them continuously.

PAR/Photovoice Preparation

During the second visit, the study team reached out to the participants engaged in photovoice and meetings were held separately with the Brahmin, Dalit and Magar communities. The women showed the photos they had taken to the team, explaining the importance of those photos and videos (see findings). These were saved on a central computer. The women discussed the process of food production

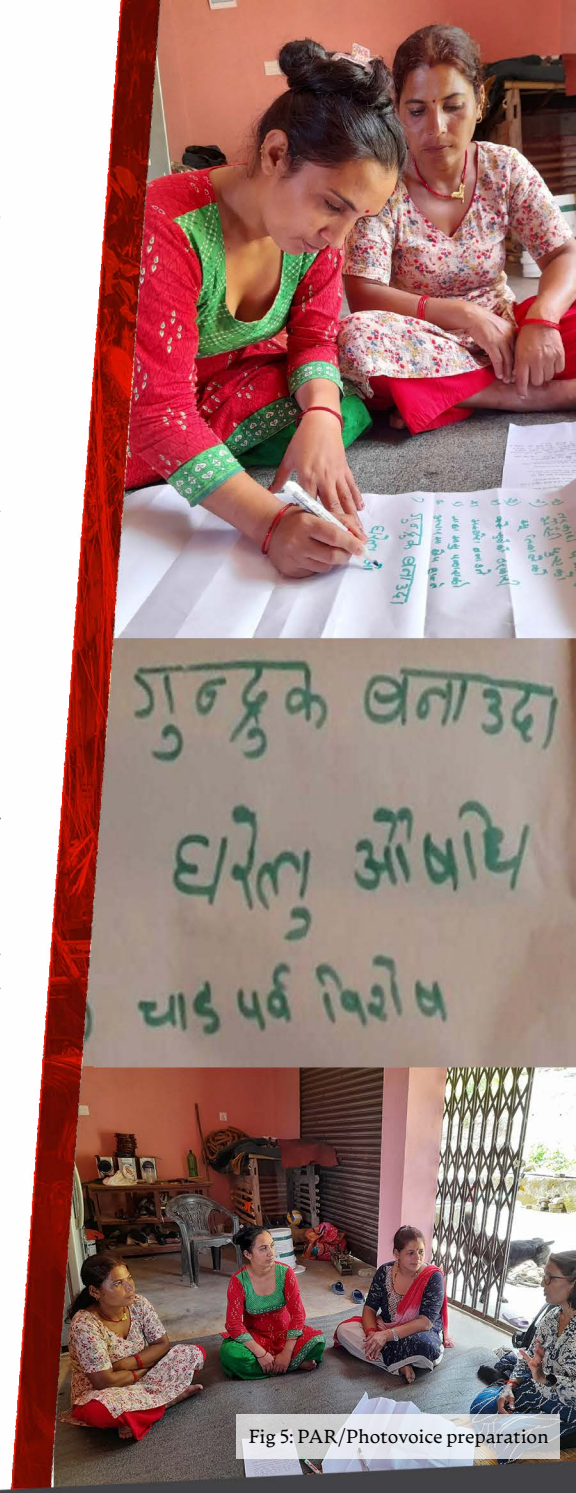

Fig 5: PAR/Photovoice preparation

and harvesting, and the importance these activities had in their lives. More than four hundred photos were taken, along with some videos. Women classified the pictures based on themes they had generated.

Participatory Workshop

Twenty participants representing health, education, social work and political sectors, attended a half day workshop, held in the Municipality Hall, where the ten women presented the photos that they had taken. After acknowledging the knowledge that the women had shared, there was a discussion about photovoice as a method and discussions about how the knowledge shared could be incorporated into university settings (see findings section).

Stage 5: Impact activity, evaluation, and Reflection

A key component of this study was the impact activity consisting of three major events: a one-day workshop in Kathmandu on PAR for nursing, public health and Ayurveda faculty members and public health students; a one-day workshop at SLRM for municipality stakeholders to disseminate the findings of the research. This included developing guidelines for university community partnerships that would promote community empowerment through the CBE component of the health science academic programmes. The workshop also devised a framework to create a platform for health science students to learn about local/indigenous knowledge and practices related to community health practices, including food and nutrition. The final activity was a national level dissemination workshop held in Kathmandu in which a platform was created for the exchange of perspectives from the SLRM Chairperson, representatives of the PAR participants, health education institutes including IOM, Rector, TU, and central government personnel from relevant agencies.

Evaluation and reflection were also core components of this project. After the completion of the core research activities, evaluation was conducted in the first two events that followed. Evaluation was not conducted at the national level dissemination event because most of the invitees were not involved in the actual research process. Those who were involved had already filled out the evaluation form in the previous events. A five-point Likert scale was administered to assess the overall experience of the participants regarding the workshops. Additionally, reflections were sought from selected participants to understand their experience and perceptions regarding the PAR workshop. Likewise, at SLRM, after the completion of the final dissemination and community-university partnership guideline preparation workshop, participants were asked to fill in an evaluation, also designed using the Likert scale.

Univesity-Community Collaboration: A Potential Space for Co-Learning

This section presents data analysis from the different phases of the project. Under the overarching theme of university-community collaboration, findings are organised into five themes: community: a space for first-hand knowledge and experience; the distance between curricular knowledge, and community needs and expectations; structural and demographic changes: an acknowledged issue; curricular and methodological concerns; community-university collaboration: an unexplored avenue.

Community: A space for first-hand knowledge and experience

The narratives collected from students and faculty members show that during their CBE, students engaged in community health diagnosis, study of the health facility management system and family health exercise; they received hands-on practice in exploring health issues in the community health care management system; and were involved in implementing micro health projects. Students also developed soft skills, including communication, group dynamics, coordination, leadership and critical analysis, as well as managerial and technical skills like data analysis and preparation of five-year plans.

The community placement was seen as an opportunity to get first-hand experience of the community, community health practices and the intersectionality of health practices with its culture and rituals. Some female students from BPH and MBBS programmes reflected that CBE and related activities, helped them to realise that there is far more to health than diagnosis and treatment of disease. It also raised their awareness of the financial and social impacts of disease. Their participation in the CBE often challenged the monolithic processes of hospital treatment.

A male student stated:

> *"Engagement in that rural community during my community health diagnosis helped me to learn more about different religions, ethnicity, language, culture and tradition. Now I realise, health practices are all linked with these aspects of life".*

Students learned how health practices are deeply embedded with the language, culture, rituals and even religious practices of the local community. For many students, the Community Health Diagnosis (CHD) was the best learning space. A female student who had completed her one-month-long field stay in a Tamang community, stated:

> *"The experience that I collected from my participation in the Community Health Diagnosis was one of the best experiences of my life. I got an opportunity to engage directly with people, culture, community, life and livelihood. I learnt their indigenous practices in treating health related problems [diseases]".*

Another male student whose placement was in the same community, reflected:

> *"Deep discussion with traditional healers and local leaders made me feel that they mostly give priority to the local medicinal practices especially traditional healing."*

Many students stated that through CHD, they came to appreciate that learning from the community is very different from treating patients in the hospitals. The experience helped them to gain practical and lived knowledge and experiences. CDPH faculty members spoke of the value of the community placement for students, providing first-hand knowledge and experiences, pointing out that IOM/TU's design and implementation is underpinned by the community-based approach and methods. One academic referred to CHD as a 'learning laboratory':

> *"Through this course, we show the world that villagers and community people can teach more than what is taught in the classroom."*

At the same time, faculty members acknowledged that the implementation of the CHD needs to be updated, integrating more recent approaches and methods of exploring community health issues and helping communities to derive more benefits from the university's participation.

Distance between curricular knowledge and community needs and expectations

The analysis revealed a persistent gap between community needs and expectations, and the curricular knowledge and skills students are exposed to. Students referred to this gap when comparing their course-driven knowledge and skills, with CBE activities. Most faculty members identified gaps in the curriculum, classroom pedagogy, methodological knowledge and university-community collaboration.

Students stated that the curriculum designed for CHD was overly theoretical. While community-based practical knowledge was recognised as important, implementation did not meet their expectations. A male student stated:

"I have observed certain differences. For example, there are different indigenous and cultural practices in any community. Our curriculum has not incorporated these practices; we have not got an opportunity to learn how we could connect indigenous knowledge and health practices. We realised that we were 'blind' when we were placed in the field. I mean we were not aware of all these practices".

Another male student added:

"Only after I went to the community, I realised that every disease has 'a different story' behind it. I mean poverty, social and cultural beliefs and local practices are all connected to it. However, our curriculum is not open to make us explore all these connections. I feel our knowledge from the curriculum is quite limited and we need more and more to understand the community".

Community people also expected more from students than they were qualified to offer, as one female student explained:

"They expected us if we could treat their toothache, (high) blood pressure, etc. The community people were very supportive and had 'a belief' that we could treat their diseases. It was a challenge for us".

Public health programmes at IoM are designed to inform, educate and empower communities to tackle health issues. BPH/ Masters in Public Health (MPH) graduates are expected to investigate these health issues, prioritise them, and then provide communities with innovative preventive measures to reduce the impact. The goal of CBE is not to prepare students to provide medical treatment to the community but because they walk around in 'white coats', people assume that they are medical.

A faculty member with more than ten years' experience of supervising students, explained:

"We have three bases of learning. First, classroom-based didactics which all universities do have and it is teacher-led and classroom based. Second, we have self-directed learning developing their own micro-curriculum like attending programmes, working in health-related organizations. Third, CBE is another important basis of our programmes. In the CBE, our students go to the community and observe community needs using participatory research techniques. Then they prioritise and organise micro interventions. The interventions are not to solve health problems (medical treatments) but to explore how the community reacts to

the interventions. In the second year, they carry out a situation analysis of the municipality and get status of the health issues and cross-cutting factors. Third, they undertake 'dry rehearsals', connecting themselves with organisations working in the health areas. And finally, they develop an academic research paper, which is also a part of CBE".

Structural and demographic changes: An unacknowledged issue

Since federalisation in 2015, administrative and governance structures have changed. Under the previous unitary government, administrative units included development regions, districts, municipalities and village development committees (VDCs). Each VDC had nine wards (the smallest unit of the administrative/governance structure), whereas municipalities could have more than nine wards. This means that current wards are larger and rural-urban divides are less clear-cut. This has both administrative and demographic consequences.

A gap that the curriculum has not addressed yet is the demographic changes brought about by these changes, along with rapid urbanisation and internal migration. A current faculty member from CDPH observed that:

"The structure and notion of community have to be changed. Along with rural urban dichotomy, some communities are at the edge. They are classified as urban but deprived as rural communities. Such communities who are on the periphery have many health issues. They have their own local problems and problems generated by migration. Therefore, listening to the community is important".

Administrative demarcations do not take into account the facilities or characteristics that distinguish urban from rural areas. As a result, some communities administratively defined as urban, are not provided with the facilities that traditionally define urban communities. Additionally, there are poor and deprived settlements in traditionally demarcated urban areas. Kathmandu and other big cities have communities that are living on the edge. Furthermore, a female faculty member of CDPH pointed out that many rural communities have lost most of their young people to cities, leaving only the elderly. These changes are not reflected in the curriculum, nor are consequent changes to and emerging disease patterns.

Curricular and methodological concerns

The purpose of the curriculum is to prepare students to learn from the community. For this to happen, there needs to be immersion. One faculty member commented:

> *"A depth of immersion is required to fully understand the community, people and resources, this has not happened, and the curriculum does not prepare students for that level of community engagement".*

For example, students need to learn how to deal with people, how to communicate and the importance of listening not just to the patients but their families, as disease will impact the entire family. Family members can both aggravate or mitigate a patient's illness. The coordinator of CDPH's student placement emphasised that when an individual attends the hospital, students need to understand the community if they are to provide and effective service. Thus, when students are in the community, they need to maximise their learning from the community. This is why the curriculum requires them to engage in a micro health project, which is viewed as an awareness raising activity for the student.

A review of students' reports showed a wide range of topics being undertaken, such as food and nutrition, hygiene, safe abortion, health insurance, communicable and non-communicable diseases. These seemed to be driven by the needs of the community. One faculty member expressed concern, however, about the impact of private health education institutions on the philosophy underpinning CBE. Learning from life and accountability to the community were values that were, according to him, increasingly seen as a burden, both in terms of cost and effort. In this respect, while the Health Education Policy 2023 states that 'clinical and sociocultural research is an important pedagogical approach', such an approach appears not to be used in learning 'from life'.

All respondents expressed concern that the curriculum has not been revised as per the demographic, structural (administrative/ governance) changes, along with changes in health patterns and community needs. Health education providers continue to follow the same conventional and structured modalities: *"Students are studying the same thing that I studied many years ago"* said a female faculty member of CDPH. For example, students still collect data about population size, malaria prevalence, children's weight, etc. From the community perspective, *"students come and teach hand washing, how to cut vegetables and suggest not to use pesticides on the crops. We already know those things. They do not need to tell us such things anymore"*. Ward offices

and health offices are responsible for collecting this data, which is then used for planning and programming. Though many elements in the curriculum remain valid, demographic changes mean that students need to know more about certain areas of medicine, geriatrics being an example.

The methodology and the tools used in delivering the curriculum also require updating. Smart digital tools should be used not only in data collection but when conducting in-depth research and other activities expected by the communities. A female faculty member also questioned the relevancy of the survey questionnaire, echoing faculty members in pointing out survey information is centrally available from the municipality website. Moreover, the questionnaire does not address emerging health issues. MBBS students observed that though community engagement was a valuable learning experience, activities were superficial. Although they learnt about teamwork, research, survey, rapport building, diseases prevalent in the communities, culture and customs and their impact on health, and financial and social impact of diseases, they did not get to engage intensively with the community. Whilst the CHD was a valuable experience, students were candid about it being overly instrumental:

> *"During community health diagnosis, we got an opportunity to learn how ritual, and indigenous practices of the people and communities are connected to their health practices. As a student of medical science, we found it very important. However, it is only for fulfilling the curricular requirement rather than doing community health diagnosis in real sense".*

Similarly, students stated that in collecting data about social determinants of health using the survey questionnaire, to meet CBE requirements, they were constrained to ignore intersectionality between social and other aspects of people's lives that they encountered:

> *"We get what and how much we want to know. That's why many things lack in our data. We talk about social determinants of health, so talking only about health is not appropriate. There are economic, financial aspects as well. Maybe because we were not supposed to derive that much because we were only 2nd year students. But we feel that this part is bit neglected".*

A retired professor offered the following critique of CHD:

> *"I think that community health diagnosis has four major dimensions to cover: education, health, community service and research. We have tried education*

and health with structured approach but not community service and research. The 'community service' and 'research' are still not well addressed; students are not adequately equipped with recent methods for community study, there is a poor collaboration with local level governments for student placement and, the curriculum is still following traditional trend despite the change of the government structure".

A female BPH student said that upon completion of the CBE, they had learnt to communicate with and listen to community people, developed leadership qualities such as time management and coordinating the activities. However, on reflection they felt that the orientation programme had been rushed and that more time should have been given to practicing CHD in class. For example, «*If it [interview] was practiced during the course delivery it would have helped more, made it easier to actually interview and have saved our time in the field*".

University-community collaboration: An unexplored avenue

To illustrate this issue, we begin with a quote from a member of the municipality and a member of the university:

"What I feel is that the university and community do not have any definite plan for collaboration yet. For example, communities have their own health practices, issues and problems, and indigenous/ local beliefs for the treatment. The students from the university know little about our food practices, health practices and the knowledge systems we already have. We need a strong collaboration".

Chairperson
of Sahid Lakhan Rural Municipality

In my opinion, students of both BPH and MBBS programmes are not capable nor eligible to fully benefit the community. However, they contribute to the community by investigating health issues and problems that prevail. Also, they run community awareness programmes which may benefit the community. However, it needs to be well-designed, in collaboration with the community where we place our students.

Faculty Member, CDPH

These quotes are used to illustrate our contention that university-community collaboration is still an unexplored avenue with regards to CBE. At the same time, there is recognition on both sides of the

possibilities of collaboration and benefits to both sides. While the community is 'a learning lab' for students, the university could also engage students to explore community health which the community then utilises as research-generated inputs for developing local policies and programmes. According to most faculty participants, the implementation of CBE follows conventional guidelines whereby the municipality and/or its particular ward is chosen through a feasibility study. Familiarity with individuals, distance and expected expenses are also pertinent when placing students. In other words, selection is not driven by demand but by the need to fulfil curricular conditions. It is worth noting that in the overall understanding of CBE, communities are seen as recipients rather than active participants and co-learners with students. Community involvement in designing and implementing community awareness programmes is very limited. CHD therefore needs to be reframed in accordance with the present federal structure of the nation.

The curriculum needs to incorporate changing population and disease patterns in the local community. Crucially, in preparing students for CHD, the current top-down modality needs to change. Currently, students go to the community, share what they have learned and complete the activities that they need to do to fulfil curricular requirements. Faculty members and community leaders suggested that CBE needed to be redefined, informed by community knowledge and practices regarding health, food practices and nutrition.

Stakeholders in the community also urged the universities to integrate community knowledge into its programmes. In their community engagement reports, students suggested that coordination with local representatives was needed, using integrated and collaborative planning and implementation of activities. CBE manual/s and other guidelines, including the evaluation checklist and approval letter provided by the campus to the municipality, also need to be revised. The pre-placement orientation programme should include more practice-based activities. Local representatives, according to students, need more understanding about the importance of the health and behaviour change programmes and their importance for economic wellbeing.

Kitchen, Culture, and Food practices

Most of the ten households chosen for the community-based stage of the study, live in mud and cement constructions, with essential facilities such as water

supply in the yard. Most families have hens and buffalo and grow vegetables, relying on the market for essentials like oil, salt and spices. The findings illustrate that the knowledge women have is rarely recognised or valued. There is also much evidence of intergenerational learning in the two communities: the Brahmin-Kshatriya and Dalit community and the Magar community. The findings from these household observations and interactions are presented here.

Kitchen as a cultural space

The households observed mainly consumed locally available foods but used packaged foods for snacks as well. Most households produced enough seasonal vegetables, but their supply of rice, lentils, and potatoes lasted only five-six months a year; they purchase these items from nearby markets for the rest of the year. One Magar household grew mushrooms indoors and farmed hornets.

Firewood, biogas, LPG (Liquified petroleum gas), and electricity were used. Despite being more expensive compared to firewood, the women prefer LPG, widely available in local markets. However, some households used biogas as well as LPG and firewood, and even electricity for cooking. '*Daaura*' are no longer available in the village. While in the past, traditional tools were used for vegetable chopping, nowadays, they use knives. 'ɦsiya' and 'chulẽsi' are hard to find, require frequent sharpening, and pose a higher risk of accidents due to being made of iron, while steel knives are readily available on the market.

Regarding food storage, dried vegetables are hung from the ceiling, dried beans and tomatoes are stored in airtight containers, and corn is hung outside in its husks. Meat is hung beside the wooden pillars of the house. Food that will be consumed within a few days is not refrigerated. Some households dry fermented leaves for future use, consuming these dried leaves when seasonal vegetables such as taro leaves, radish and green leafy vegetable, are unavailable. Mats are used for drying vegetables. Modern utensils (pressure cookers, rice cookers) and local utensils (*karai, dekchi, kasãudi, silauta*) are used to cook food. A typical meal consists of rice, da:l, vegetables, and pickle, sometimes accompanied by vegetable soup.

The location and arrangement of the kitchen in the two communities is quite different. The Brahmin-Kshatriya kitchens are more spacious and well-ventilated compared to Magar and Dalit kitchens. In Brahmin-Kshatriya households, the kitchen is in a separate cement building, while in Magar and Dalit households, the kitchen is outside, attached to the main house and made of mud. Old style stoves are used so that the smoke cannot escape. The wall behind the stove is therefore dark due to

Fig 6: Preparation of taro dishes

smoke and steam. In Magar households, the cattle barn is near the kitchen, so that the kitchen smells of dung. Almost all households keep chickens for household consumption of meat and eggs, with hens and chicks roaming freely in the yard. The Brahmin community rear cows and buffalo rather than chicken. In both communities, households have two kitchens: one outside the other inside. The outside mud kitchen is used during winter, fuelled by firewood, while inside there is a gas stove. Further, in Magar and Dalit households they welcome their guests with locally prepared alcoholic beverages, which is strictly prohibited in Brahmin households.

Foods during illness and special health condition

There are similarities and differences in the food used in the two communities during illness and religious activities. In the Brahmin-Kshatriya community during the postnatal period, new mothers are given goat meat, soft rice, vegetables soup and ghee while the Magars give *jã:d,* a homemade alcoholic beverage made from rice *(bha:t)* to new mothers as it is believed to help milk secretion.

> *When I gave birth to my first child, there was no milk secretion for three days. I was very tense about what to feed my child. I ate meat and rice, but it didn't help. So, my mother-in-law scolded me and gave me bha:te jã:d. I drank it, and from the next day, my milk started secreting (a Magar woman)*

They also give chicken curry and chicken soup as these are also believed to help in milk secretion. *jã:d,* made from *kodo* millet, is considered cold and thus not given to post-natal mothers. It is consumed during hot weather and also given to farm labourers. Pork is not given to post-natal mothers either because it is believed to cause colds. Pork is also very fatty, so they eliminate the fat from the meat. Those who farm hornets, give the hornet larvae to post-natal mother as it is known to be rich in vitamins.

For minor illnesses like flu, diarrhoea, common cold, both communities prepare herbal medicines, mixing various plants, grinding them and bottling them for future use. When a person is sick, both communities use boiled water. Women play a central role in the preparation and storage of food and medicine:

> *"Kitchen is everything for us, except for the four days during menstruation, when we do not enter into the kitchen. We not only cook food to eat, but we also make different herbal medicines, store grains, and preserve food for future use. We learned about different herbs from our seniors, who know more than us, and our children know very little about it".*
>
> A female, FGD participant

Despite these practices, there are also indications that local practices are gradually being forgotten. The findings highlighted two concerns: first, the need to document existing food practices, and second, the need to incorporate this knowledge into curricula and teaching-learning activities.

Changing trends in food practices

There has been a noticeable shift in food practices, reflecting contemporary health concerns. A striking example is the sugar free version of *Shel roti.* Traditionally, *Shel Roti* is a sweet dish, but is now being prepared either with a minimum amount of sugar or no sugar at all so that family members with diabetes can eat it.

Another observed modification is that plastic utensils are replacing the use of *Tapari* in religious ceremonies due to the scarcity of sa:l leaves, as one participant explains:

> *These days it's difficult to get sa:l ko pa:t because it takes a one-two hour walk to collect the leaves, which is needed for making tapari, but plastic plates are easily accessible. We use Tapari for worshiping and plastic plates to serve the food. Furthermore, plastic is liquid-proof, preventing gravy from spilling and making it easier to eat.*

The kitchen: A space for freedon, knowledge transformation, and intergenerational learning

The responsibility of kitchen-related tasks, from cleaning to chopping, from cooking to preserving, primarily falls on women. For example, in the four hours of kitchen observation, no male entered the space. The kitchen is not just a place for culinary activities; it also serves as a space for women to discuss their concerns, making suggestions and learning from one another. The kitchen was also a safe place for expressing dissatisfaction with male family members, their neighbours and children. This highlights the unique sense of freedom that the kitchen offers to women. However, to some extent this reflects that women still only feel comfortable to talk openly within 'female' places like the kitchen or within activities such as fetching water.

The kitchen was found to be an intergenerational learning centre. The older generation impart cooking skills and practices to the younger ones but also have to adapt to new practices, as a 68-year-old female describes:

> *"In my house, for the last eighteen years, we've been using a pressure cooker and a gas stove. I was scared when the cooker hissed. It took me nearly three months to learn how to put on the pressure cooker lid, and about two months to light the gas stove. I called my sons every time I needed to cook. I know how to burn firewood... how to properly burn green or wet firewood, I know which firewood from which wood burns well, and how to minimize ash in the kitchen. But my grandchildren don't know that. I learned how to operate the gas stove, but I don't think they will ever learn how to cook using firewood or guĩtha".*

Photovoice: A tool for PAR

It is clear that cultural food practices are being lost, as dependence on modern technology and readymade food increases. Photovoice created the opportunity to recognise the knowledge women have and document this knowledge for future generations.

Photovoice for documenting local food practices

Initially, participants expressed doubts about photovoice. However, through sharing our own food preparation practices and some of our mothers' recipes, they came to realise that they had unique cooking and food preservation practices. They had specific knowledge about diet and about the use of herbs during pregnancy or illness, for example. We created a list of different foods on chart paper and had

more discussions. The following quote from participants in the Brahmin community illustrates their doubts about photovoice but also the lack of value afforded to their knowledge and skills:

> *"[...] The photovoice idea about clicking pictures sounds nice, though we can take pictures, but we have used those for Facebook only. But we have not done such type of study before, how about involving male in such activities, they can do better than us [...]. There is nothing new about cooking food, everyone knows how to cook food".*

It is through discussing their recipes and cooking practices that they came to appreciate the knowledge that they had and agreed to engage in photovoice. Themes developed by community participants were:

- Vegetable growing, harvesting and cooking
- Food for children and pregnant women
- Food for the elderly and sick
- Food during festivals
- Preparation of herbal medicine
- Meat and fish cooking
- Preparation of alcoholic beverages

Women were given four months to take photos of cultural foods practice along with whatever they thought important. The study team kept in touch with them throughout this period. More than 400 photos were taken during that time.

Photo credits: Yasunori Koide

Fig 7: Hornet larvae dish preparation cycle- from hive to ready-to-eat delicacy

Categorising the photos

After discussing the pictures of one participant, we encouraged the women to categorise the pictures. We provided examples and handed them markers, inviting them to write the category or title of the pictures. They engaged in group discussions; our role was solely to facilitate. They categorised the pictures into groups such as 'pictures related to milk products,' 'herbal medicine,' 'food eaten in festivals,' 'meat items,' 'green vegetables,' 'dry vegetables,' and 'special food.' As they continued adding categories, we created different folders on the computer and sorted the pictures accordingly.

Meaning making from the photos

Women from the Magar community presented the benefits of green leafy vegetables for eye health and how to dry these when seasonal vegetables are unavailable. They also discussed garlic, which can be consumed with barbecued foods, added to curry while cooking, or eaten uncooked. Uncooked garlic has healing properties for gastritis. They talked about black da:l (lentils) and the various items prepared from it, such as *batuk*. They talked about small local tomatoes, which are much sourer than the regular-sized ones. They presented medications used during illnesses and the local herbs they

Themes from the indigenous (Magar) community	Theme from the Khagi community (mixed community: Brahmin-Kshtriya and Dalit)
Preparing of green leafy vegetables	Preparing of various milk products including rice pudding, ghee, colostrum milk
Drying green leafy vegetables like mustard and taro, Hornet larvae fry, from its harvesting to becoming food	Preparing Sel roti, Puri roti, Malpuwa, soft roti (different items made by flours)
Preparing Batuk: made from black lentil	Cooking mutton
Cooking pork with mustard green vegetables (rayo ko sa:g)	Herbal medicine preparation and its use
Preparing alcohol of various type (rice, and kodo)	Process of preparing gundruk
Preparing herbal medicines from locally available herb plants.	Process of preparing masyoura
	Local methods of storing foods
	Process of making kodoko Dhĩdo (a thick porridge made with kodo flour)

Figure 8: Photovoice participants preparing for presentation in municipality

use, including *ghodtapre, rudilo* (used for nasal congestion), *koiralo, khamari, and dahikamlo.* These herbs are combined, ground together, and made into a soup, used for treating coughs, diarrhoea and open wounds.

Brahmin and Dalit women talked about their diet: milk and dairy products are used a lot whereas a eggs and meat are only eaten occasionally. Their primary meal is rice but *roti* and *dhido* accompany both lunch and dinner. They shared pictures of food preservation, like *gundruk* (dried fermented green leaves), of plants used for medicinal purposes such as *tulsi.*

Preparing for photovoice workshop

After categorising the pictures, we asked them how they would like to present them to the municipality. Pictures were arranged in sequential order, as suggested by the participants. They expressed delight at seeing their photos projected onto the walls, and appeared particularly pleased to see photos of themselves. They discussed the challenges of capturing these moments.

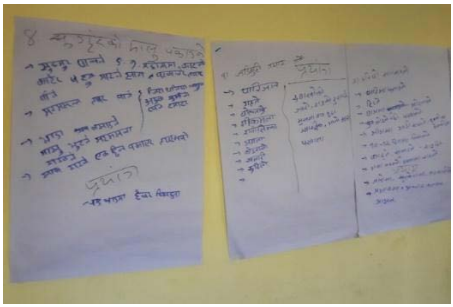

Figure 9: Pre-workshop: themes prepared by the women of Magar community

It was sometimes difficult to take pictures while working so they frequently sought help, usually from their children. They mentioned [laughing] that they sometimes had to bribe the children with chocolate or a toy.

They continued to believe that there was nothing new in these pictures and that people from the municipality, being from

Fig 10: Preparation for presentation

their own communities, would find the food pictures commonplace. We emphasised that the pictures were a springboard for sharing knowledge within the community and giving voice to their experiences. They had other fears about the idea of sharing their knowledge in a formal presentation, not only because they had never done anything like that before, but also because of their perceived place in the community hierarchy, as this 42 year old woman explains:

> *My husband is a local leader; he talks with different people and has regular meetings in the Palika. I rarely go to the Palika, though I know most of the people there, but I rarely attend any programmes. My role is to serve tea or food when they come here. I have talked with them in person but never in a group. I am feeling awkward presenting myself in front of them because I have not been given chances or never tried.*

To address this, the study team decided to practice the presentation within the group. There were inevitable overlaps among the pictures so the team decided to present pictures based on themes, with each participant presenting those pictures that illustrated their particular expertise.

Participatory Action Research (PAR) Workshop

The workshop comprised three discussion groups: social leaders, chair of the Sahid

Lakhan municipality, school principal, ayurveda officers, along with community representatives; the other two groups were made up of the photovoice participants from the Brahmin-Kshatriya, Magar, and Dalit communities. Themes included a reflection on the process of photovoice, the use of photovoice in municipal policy and its programmes and photovoice as community learning, university learning and empowerment.

Empowering women through photovoice

> *"I have never thought that women from our community could also do research and present like this. This research is eye-opening for me. From now on, we will consider using their knowledge in different ways. Even when ordering food from hotels, we can give them the tender to supply meeting snacks. As a Palika chair, I will rethink this".*

Participants learned many things in this journey, apart from sharing their knowledge about food and nutrition. The process helped them to realise that they have the 'knowledge' and 'expertise' in themselves. The photovoice activities also developed a positive attitude towards learning. Photovoice helped to highlight the value of traditional foods and how food practices might be passed on. Many participants noted the positive impact that the presentation experience had on their self-confidence:

Fig 11: Women presenting the photovoice outcomes at the municipality

[...]My heart was already beating faster. I was nervous inside but tried not to show it. I kept reminding myself of what I needed to explain. I reassured myself, saying, "These are my own pictures, so I can explain them well. If something goes wrong, it's okay. I've tried my best", and finally I gave a good presentation. I feel proud of myself.

They appreciated the opportunity to showcase their abilities, present in front of others, and share their cultural food practices. They also learned new skills, such as group discussion, presentation, and taking photos and videos with mobile phones. Through their participation, women developed confidence in speaking in front of others and felt motivated to continue similar activities in the future. They recognised the importance of locally available food and appreciated the opportunity to engage in group discussions and learn from one another. They also became aware of the differences between formal presentation language and informal daily speech. They gained confidence in their ability to lead community activities, challenging the traditional belief that only men could lead. This project helped them to develop leadership abilities and left them eager to participate in future initiatives.

Impact activity, Evaluation and Reflection

Three impact activities were organised: a one-day PAR workshop for faculty members and students (21 participants); a one-day workshop at the SLRM research site (26 participants); and a national dissemination event (20).

The one- day PAR workshop was designed to offer a hands-on experience of PAR. Out of 21, 19 participated in the evaluation. The findings of the evaluation are summarised in Table 1. Table 1 shows that most of the participants found the PAR training very informative, worth the time and useful to their professions. Participants saw the workshop as a great opportunity to learn new things, with one participant commenting, *"I am statistician, I will lose my job! [everybody laughed] but I can use it in my field as well"*.

Two activities were undertaken during the one-day workshop (the second impact activity) at SLRM, consisting of briefly sharing the research outcomes, followed by discussions in groups. The aim of these discussions was to develop guidelines for university- community partnerships to ensure community empowerment through community-based education of the health science academic programmes. The results of the evaluation exercise from this event are summarised in Table 2.

Table 1: PAR participants' responses						
Qs.	Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	I am glad that I participated in this training	16	2	0	0	1
	I have enjoyed the discussions	14	4	0	0	1
	It has been easy and effortless to participate in the training	4	9	4	1	1
	It has been easy to find the time to participate in the training	2	9	6	2	0
	The duration of the training was adequate	0	0	3	11	5
	This training has helped me become more mindful of the needs of the community in my daily life	10	7	2	0	0
	I feel that PAR helps better achieve the goal set together with the community	12	7	0	0	0
	I feel that PAR helps address the health issues of the community	10	9	0	0	0
	I feel that I have received enough information about PAR	2	8	4	5	0
	It has been easy to understand how this training can help me in my profession	5	11	3	0	0
	The activities in the training fit well with my expected duties as a health professional	4	13	1	1	0
	PAR is effective to address the community's health issues	9	10	0	0	0
	In the future, I will utilize this PAR in my professional practice and/or teaching.	9	9	0	0	1
	I have changed my schedule/ routine to be able to participate in this training	7	6	4	1	1

Table 2: Participants' response on the overall project and PAR in SLRM						
Qs.	Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	I am glad that I participated in this research.	19	2	0	0	0
	It has been easy and effortless to participate in the research.	14	5	2	0	0
	I have appreciated the activities conducted in the community.	18	2	1	0	0
	It has been easy to find the time to participate in the research.	7	14	0	0	0
	Involvement in this research process has helped me become more mindful of the needs of the community in my daily life. (n-15)	11	3	0	0	1
	From this research I got to know about how to learn from each other when the health science students come for community field practicum.	15	6	0	0	0
	I have enjoyed the discussions	19	2	0	0	0
	The duration of the study was appropriate	5	14	2	0	0
	This research process has helped me become a better person (PAR participants only) (n-10)	9	0	0	0	1
	I feel that I have achieved the goals set together with the research team.	11	10	0	0	0
	I feel that I have helped address the health issues of the community.	14	7	0	0	0
	The activities in this research are compatible to the responsibilities I fulfil as a member of community	9	12	0	0	0
	I got to know about how to link knowledge and skills of health science students when they come to community field practicum.	14	7	0	0	0

Table 2 shows that most of the participants, including the photovoice participants, were glad to be part of this research and found the activities conducted during the research useful regardless of their roles. Importantly, awareness was raised regarding student placements and how this could be an opportunity for mutual learning. Many also found that involvement in the research process helped them become more mindful of the needs of the community in their daily lives. The evaluation showed that in general, the impact activities that followed the research activities were effective and people who were involved in different capacities in the process, found it beneficial.

A brief FGD with women who were involved in the photovoice revealed how before their participation, they had been afraid to speak. Indeed, they had very few to voice their opinions and concerns. The photovoice activity, followed by the presentation to municipal staff, gave them more confidence to speak out in their community.

The second activity was group work to develop guidelines for university-community partnerships. Participants were divided into three groups, each discussing different aspects related to the partnership (see Appendix 1).

Finally, the aim of the national level dissemination event was to disseminate the research processes and findings, exchange ideas between the SLRM Chairperson, representatives of the PAR participants, health professionals' education providers, TU and personnel of the Ministry of Health and Population. A panel discussion involving researchers and two women from SLRM involved in the photovoice was the highlight of this event.

Conclusion and Recommendations

The aim of this study was to explore how best universities can engage communities in a mutually respectful and equal partnership to advance public health education. The purpose of using multi-methods was to explore community-based health and food practices, recognising the importance of context in research and the need for participatory action to empower communities.

Fig 12: Panel discussion on photovoice and national level dissemination event with TU Rector and CERID Director listening

Fig 13: Guideline preparation with the Chairperson of SLRM

Existing health education policies and curricula recognise the importance of CBE in Nepal, as well as the need for active community participation and collaboration among various stakeholders, to enhance health education and address community health concerns effectively. The overarching aim is to create a more responsive and accountable health system through promoting a participatory approach that integrates community engagement into health science curricula.

The research has highlighted the significant role of community engagement in enhancing the practical knowledge and skills of public health students. However, a gap was revealed between curricular content and community needs. Thus, this research underscores the necessity for curriculum updates to better align educational outcomes with the realities of community health practices and the evolving demographic, governance and administrative landscapes. Specifically, the curriculum, methodology and modalities of health education need updating to enhance the depth of community interaction and ensure that health professionals are well-equipped to address contemporary health challenges and learn from the indigenous practices as well.

The research has highlighted the top-down nature of current practices, CBE in particular, and more generally, community-based learning and community engagement. They are failing to incorporate local knowledge and provide space for active community participation. This suggests that community-based learning needs redefining for mutual benefit, which requires meaningful collaboration between the universities and communities.

The study has shown the intricate relationship between food practices, cultural beliefs, and the roles of women in the kitchen, highlighting the need to document and preserve traditional knowledge amidst changing trends. It also highlights the importance of recognising women's contributions to food preparation and nutrition, a contribution that current health education for professionals fails to acknowledge.

The study findings suggest that implementation of photovoice project can foster confidence and leadership (i.e. power to choose, decide and share) among women by documenting their knowledge and practices. The photovoice element of the study valorised traditional food practices and intergenerational knowledge transfer, ultimately promoting community engagement and indigenous knowledge.

Recommendations

- PAR is a valuable learning opportunity and illustrates the value of incorporating local knowledge, skills and practices regarding food and nutrition in both health related policies and health education programmes. CBE could enhance more effective community engagement through PAR.
- PAR could facilitate mutual learning of health practices and knowledge between the IoM/CDPH students and communities, thus empowering communities through university partnerships in public health. Students could better achieve the goals of CBE, i.e. to understand social dynamics of health promotion and disease prevention and to impart a sense of social justice and cultural humility, through the education process.
- Indigenous knowledge systems on health issues, food and nutrition can provide a more dynamic learning space for students. For example, the PAR process found that women in the research sites were very knowledgeable about the nutritional values of hornet larvae and taro leaves and herbal plants, which the students could have explored and learned from.
- Community engagement and curriculum go hand in hand. Thus, what and how students do in the community, is guided by the curriculum. The community-based learning-related curriculum should create space for students to explore community practices, co-learning with the community and linking local/indigenous practices with modern healthcare practices.
- The existing curriculum requires students to conduct both quantitative and qualitative information, engaging directly with community members. Following the PAR method, students already engage in social mapping activities. However, the information collected is mostly already available and is limited in terms of community empowerment. For PAR methods to be meaningful and effective within CBE of IoM, the CHD phase needs to be increased and more appropriate PAR activities included.

- The current practice of negotiating with local entities before placing students is limited to informing and getting consent. A jointly agreed issue-based investigation along with the one required by the curriculum, would be more effective. Thorough discussions with the municipalities before placing students, is necessary.
- Long-term collaboration with communities selected as 'teaching communities', with a memorandum of understanding between the university and respective communities, would ensure sustained cooperation from the communities, follow-up on previous PAR activities and provide richer learning opportunities to the students, as well as community members.
- Faculty members should be given hands-on PAR training so as to integrate PAR methods in CBE theory and practice in IoM/CDPH curriculum.
- Students would benefit from a one -day interaction with the ward or municipality and community groups such as mothers' groups, regarding health issues and local practices. Students should be allowed to select issues for further exploration and design micro-health activities on the basis of the ensuing interactions. This would also avoid duplication in students' field reports.

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Appendix 1

Guidelines for university-community partnerships

Student Orientation

- The concerned institutes will orient the students at their respective institutes as per their needs.
- Students shall be oriented at the municipality about the geography, community structure and culture in a participatory manner. Students shall also share the purpose of their visit and the research conducted previously by former students.
- The health section of the municipality will coordinate and organise student orientation ensuring the participation of different sectors such as the education section, health section, agriculture and animal section, Ayurveda and alternative healing and CLC. In this orientation, health related data held by the municipality will also be shared.

Community engagement

- Students shall explore indigenous/local knowledge and practices related to health and healing.
- Students will prepare case studies of the families affected by diseases.
- Students will study multiple aspects (economic, social, religious, cultural, etc.) that affect public health in more depth and share the findings with the municipality.
- Students will study every day and occasional food practices and the nutritional values associated with those foods.
- Students shall observe the treatment practices in health centres before moving into the community.
- Students will study the health situation of community spaces like school, and socially and culturally marginalised and economically disadvantaged settlements.
- Students shall organise more than one micro project. For this they will divide themselves in smaller groups.

Collaboration with university

- The concerned universities or academy shall place the students in the community after drawing up a formal agreement with the municipality.
- Community based learning programmes shall take place in the locations as decided by the municipality.
- Students shall work in collaboration with the health post operation and management committee of the Ward where students are placed.
- Monitoring and supervision of the students shall be undertaken by the municipality health section.
- Students shall exchange knowledge, skills and experiences with CLCs.

Glossary

Nepali	English	Image
Batuk	Ring-shaped deep-fried fritters of black lentil paste that are molded gently by hand.	
Bha:te jã:d	Local alcohol made of rice (see white liquid in middle)	
Chulẽsi	Iron kitchen Knife-Native of Nepal	
Dahikamlo	A kind of herb (Callicarpa macrophylla)	

Daura	Firewood	
Dekchi	Pot big or small for cooking cleaning food items.	
Dhĩdo	A thick porridge made of Millet flour	
Ghodtapre	Centella asiatica	
Guĩtha	Similar to Firewood made from cow dung use for cooking	

Gundruk	A fermented and dried leafy green vegetable	
ñsiya	Sickle	
Karai	Smaller wok.	
Kasãudi	Cooking pot is used to cook rice and meat	
Khamari	Gmelina arborea	

Koiralo	Mountain ebony	
Kodo	Millet (Paspalum scrobiculatum)	
Malpuwa	Traditional Nepalese sweet fried dough made from rice / wheat flour.	
Masyoura	A sun-dried vegetable made of (often taro) & black lentil paste	
Palika	Municipality	

Puri	A type of deep-fried bread, made from unleavened whole-wheat flour	
Silauta	Grinding stone	
Shel roti	Traditional Nepali ring-shaped sweet fried dough made from rice flour.	

Tapari made of saal ko Paat	Plates and bowls made of saal tree (Shorea robusta) leave	 
Tulsi	Holy Basil	
Rudilo	Pogostemon benghalensis