Nepal Health Sector Support Programme III

(NHSSP – III)

Technical Skill Development Training Impact Evaluation

27th May 2019

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List of Acronyms and Abbreviations

CLPIU	Central Level Project Implementation Unit
DFID	Department for International Development
DoHS	Department of Health Services
DUDBC	Department of Urban Development and Building Construction
e-GP	Electronic - Government Procurement
FMoHP	Federal Ministry of Health and Population
GESI	Gender Equality and Social Inclusion
HVAC	Heating, Ventilation and Air Conditioning
IT	Information Technology
LNOB	Leave No One Behind
MCB	Miniature Circuit Breaker
MITRA	Management Innovation, Training and Research Academy
NHSSP - III	Nepal Health Sector Support Programme - III
NRA	Nepal Reconstruction Authority
PCU	Project Coordination Unit
PPMO	Public Procurement and Monitoring Office
PwDs	Persons with Disabilities
RCC	Reinforce Cement Concrete
SPSS	Statistical Package for Social Sciences
ToR	Terms of Reference

Executive Summary

The Nepal Health Sector Support Programme 3 (NHSSP) is intended to deliver functional and efficient health infrastructure capacity within the Federal Ministry of Health and Population (FMoHP) and Department of Urban Development and Building Construction (DUDBC). It is designed to support the goals of the National Health Sector Strategy (NHSS) and is focused on enhancing the capacity of the FMoHP to build a resilient health system to provide quality health services for all.

In this context, the NHSSP 3 is currently supporting for the functional and efficient health infrastructure planning and construction capacity development within the FMoHP and DUDBC.

The NHSSP 3 capacity enhancement programme has three inter-related focus areas – organisations, systems and people - aiming to improve institutional as well as individual capacity. The NHSSP Health Infrastructure team (HI team) has recently completed five technical skills training events in Year 2 (2018) and one in Year 3 (2019). In this context, the NHSSP conducted an impact evaluation of these training events aiming to use its recommendations in the design and implementation of the technical skills development trainings planned for Year 3, May 2019 onward.

The evaluation team collected primary and secondary data from key stakeholders, resource persons and training participants through various methods – consultation/discussion, interview and questionnaire survey – using different sets of questions. The impact evaluation was conducted over the period 2 - 27 May 2019.

Major Findings and Conclusions

The evaluation concludes that technical skills development training events have helped targeted participants in improving technical knowledge and skills in the context of improving quality of government owned health infrastructure. All training events were found to be useful in developing technical capacity of the participants in designing and implementing high quality health facilities .Some of the participants suggested that longer training events would help the participants better understand the knowledge and skills delivered.

All the contents delivered in relation to the development of technical knowledge and skills for health infrastructure in all training events were found highly relevant and useful. In addition, , most of the participants expressed a wish to include field visits to observe practical implementation aspects.

Technical skills enhancement training events organised and supported by the NHSSP were largely found effective, and the participants, after attending training events, are applying their technical knowledge and skills in their jobs. Similarly, familiarity with the Standard Guidelines for Design and Construction of Health Infrastructure has greatly helped participants design and implement various categories and types of health facility.

There is still a gap between the technical knowledge and skills developed in the training events and their application in the actual job because of changes in the responsibilities of the participants. In addition, participants still find difficulty to fully understand the basic electrical and sanitary aspects such as power diagrams, light circuit, power circuit, single line diagram, and so on.

Understanding Gender Equality and Social Inclusion (GESI) policy and practices in detail in the context of designing and implementing health facility infrastructures is important. A separate training/orientation on GESI policy and practices seems to be relevant to adequately understand this aspect.

Recommendations

The evaluation makes the following recommendations the followings:

Organise separate training events on ‘Electrical Services’ and ‘Water and Sanitary Services Design’ trainings for Health Infrastructures separately. It is also recommended that these training events should include a reasonable duration of field visits to the newly constructed hospital buildings in order to gain practical experience on the application of technical knowledge and skills developed in the training events. Three days for ‘Water and Sanitary Services Design’ training for Health Infrastructures seems to be adequate and training on ‘Electrical Services’ would require at least two to three days, including field visit

Develop training manuals for future required training events to be conducted in the future. This is suggested because it will help both the resource persons/trainers and participants systematically deliver the topic session and effectively understand the knowledge and skills content.

Develop new Guidelines and Standards for Electrical and Sanitary Services related to health infrastructures. The NHSSP should discuss the development of the possibility and practicalities developing new Guidelines and Standards for Electrical and Sanitary Services particularly related to health facility infrastructures with the DUDBC.

Organise and deliver training sessions with more interactive and participatory ways (including group discussions, case studies, group work presentations and , experience sharing, etc). This is important to note that training participants learn more if they are involved in the learning process. One of the implications of this recommendation would be that Tthe NHSSP HI team will need to increase the pool of will require finding well experienced and trained resource persons, particularly with adult education experience.

Organise a separate orientation training on GESI / LNOB policy and practices. The NHSSP HI team should It is suggested to design and organise a one-day full training event to thefor relevant health infrastructure designers and practitioners implementers of DUDBC on GESI / LNOB policy and practices in health infrastructure development. so that they will be able to plan, design and implement GESI friendly health facility infrastructures.

Acknowledgements

Management Innovation, Training and Research Academy (MITRA) would like to thank the Nepal Health Sector Support Programme (NHSSP) for providing us an opportunity to conduct the Impact Evaluation of Technical Skills Development Training/Workshop Events. We would also like to thank all key informants and stakeholders from the Federal Ministry of Health and Population (FMoHP) and Department of Urban Development and Building Construction (DUDBC) who have provided their valuable inputs, suggestions and feedback for this Impact Evaluation.

Similarly, we would also like to express our gratitude to all respondents (training participants) for their timely feedback and suggestions through questionnaire survey. We highly appreciate the resource persons of all the training events for providing the inputs and suggestions.

Finally, we would also like to thank our study team members for their dedication and contribution to complete this Impact Evaluation on time.

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1. Introduction and Background

Management Innovation, Training and Research Academy (MITRA) Pvt. Ltd. carried out this impact evaluation over the period 2- 27t May 2019. Section One briefly presents the Introduction and Background of the impact evaluation. Section Two deals with Facts, Analysis and Findings of the impact evaluation. Section Three presents Conclusions and Recommendations for future actions. The Terms of Reference (ToR) of the impact evaluation is given in Annex 1.

The NHSSP is intended to deliver functional and efficient health infrastructure capacity within FMoHP and DUDBC. It is designed to support the goals of the National Health Sector Strategy (NHSS) and is focused on enhancing the capacity of practitioners to build a resilient health system to provide quality health services for all. Following the establishment of federal government arrangements in Nepal, the HI team extended invitations to participate to relevant staff based in provincial Ministries of Social Development and DUDBC Provincial Project Implementation Units.

The NHSSP capacity enhancement programme has three inter-related focus areas – organisations, systems and people - and aims to improve institutional as well as individual capacity. It provides a wide range of capacity enhancement programmes at different scales and levels. These are not limited to building the skills and competencies of individual staff members, but also aim to strengthen procedures, operational systems, networks, and organisational relationships.

Recently, the NHSSP HI team completed five technical skills training events in Year 2, 2018 and Year 3, 2019 as follows:

Table 1: Completed training events by dates

Training/Workshop Events	Event Duration/Date
Orientation on Retrofitting Design and Tender Processes	5th – 6th February 2018
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	26th April 2018
e-GP Training (e-Government Procurement), two events	15th – 18th May 2018 21st – 24th May 2018
Electrical, Water and Sanitary Services Design for Health Infrastructure	16th – 18th September 2018
Retrofitting Design of Masonry Buildings	5th – 9th March 2019

The NHSSP HI team will use the impact evaluation of these workshops to improve design and implementation of upcoming health infrastructure training events planned for Year 3 May 2019 onward, including:

- Electrical Services
- Water Supply and Sanitary Services
- Hospital Waste Management
- Seismic Retrofitting (Masonry and Reinforced Concrete)
- Heating, Ventilation and Air Conditioning.

The objective of this assignment is to measure effectively the impact of the skills development training events that were conducted in 2018 and 2019 and report on key findings and recommendations.

The impact evaluation has the following objectives:

- To assess the level of improvement in participant understanding of the identified skills areas.
- To assess the relevance of content delivered during the workshop in relation to the development of specialist technical skills for health infrastructure.

- To identify specific measures taken by the participants after attending the workshop (if any), in relation to formulation or application of health infrastructure technical skills.
- To identify major challenges foreseen in application of technical skills.
- To provide recommendations to improve the NHSSP approach to health infrastructure technical skills capacity enhancement.

2. Design and Methodology of the Impact Evaluation

The evaluation team collected and reviewed training event completion reports, previous evaluation report and other related documents (such as presentation materials, training needs analysis report, and health infrastructure capacity enhancement programme outline design report). Contact details of all key stakeholders and participants of all the training/workshop events were also collected and updated in order to administer questionnaire survey and conduct face-to-face interview, focus group discussion and consultations.

The workshop participants were surveyed using a semi-structured questionnaire. Similarly, face-to-face interviews, focus group discussions and telephone interviews/consultations were also conducted. The evaluation team also consulted with some of the resource persons and facilitators of the training/workshop events.

The evaluation used quantitative and qualitative methodsd. Since the evaluation focuses on the impact evaluation of the skills development training events, the evaluation team gathered information on their relevancy, usefulness, learning outcomes, effectiveness and impact of the training events. The evaluation team also tried to explore changes in comprehension, attitudes, behaviour, and practices that resulted from technical skills development training events.

The following table presents the total number of training participants.

Table 2: List of participants by training event

Title of Trainings	No. of Participants
Retrofitting Design on Masonry Buildings (5-9 March 2019)	21
Electrical,Water and Sanitary Design for Health Facilities (16-18 September 2018)	47
e-GP (Government Procurement) (21-24 May 2018)	27
e-GP (Government Procurement) (15-18 May 2018)	23
Multi-Hazard Resilient Health Infrastructure Planning, Designing and Implementation Training (26 April 2018)	27
Orientation on Retrofitting Design and Tender Processes (5-6 Feb 2018)	16
Total	161

Source: Different Training Completion Reports provided by the NHSSP

A purposive sampling method was applied to collect data from the training participants. This sampling technique is suitable for this evaluation study because it does not need to conduct rigorous statistical analyses. In total, 54 survey forms were received. Similarly, qualitative data were collected from different stakeholders. Table 3 presents the sample size.

Table 3: Sample size

Sources of Information	Number of received responses
Training participants:	54
Policy makers/stakeholders: Director General, Deputy Director General, Directors, Division Chief, and Section Chiefs of FMoPH/DoHS, DUDBC; Resource Persons and Facilitators (Itinerary and a list of persons consulted is given in Annex 2)	16

The evaluation team developed four sets of evaluation tools: set one - question checklist/guidelines - for face-to-face interview with key stakeholders from FMoHP, Department of Health Services (DoHS) and DUDBC; set two - question checklist/guidelines - for interview with participants; set three - structured and semi-structured questionnaire in Google form - for questionnaire survey with participants; and set four - question checklist/guidelines- for consultation with resource persons/presenters of the training events (please refer to Annex 3 for detailed evaluation tools). The evaluation tools were shared with and approved by the NHSSP team. The evaluation team collected qualitative and quantitative data through desk review, secondary sources, questionnaire survey, key informant interviews, focus group discussions and personal consultation as appropriate.

All the quantitative and qualitative data collected from various sources were analysed separately. Since the impact evaluation focuses on the effectiveness and, to some extent, on the impact of the capacity enhancement training events at different scales and levels, changes and impacts brought by the technical skills training events; the evaluation team analysed quantitative data using SPSS (Statistical Package for Social Sciences) computer software.. Conclusions were drawn by blending both findings (quantitative and qualitative). A concise draft report was prepared and shared with the NHSSP team for their feedback and comments. The evaluation team finalized the draft report incorporating all comments and feedback provided by the NHSSP team and submitted to the NHSSP Capacity Enhancement Advisor.

3. Facts, Analysis and Findings of the Impact Evaluation

3.1 Summary Profile of the Respondents

This section presents a summary profile of the respondents (training participants). Following table presents the data on the participants attended in various training events (Table 4).

Table 4: Number of participants attended in various training events

Participants attended in various training events	Frequency	Percent
One time	35	65
Two times	12	22
Three times	4	7
Four times	2	4
Total	53	98
No response	1	2
Total	54	100

Of 53 training participants who replied the survey forms, 65 percent had attended various training events one time. Similarly, 22 percent of the participants had attended various training events two times, and 7 percent and 4 percent of the participants had attended various training events three times and four times respectively (Detailed Data on participants attended in various training events are in Annex 4).

Out of the total respondents, the male respondents were higher (91%) than the female respondents (9%). Of the male respondents, 53 percent belong to the age group of 20-30 years.

Regarding the education level of male and female respondents, of the total female respondents, 80.0 percent have Bachelor's degree. Similarly, of the total male respondents, 55 percent have Bachelor's degree and 39 percent have Master's degree.

The respondents' positions/titles were categorised into five: Civil Engineer, Architect, IT Officer, Electrical Engineer, Sub-Engineer and Others. Among these positional categories, 72 percent are working as Civil Engineer followed by Sub-Engineer (17%), Architect (7%) and Electrical Engineer (4%).

Detailed data related to the profile of the respondents including gender, age, education, working Province, and Position/Title are provided in Annex 5. Detailed output tables of the summary tables and figures used in this section are provided in Annex 6. Similarly, programme schedules of the completed training/workshop events are in Annex 7.

3.2 Major Findings

a. Level of participants' understanding

The first objective of the impact evaluation of training events is to assess the level of improvement in participants' understanding of the identified areas

Majority (43 to 71%) of the attendees of the training events have expressed that the training has helped them in increasing their understanding of the skill areas to some extent (see Table 5).

Table 5: Participants' understanding in percent

Training event	Very little or not at all (%)	Little (%)	To some extent (%)	To a greater extent (%)
Orientation on Retrofitting Design and Tender Processes	0	11	44	44
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	0	14	43	43
e-GP Training (e- Government Procurement)	4	8	69	19
Electrical, Water and Sanitary Services Design for Health Infrastructure	0	7	71	21
Retrofitting Design of Masonry Buildings	0	11	67	22

Relating to various skill areas, 43 percent of the participants have said that the training has to some extent helped them in understanding Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation and the same percent (43) have also expressed that the training has helped them to a greater extent on the same skill area. The highest percent (71) expressing that the training has helped them to some extent were in the Electrical, Water and Sanitary Services Design for Health Infrastructure related skills, followed by e-Government Procurement related skills (69%). The lowest percent (19) of the attendees expressing that the training helped them to a greater extent was in the e-Government Procurement related skills (Detailed data are in Output Table 1 in Annex 6).

Discussions with the key stakeholders from FMoHP, DoHS and DUDBC also revealed that the technical skills development training events have helped targeted participants develop their technical knowledge and skills in their professional areas that have eventually helped in overall planning and designing of health infrastructures. Similarly, participants from the Health Building Section, DUDBC reported that technical skills enhancement training events supported and organized by the NHSSP were important to improve some of their technical knowledge and skills in the context of improving quality of health infrastructures. According to them, although all training events were largely found to be helpful in order to develop basic technical knowledge and skills of the participants, the duration of some training events (e.g., Electrical, Water and Sanitary Services Design for Health Infrastructure) was short to fully achieve their objectives.

In the same way, from the interaction and consultation with the resource persons of the training events, it was also found that the technical skills development training events have helped improve the individual technical capacity of the participants, and they are being able to estimate new health infrastructures, recognise specified sanitary and electrical items, and administer and manage construction projects.

b. Relevance and usefulness of training contents and learning materials

The second objective of the impact evaluation of training events is to assess the relevance of content delivered in relation to the development of specialist technical skills for health infrastructure

Relating to the question on relevancy of the training contents as per the need of the participants and/or on the delivery of functional and efficient health infrastructure capacity; the highest percent (67) of the training participants of 'Orientation on Retrofitting Design and Tender Processes' and 'Retrofitting Design of Masonry Buildings' expressed that the contents were relevant (Figure 1).

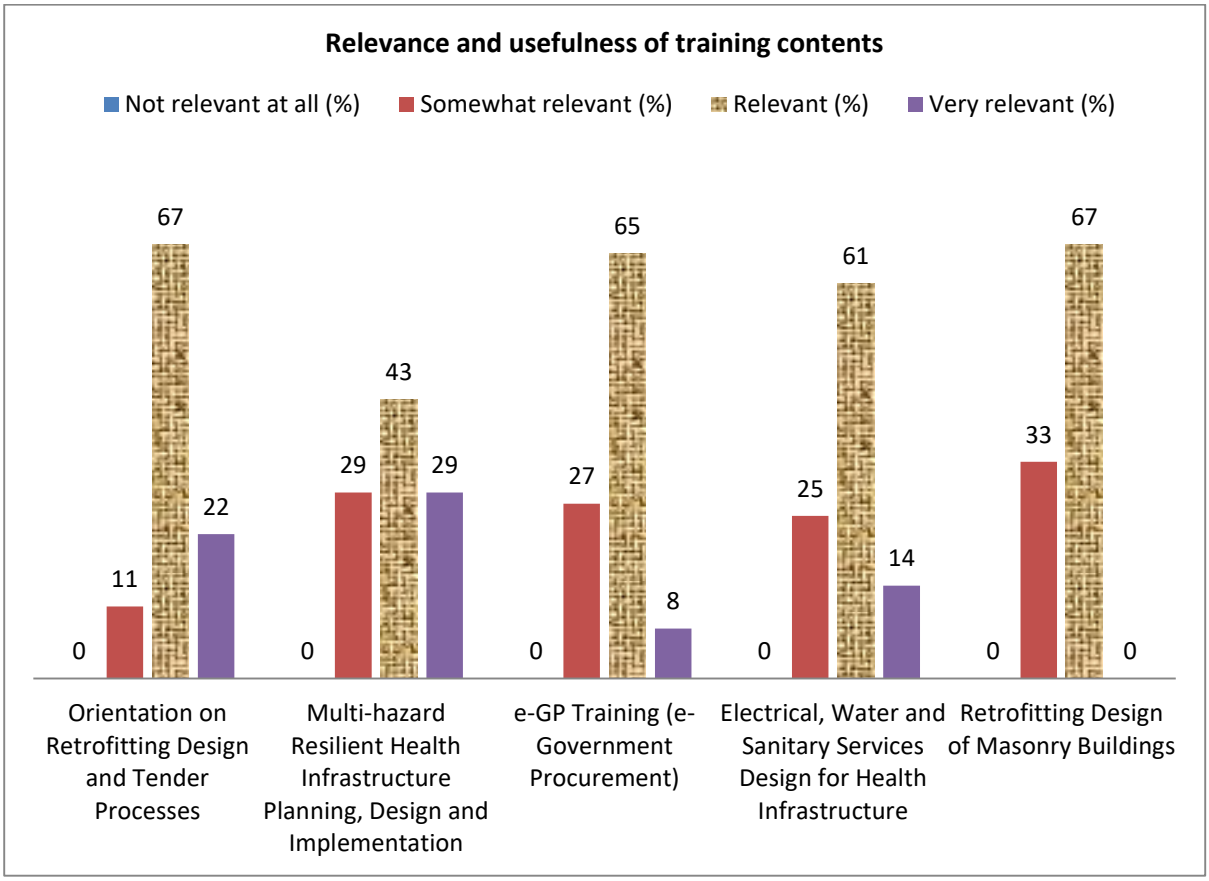

Figure 1: Relevance and usefulness of training contents

The above data show that 65 percent of the participants of e-GP training and 61 percent of the participants of Electrical, Water and Sanitary Services Design for Health Infrastructure training pointed that the training contents were relevant. Similarly, 43 percent and 29 percent of the participants of the training event on Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation rated the training contents to be relevant and very relevant respectively (Detailed data are in Output Table 2 in Annex 6).

From the perspective of the participants of the focus group discussion conducted at DUDBC, health infrastructure Guidelines and Standards provided in the training events are useful and effective. While discussing with the participants the contents of e-GP (e-Government Procurement) were good which included more practical sessions than theoretical sessions in which each participant has to prepare mock bidding process such as planning, bidding, bid-opening, bid evaluation, bid award, contract management, and payment. Similarly, the Director of IT of Public Procurement and Monitoring Office (PPMO) stated that the contents of e-GP is quite good.

According to the resource person of retrofitting training event, participants should have an assessment of the structure to decide what should be done e.g., repair or renovation or retrofitting. Similarly, the resource person suggested that retrofitting training requires an event at least of one-week duration.

Some participants also responded that training events especially the Electrical, Water and Sanitary Services Design for Health Infrastructure and Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation should be extended with more time to develop technical skills.

Discussion with the resource person of the Heating, Ventilation and Air Conditioning (HVAC) training suggested that it was important to ensure that participants from different backgrounds and experiences (e.g., Civil Engineers, Architects, Electrical Engineers, and Sub-Engineers) understood the basics of HVAC.

On the usefulness of the new Health Infrastructure Guidelines and Standards, 67 percent of the participants have said it to be useful to some extent relating to Retrofitting Design of Masonry Buildings (see Figure 2).

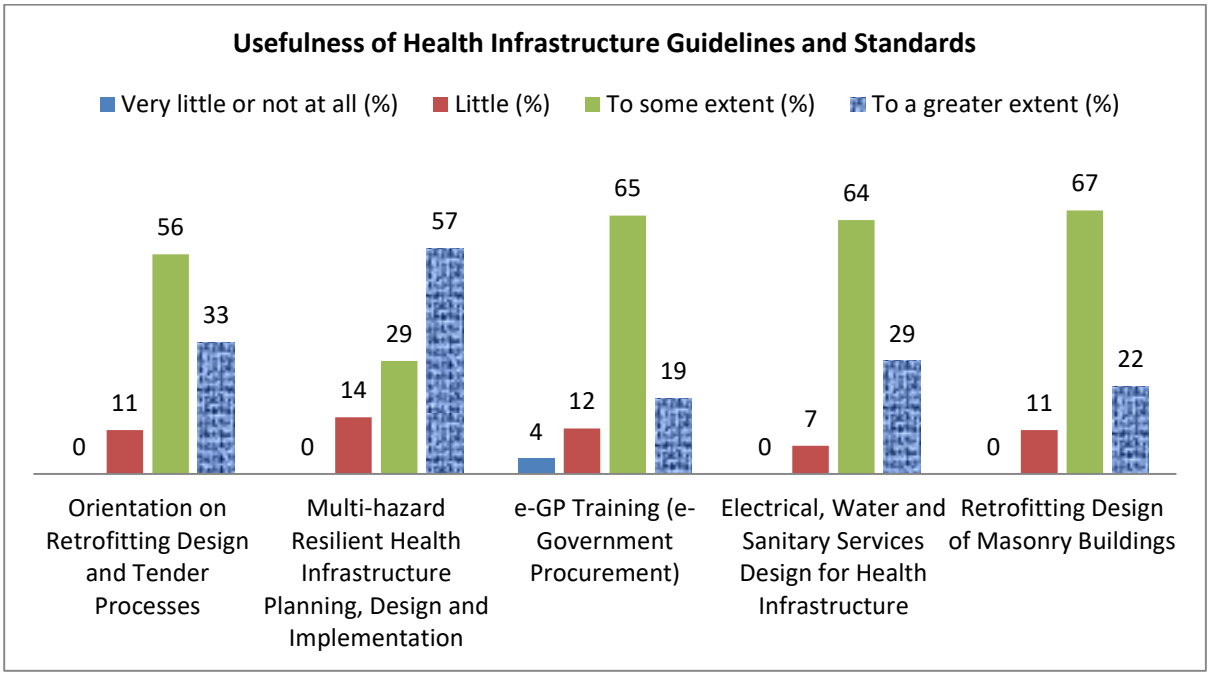

Figure 2: Usefulness of Health Infrastructure Guidelines and Standards

65 percent of the participants of e-Government Procurement training and 64 percent of the participants of Electrical, Water and Sanitary Services Design for Health Infrastructure training expressed it to be useful to some extent. Similarly, 57 percent of the participants of Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation and 56 percent participants of Orientation on Retrofitting Design and Tender Processes expressed that it was useful to a greater extent and to some extent respectively (Detailed data are in Output Table 3 in Annex 6).

Relating to the question if the participants use Health Infrastructure Guidelines and Standards regularly in their current job because of its usefulness, 100 percent of them reacted affirmatively associated to Orientation on Retrofitting Design and Tender Processes, and Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation related skill areas (Figure 3).

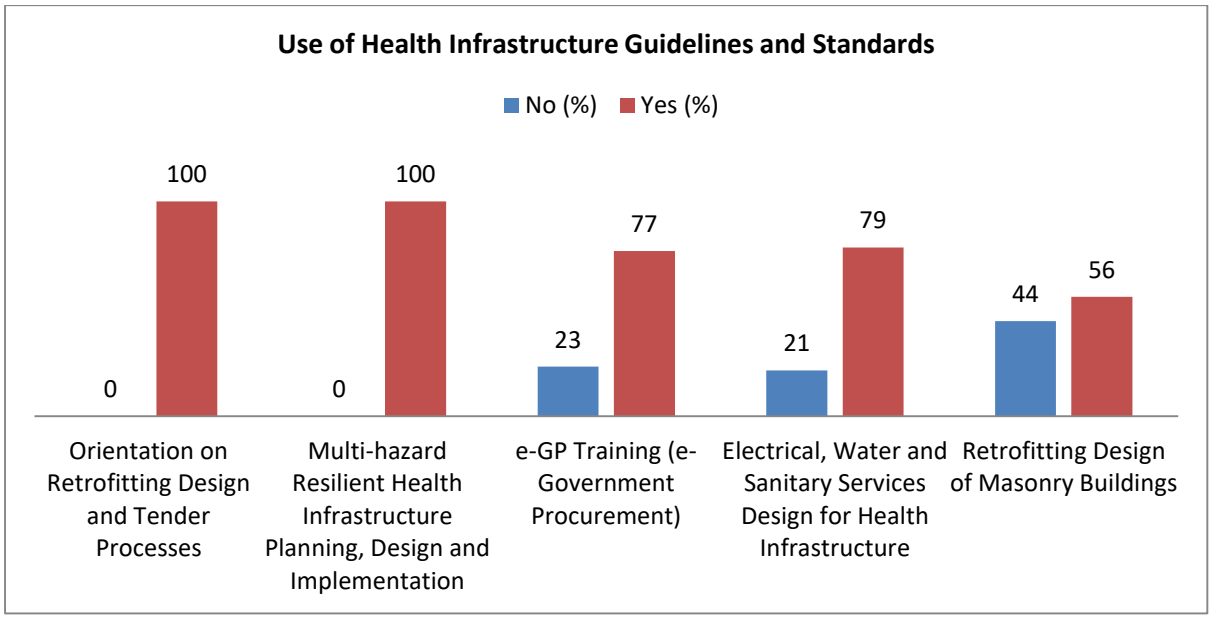

Figure 3: Use of Health Infrastructure Guidelines and Standards

Data in the above figure indicate that 79 percent of the participants regularly using the health infrastructure Guidelines and Standards in their jobs were skills related to Orientation on Retrofitting

Design and Tender Processes and Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation (Detailed data are in Output Table 4 in Annex 6).

In addition, the majority of participants expressed the need for more practical-based orientation in order to better understand the contents and be able to apply the technical skills (Table 6).

Table 6: Gaps in New Health Infrastructure Guidelines and Standards

Training event	Little unclear (%)	Difficult to use (%)	Some contents are missing (%)	Needs more practical orientation to fully understand (%)
Orientation on Retrofitting Design and Tender Processes	11	11	0	78
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	0	17	33	50
e-GP Training (e- Government Procurement)	13	13	29	46
Electrical, Water and Sanitary Services Design for Health Infrastructure	7	7	21	64
Retrofitting Design of Masonry Buildings	0	13	50	38

'Orientation on Retrofitting Design and Tender Processes' was the area in which 78 percent of the participants stated to increase the duration of the field visit. 50 percent of the participants of Retrofitting Design of Masonry Buildings have pointed that some contents were missing in new Health Infrastructure Guidelines and Standards (Detailed data are in Output Table 5 in Annex 6).

c. Effectiveness, outcomes and impact of the technical skills enhancement training events

The third objective of the impact evaluation of training events is to identify specific measures taken by the participant after attending the workshop (if any), in relation to formulation or application of health infrastructure technical skills

To the question regarding the achievement of the learning outcomes indicated in the programme objectives, majority of the participants except 'Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation' mentioned that they were achieved to some extent (Figure 4).

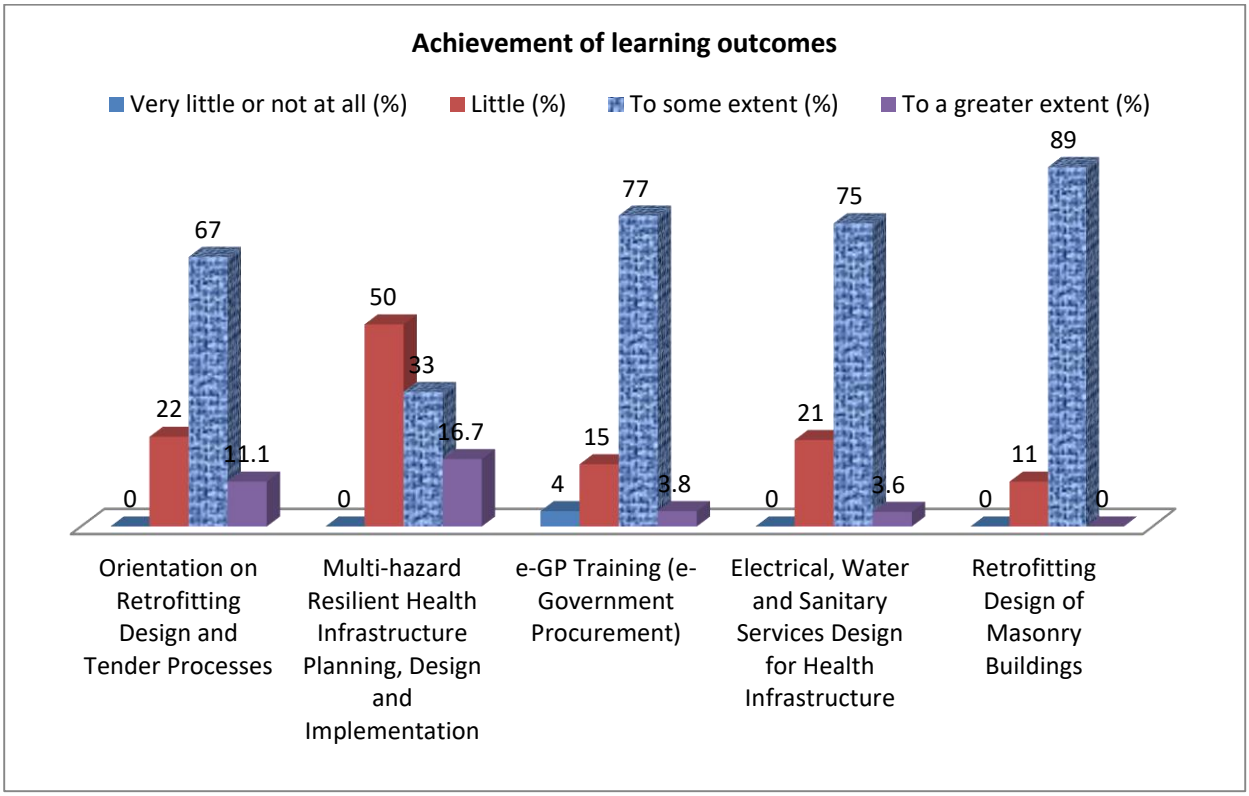

Figure 4: Achievement of learning outcomes

'Retrofitting Design of Masonry Buildings' scored the highest, with 89 percent (89) of the participants stating that expected learning outcomes were achieved to some extent. Similarly, about 77 percent and 75 percent of the participants of e-GP training and Electrical, Water and Sanitary Services Design for Health Infrastructure training stated that expected learning outcomes were achieved to some extent (see detailed data are in Output Table 6 in Annex 6).

Referring to the question if the participants have their abilities developed through the training in applying the technical knowledge and skills as expected, the survey participants provided the following data (Figure 5).

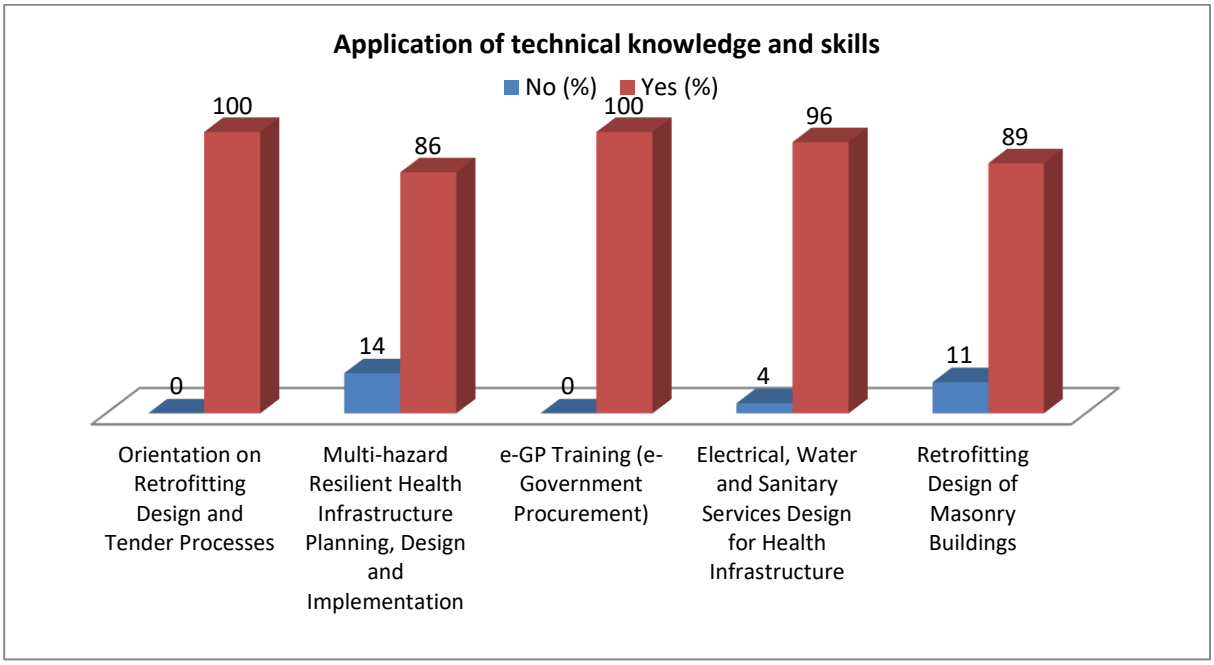

Figure 5: Application of technical knowledge and skills

Data on the above figure showed that 100 percent of the participants have replied affirmatively on the application of technical knowledge and skills relating to the areas 'Orientation on Retrofitting Design and Tender Processes' and 'e-GP'. Similarly, majority of the participants of the training areas 96 percent from 'Electrical, Water and Sanitary Services Design for Health Infrastructure', 89 percent from Retrofitting Design of Masonry Buildings, and 86 percent from Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation said that their technical knowledge and skills are being applied in their professional jobs (Figure 5; Detailed data are in Output Table 7 in Annex 6).

In the discussions with the participants at DUDBC it was also reported that skill areas on 'Orientation on Retrofitting Design and Tender Processes' and 'e-GP' are particularly relevant to them in the construction of health infrastructure. Similarly, information obtained from the open-ended question revealed that after attending the technical skills enhancement training events, their level of confidence has been increased to perform their jobs such as estimation of new health infrastructure, contract administration, and management of project sites located in different geographic locations.

Participants from DUDBC also said that they are frequently using the knowledge and skills gained from the training events in the construction of different types of health infrastructures and will use the knowledge and skills whenever they get opportunity in the days to come. They further informed that Civil Engineers whose prime responsibility is to perform seismic evaluation of different buildings for building code compliance reported that the knowledge and skills obtained from the training are being applied while dealing with the masonry buildings.

Some participants reported that familiarity with the Guidelines and Standards for designing and construction of new health infrastructure has helped them a lot in the construction of the health post building from the very beginning to its completion and handover.

d. Challenges in applying technical knowledge and skills

The fourth objective of the impact evaluation of training events is to identify major challenges foreseen in application of technical skills

Here, participants listed a wide range of statements in terms of challenges, concerns and issues they have experienced in the field. Most of them are not directly related to the training events but they viewed them as common challenges in applying technical knowledge and skills in the field. They expressed that there is still a difficulty for them to fully understand bills of quantity, power diagram, light circuit, power circuit, single line diagram, distribution board etc and execute the electrical works in health infrastructures in accordance with the drawings. Newly appointed Engineers and/or working Engineers who have not participated in any training often lack confidence in applying new technical knowledge and skills. Hence such training events would better help the participants apply their technical knowledge and skills in their jobs.

Separate training events on Electrical Services and Water and Sanitary Services would help participants be able to fully understand and efficiently execute the electrical and sanitary works in health infrastructures in accordance with the drawings. The participants further stressed that more practical training would help understand and internalise the real application of the technical knowledge and skills. Drawings particularly designed for big projects need to be clear and complete with the help of which many day-to-day problems appearing at the implementation level can be solved. For this, a training programme for the project designers and implementers seems to be helpful.

Increased monitoring and supervision from the senior authorities is needed to support junior technical officials in the execution of the health infrastructure projects. One of the highly successful training events, as reported by the participants and stakeholders, was the e-GP training. Some of the e-GP training participants mentioned that providing e-GP services has been difficult which is not because of the lack of knowledge and skills related to the e-GP area, but because of the difficulty in coordination among e-GP support systems. Hence a training programme on the coordination and importance of e-GP services for the key stakeholders from the intra and inter-governmental departments would definitely add values to the e-GP services.

According to the participants, the cooperation from and coordination with the local political leaders are important in successfully execute the health infrastructure projects at the local level. Therefore, a joint orientation training programme on the importance and sensitivity of the health infrastructure projects for

the local political leaders as well as the technical human resources from the local bodies would help largely harmonise diverse efforts and bring synergic impact in the management of health infrastructure projects at the local level.

e. NHSSP approach and strategies/modalities in training implementation

Regarding the effectiveness of NHSSP approach and strategies in training module design and implementation, majority of the participants have said it to be largely effective (Figure 6).

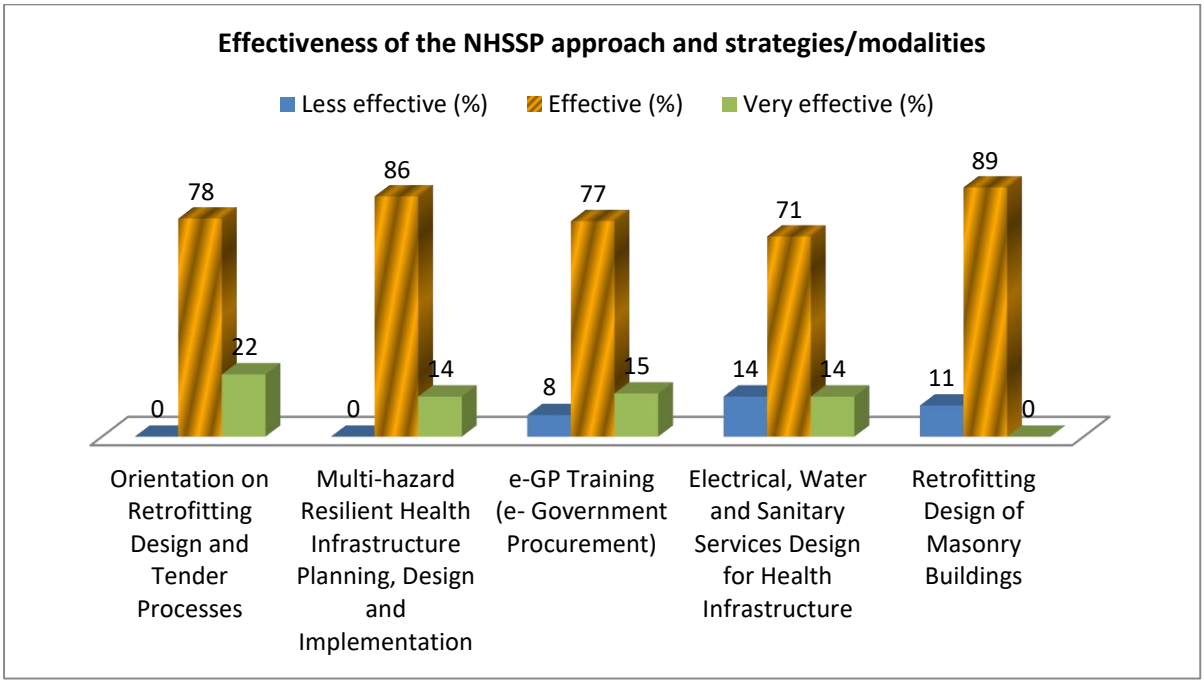

Figure 6: Effectiveness of the NHSSP approach and strategies/modalities

The highest percent (89) was 'Retrofitting Design of Masonry Buildings' related area, which the participants have viewed to be effective. Similarly, 86 percent, 78 percent, 77 percent, and 71 percent of the participants on the training areas - Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation; Orientation on Retrofitting Design and Tender Processes; e-GP Training; and Electrical, Water and Sanitary Services Design for Health Infrastructure respectively- expressed the NHSSP approach and strategies/modalities in training implementation to be effective (Detailed data are in Output Table 8 in Annex 6).

In addition to the questionnaire survey, the evaluation team discussed the NHSSP approach to design and implementation of technical knowledge and skills enhancement training events with different stakeholders and key informants. The stakeholders and key informants from the FMoHP and DUDBC clearly expressed that the NHSSP approach to technical skills and capacity enhancement for health infrastructure was effective. However, they mentioned that the provision of practical session/field visit would enhance in obtaining practical knowledge to a greater extent. And, relevant trainings should be provided frequently to the employees of Health Building Section of DUDBC who are mostly involved in the health infrastructure projects and as consultants as per the changing need.

According to some of the participants, technical skills development training should not be like a seminar, rather it should be participative, interactive and problem solving to enhance individual capacity, for which resource persons/trainers should have knowledge and experience regarding dynamic and ever-changing nature of practical field constraints and challenges. Similarly, they also clearly reported that training events should be organised on a regular basis as per changing needs. Provision of practical visits would definitely provide additional benefits in terms of gaining practical field knowledge, and the duration of training event should be a little bit longer to make it more effective based on problem solving and practical issues.

Participants reported that technical skills development training should be target specific groups of practitioners. For example, organizing training on design part involving technical staffs from Health Building Section of DUDBC and consultants. Most of the participants clearly expressed that technical skills development training should be provided to all the technical persons involved in the health infrastructure projects all over the country.

Some participants suggested that the NHSSP should organise training events on complete design of Reinforce Cement Concrete (RCC) building, retrofitting, design and estimate of sanitary and water supply system for the health infrastructures, field-based problem solving mechanism, personality development, practical based orientation on Guidelines and Standards, contract administration and management, disaster preparedness in hospitals, specific training on finishing works (such as flooring, colour schemes , door and windows etc.), and quality control for improving quality of health infrastructures.

Some participants showed their expectation of getting all presentation slides before the training sessions so that they could read them in advance and discuss to make the training more interactive and participative.

Resource persons/trainers highlighted the importance of training on green type of retrofitting which integrates sanitary, electrical and disabled-friendly design and green type materials should be used to reduce pollution. Assessment of structure is important to decide whether the structure needs to be repaired or renovated or retrofitted.

It was found that most of the participants are satisfied with e-GP training and said that the e-GP training needs to be organised frequently as per the need. It was also found that the duration of the three-day training on Electrical, Water and Sanitary Services Design needs to be increased. They strongly mentioned that training events on Electrical, Water and Sanitary Services Design should be organised separately. Discussion with the participants revealed that training on Sanitary Services Design should be designed in such a way that participants should be able to make an estimate of sanitary services, and training on Electrical Services should enable participants to understand bill of quantity, power diagram, light circuit, power circuit, single line diagram, distribution board etc and execute the electrical works in health infrastructures in accordance with the drawings.

f. Gender equality and social inclusion (GESI) as a cross-cutting issue

As the Health Infrastructure Capacity Enhancement Programme Outline Design Report states ‘the detailed design exercise will pay particular attention to the principle and operational implication of gender equality and social inclusion (GESI) and the Leave No One Behind (LNOB) approach in both module content and programme delivery logistics’ as a cross-cutting issue, the evaluation team enquired about information on to what extent the technical knowledge and skills enhancement training events have adopted the GESI concept in organising and delivering the health infrastructure technical skills enhancement module contents.

In response to the GESI as a cross-cutting issue, participants expressed that both male and female were involved in the training event, though the female participants were fewer in number . They further emphasized that gender friendly health infrastructure would help children, women, senior citizens, and persons with disabilities (PwDs). Designing and building separate toilets for gents, ladies, and PwDs do not achieve the set objectives of GESI. In this regard, it is important to identify the causes and needs that make health infrastructures GESI friendly for the transformation in socio- economic status of women and discriminated/excluded groups.

A few participants from the questionnaire survey expressed that gender-based inequality reduction related materials are to be adequately made available in the events. Some participants clearly stated that well designed and equipped health infrastructures having facilities for senior citizens, PwDs, children, women with maternity wards and cabins would help reduce gender-based inequalities and they would not have any hesitation to receiving available health services.

In the opinion of GESI experts, a two-hour training session is inadequate to understand the policy and practices of GESI. In this context, they expressed that a one-day orientation training event on GESI / LNOB followed by group discussion and field visit to recently constructed GESI friendly hospitals (e.g., Paropakar Maternity and Womens' Hospital, Thapathali) would help understand the policy and practices of GESI. In the same way, key informants from DUDBC shared that DUDBC has been practicing for long the design of health infrastructures with separate toilets for male and female, but it has not received

high priority in order to fully understand and internalise the GESI concept and practices in the health sector.

4. Conclusions and Recommendations

4.1 Conclusions

The evaluation concludes that technical skills development training events have helped targeted participants in improving technical knowledge and skills in the context of improving quality of health infrastructures. All training events were found to be useful in developing technical capacity of the participants in designing and implementing quality health infrastructure. However, some of the participants have suggested that the longer duration of training events e.g., Electrical, Water and Sanitary Services Design for Health Infrastructures would help the participants better understand the knowledge and skills delivered in the training event.

All the contents delivered in relation to the development of technical knowledge and skills for health infrastructures in all training events were found highly relevant and useful. However, in the context of few events, e.g., Electrical, Water and Sanitary Services Design for Health Infrastructures, most of the participants desired field visits to be organised in order to observe practical implementation aspects at the real field level.

Technical skills enhancement training events organised and supported by the NHSSP were largely found effective, and the participants, after attending training events, are applying their technical knowledge and skills in their jobs e.g., estimation of costs for construction of new health buildings, supervision of construction works, execution of tendering process, and management of construction sites. Similarly, familiarity with the Standard Guidelines for Design and Construction of Health Infrastructure has greatly helped participants design and implement various categories and types of health facility infrastructures.

There is still a gap between the technical knowledge and skills developed in the training events and their application in the actual job because of changes in the responsibilities of the participants. In addition, participants still find difficulty to fully understand the basic electrical and sanitary aspects such as power diagram, light circuit, power circuit, single line diagram, and so on.

Understanding on GESI policy and practices in detail in the context of designing and implementing health facility infrastructures is important. A separate training/orientation on GESI / LNOB policy and practices seems to be relevant to adequately understand the GESI policy and practices with regard to quality health infrastructures.

4.2 Recommendations

The evaluation makes the following recommendations the followings:
Organise separate training events on ‘Electrical Services’ and ‘Water and Sanitary Services Design’ trainings for Health Infrastructures separately. It is also recommended that these training events should include a reasonable duration of field visits to the newly constructed hospital buildings in order to gain practical experience on the application of technical knowledge and skills developed in the training events. Three days for ‘Water and Sanitary Services Design’ training for Health Infrastructures seems to be adequate and training on ‘Electrical Services’ would require at least two to three days, including field visit.

Develop training manuals for future required training events to be conducted in the future. This is suggested because it will help both the resource persons/trainers and participants systematically deliver the topic session and effectively understand the knowledge and skills content. Develop new Guidelines and Standards for Electrical and Sanitary Services related to health infrastructures. The NHSSP should discuss the development of the possibility and practicalities developing new Guidelines and Standards for Electrical and Sanitary Services particularly related to health facility infrastructures with the DUDBC.

Organise and deliver training sessions with more interactive and participatory ways (including group discussions, case studies, group work presentations and, experience sharing, etc). This is important to note that training participants learn more if they are involved in the learning process. One of the implications of this recommendation would be that the NHSSP HI team will need to increase the pool

of, will require finding well experienced and trained resource persons, particularly with adult education experience.

Organise a separate orientation training on GESI / LNOB policy and practices. It is suggested to design and organise a one-day full training event for relevant health infrastructure designers and practitioners implementers of DUDBC on GESI / LNOB policy and practices in health infrastructure development, so that they will be able to plan, design and implement GESI friendly health facility infrastructures.

Annexes

Annex 1: Terms of Reference (ToR) for the Impact Evaluation

DFID/Nepal Health Sector Programme III (NHSP3)

Technical Skill Development Training Impact Evaluation
Payment Deliverable 69

1. Introduction

The Nepal Health Sector Support Programme 3 (NHSSP) is intended to deliver functional and efficient health infrastructure capacity within the Federal Ministry of Health and Population (FMoHP) and Department of Urban Development and Building Construction (DUDBC).

The NHSSP capacity enhancement programme (KPA2) has three inter-related focus areas – organisations, systems and people - and aims to improve institutional as well as individual capacity.

It provides a wide range of capacity enhancement programmes at different scales and levels. These are not limited to building the skills and competencies of individual staff members, but also aim to strengthen procedures, operational systems, networks, and organisational relationships.

The NHSSP Health Infrastructure team has already completed a number of technical skills training events in Year 2 2018, as follows:

Orientation on Retrofitting Design and Tender Processes
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation
e-GP Training (e-Government Procurement, two events)
Electrical, Water and Sanitary Services Design for Health Infrastructure
Retrofitting Design of Masonry Buildings, March 2019

This Terms of Reference (ToR) has been developed for an impact evaluation of these events, to be carried out by the end of May 2019. The recommendations from this evaluation will be used in the design and implementation of the Technical Skills in Health Infrastructure programme training events planned for Year 3 May 2019. These will include events on:

Electrical services
Water supply and sanitary services Hospital waste management
Seismic retrofitting (masonry and reinforced concrete)
Heating, ventilation and air conditioning

2. Objectives

The objective of this activity is to measure effectively the impact of the skill development training that was conducted in NHSSP Year 2 2018 and to redesign the training methodology, content and modality in response to key findings and recommendations.
The impact evaluation will involve the following activities:

- Assess the level of improvement in participant understanding of the identified skills areas
- Assess the relevance of content delivered during the workshop in relation to the development of specialist technical skills for health infrastructure
- Identify specific measures taken by the participant after attending the workshop (if any), in relation to formulation or application of health infrastructure technical skills.
- Identify major challenges foreseen in application of technical skills
- Make recommendations to improve the NHSSP approach to health infrastructure technical skills capacity enhancement

3. Methods

The impact evaluation design will examine the technical skills training content, methodology and training materials. The workshop participants (or a representative sample) will be surveyed using a semi-structured questionnaire, and a target group discussion will also be held. The evaluation exercise will test the learning outcomes of each of the training skills workshops. The service provider will also seek the views of external resource persons and presenters at the workshop.

4. Presentation of results

The evaluation results will clearly set out the impact and outcomes from each training event. Particular attention will be paid to analysing results to make recommendations for improving delivery, methodology and contents in future activities.

5. Personnel Requirement

To conduct the task, the service provider (consulting firm) requires to employ qualified personnel as listed below:

a. National-senior Professional (team leader) - 1 person (minimum qualification: Master degree in Management/Science/Engineering or equivalent in relevant subject and 10 years of experience)

b. National-mid-level Professional (team member) - 2 person (minimum qualification: Bachelor degree in Management/Science/Engineering or equivalent in relevant subject with 5 years of experience)

Please note that at least one of above mentions personnel must have at least bachelor in engineering (Civil/Architectural) and experienced in training impact evaluation.

6. Deliverables

The service provider will produce draft and final impact evaluation reports as per following schedule.

No	Deliverable	Due by	Means of Verification
1	Assignment of the task (Contract)	May 1, 2019	Contract document
2	Inception report with methodology, interview guide and work plan	May 5, 2019	Inception Report
3	Health Infrastructure Technical Skills Development Training Impact Evaluation Draft Report	May 20, 2019	Draft impact evaluation report
4	Health Infrastructure Technical Skills Development Training Impact Evaluation Draft Report	May 25, 2019	Final impact evaluation report

7. Timeframe and Payment

The estimated duration of the assignment is fifteen (15) days which shall be completed no later than May 25, 2019.

The payment will be as a lump sum as per agreed payment amount. The first 20% of the total agreed amount will be paid after submission and approval of the inception report. The remaining payment (80% of the total agreed amount) will be paid after submission and approval of the final report. All the payment will be made after verification and confirmation of the task by Capacity Enhancement Advisor.

7. Risks and mitigation

The service provider may experience difficulty in securing appointments with participants identified for the impact evaluation due to heavy workload in the FMoHP and DUDBC. These staff members may also be affected by the process of civil service adjustment, leading to their transfer to different areas and posts. The NHSSP team will address this by locating participants as quickly as possible, and diligently following up on contacts. The NHSSP team will support the service provider in its regular contacts with the two national departments.

8. Audience and dissemination requirements

The report's target audience will be senior management officials in the FMoHP, DUDBC and the relevant advisors from DFID.

9. Audience and dissemination requirements

The report's target audience will be senior management officials in the FMoHP, DUDBC and the relevant advisors from DFID.

Annex 2: Itinerary of the Impact Evaluation and Key People Visited/ Consulted

Activities/milestones	Deadlines
Assignment of the task (Contract)	2th May 2019
Inception report with methodology, interview guide and detailed work plan for data collection	7th May 2019
Data collection	9th – 15th May 2019
Data analysis and Impact Evaluation Draft Report writing	16th 21st May 2019
Submission of Draft Impact Evaluation Report for feedback and comments	22nd May 2019
Feedback and comments to be received from the NHSSP team	24th May 2019
Final Impact Evaluation Report submission	27th May 2019

Key People Visited/ Consulted

S. No:	Name	Title/Position	Contact
1.	Himal K.C	Sr. Div. Er., Health Building Section, DUDBC	
2.	Laxman Rayamajhi	Engineer	9847112116
3.	Sanju Lamichhane	Engineer	9841125007
4.	AvinashShrivastav	Engineer	9845525888
5.	Dinesh Neupane	Engineer	9849064332
6	Susant KC	Engineer	9849422355

Name	Designation	Organization	Contact	Email
Pranaya Upadhyaya	Sr. Public Health Officer	FMoHP	9841057854	
Shushil Nepal	Computer Officer	DoHS	9851148708	
Sagar Ghimire	Sr. Public Health Administrator	DoHS	9851233639	
Dwarika Shrestha	DDG	DUDBC	9841272236	
Sitaram Prasai	GESI Officer	FMoHP	9843789117	

Name list of Participants (Telephone Interaction)

Training	Participants
e-GP	Sangita Baral Jeetendra Prajapati Rajan Jati
Multi Hazard	Roopam Shah
Electrical Sanitary	Ashish Aryal

Name list of KII with Resource Person of NHSSP Trainings

Retrofitting Design of Masonry Buildings Date: 5 to 9 March 2019

Name	Designation	Organization	Contact	Email
Prof. Dr. Gokarna Bahadur Motra	Expert, Structural Engineering and Campus chief	Pulchowk Campus	9851132966	gmotra@ioe.edu.np

Training: Electrical and Sanitary Design for Health Facilities Training Date: 16th to 18th September 2018

Name	Designation	Organization	Contact	Email
Akhileshwor Mishra	HoD, Department of Electrical Engineering	IOE Pulchowk	9851108671	akhileshwar@ioe.edu.np
Susan Bajracharya	Associate Proff.	IOE, Pulchowk	9851070135	bajracharya.susan829@gmail.com

Training: e-GP Training (II) Date: 21-24 May 2018

Name	Designation	Organization	Contact	Email
Manish Bhattarai	Director IT	PPMO	9841387799	manishktm@hotmail.com

Multi-Hazard Resilient Health Infrastructure Planning, Designing and Implementation Training Date: 26th April 2018

Name	Designation	Organization	Contact	Email
Himal K. C.	Sr. Divisional Engineer	DUDBC	9841344465	

Orientation Training on “Retrofitting and Tender Process”. Date: 27 February 2018

Name	Designation	Organization	Contact	Email
Mani Ram Gelal	Director General	DUDBC		
Pranaya Upadhyaya	Sr. Public HealthOfficer	FMoHP	9841057854	
Shushil Nepal	Computer Officer	DoHS	9851148708	
Sagar Ghimire	Sr. Public Health Administrator	DoHS	9851233639	
Dwarika Shrestha	DDG	DUDBC	9841272236	

Annex 3: Evaluation Tools

Nepal Health Sector Support Programme III (NHSSP - III)
Technical Skills Development Training Programmes
Impact Evaluation

Set 1: Key Stakeholders

Questions Checklist/Guidelines for Interview and Discussion

(Interview and Discussion with key stakeholders at DUDBC)

Name (Optional): M F
Office/Section: .....
Position/Title: .....

1. How did you like the training programme organised by NHSSP to your staffs?
   a. Not useful b. Useful c. Very useful
   Please explain why and how? .....
2. Have you observed an improvement in staff performance/knowledge/skills since they attended the training events? a Yes b No
   If yes, any example? .....

3. In your opinion, have your staffs been able to apply some of the knowledge and skills developed through the training/workshops as expected? a Yes b No

If yes, would you please give an example? .....

4. In your opinion, what major challenges and constraints are your staffs facing in applying technical knowledge and skills in their current job? Please mention in brief.

   ….

5. In your experience, how has the technical skills development training programme helped to reduce gender-based inequalities in health services? .....
6. How was the NHSSP coordination and collaboration with your organization in order to implement the training/workshops?

….

7. Federalism has led to major changes in which HI is delivered. How could NHSSP change the technical skills programme to address new needs roles and responsibilities in three layers of the government?
8. Do you think there are technical skills areas that should be added to the training programme? If so please give examples. ...
9. From your experience, or from what you have heard from your staff, are there any specific suggestions you would like to make to improve the contents or the methodologies of the six technical skills training events?

Thank you for providing time and information openly and trustfully!

(Interview and Discussion with key stakeholders at FMoHP/DoHS)

Name: M F
Office: .....
Position/Title: .....

1. How did you like the technical skills training programmes organised and supported by the NHSSP in the context of improving quality of health infrastructure?

   .....

2. Do you think these training events have value in improving quality of health infrastructure? if so, any example?

   ....

3. In your experience, do you also think, in addition to the technical skills development training programmes, some relevant trainings are required in order to reduce gender-based inequalities in delivering health services?

   .....

4. Federalism has led to major changes in which health services are delivered. How could the NHSSP change the technical skills programme to address new needs, roles and responsibilities in three layers of the government?

   .....

5. Do you think there are other skills areas that should be added to the training programme? If so would you please give examples?

   ...

6. From your experience, are there any specific suggestions you would like to make to improve the technical skills training events, particularly in contents or the methodologies, and generally in other aspects?

   .....

Thank you for providing time and information openly and trustfully!

Nepal Health Sector Support Programme III (NHSSP - III)
Technical Skills Development Training Programmes
Impact Evaluation

Set 2: Interview, disc with participants

Nepal Health Sector Support Programme III (NHSSP - III)
Technical Skills Development Training Programmes
Impact Evaluation

Questions Checklist/Guidelines for Interview and Discussions (with Participants)

Name (Optional): M F
Office: .....
Position/Title: .....

1. How did you like the training programme you attended?
   b. Not useful b. Useful c. Very useful
2. What did you majorly learn from the training event?

.....
.....

3. How useful have you found the new Health Infrastructure Guidelines and Standards?
   a. Not so effective b. Somewhat effective c. Effective d. Very Effective
4. Are you able to apply some of the knowledge and skills developed through the training/workshops as expected? a Yes b No

If yes, what and how are you applying health infrastructure related technical knowledge and skills in your job? Would you please briefly explain it?

….
…….

5. What major challenges and constraints are you facing with or have you foreseen in application of technical knowledge and skills in your current job? Please mention in brief.

….

6. To what extent has the technical skills development training programme reduced gender-based inequalities in health infrastructure technical capacity?

   a Very little b. Little c. To some extent d. To a greater extent (For example: ....)

7. What recommendations would you like to give in order to improve and/or related to:

7.1 The NHSSP approach to health infrastructure technical skills capacity enhancement? •	7.2 The contents of the training/workshop programmes to be organized in the near future, in terms of additional skills or knowledge areas you feel necessary? • ..... • .....
7.3 Training methods to be used in the future training/workshop? •	7.4 Training and learning materials? • ..... • .....

•	

8. At last, what do you want to share with us your experience, if you have any, with regard to what not covered above?

……
……

Thank you for providing time and information openly and trustfully!

Set 3: Questionnaire survey

Nepal Health Sector Support Programme III (NHSSP - III)
Technical Skills Development Training Programmes
Impact Evaluation

Evaluation Questions/Tools

In the context of carrying out Impact Evaluation on the Technical Skills Development Training Programmes organised by NHSSP – III for the staffs of the Federal Ministry of Health and Population (FMoHP) and Department of Urban Development and Building Construction (DUDBC), Management Innovation, Training and Research Academy (MITRA) Pvt. Ltd. requests you to fill in this questionnaire and return it as soonest as possible. We were informed by the NHSSP that some participants had participated in multiple training events. So, we request those participants who participated in multiple training events to provide information considering all training events in which they had participated. We ensure that data and information received from you will solely be used for the purpose of the Impact Evaluation.

Also, please note that when you are submitting this form, you need to verify it with Google system because we have made your E-mail address as a required filed. If you have any query about this questionnaire, please contact us on + 01 4422201 or 9841219357.

Thank you for sharing your knowledge with us.

This questionnaire consists of two parts:

PART I **General Information**

PART II **Evaluation Questions**

PART I – General Information

Name (Optional):

Gender:	☐ Female	☐ Male	☐ Transgender
Age:	☐ 20 – 30 years	☐ 31 – 40 years	☐ 41 - 50 years
	☐ 51 years and above		
Education:	☐ +2 and equivalent	☐ Bachelor's	☐ Master's
	☐ PhD	Others:	
Ministry/Department	☐ DUDBC	Others:	
Province (*Note: Please mark corresponding Province where you are currently working in*)	☐ Province 1	☐ Province 2	☐ Province 3
	☐ Province 4	☐ Province 5	☐ Province 6
	☐ Province 7		
Position/Title:	☐ Engineer	☐ Architect	☐ IT Officer
	☐ Electrical Engineer	☐ Sub-Engineer	☐ Others (specify).....
Training programme attended *(Note:If you had attended multiple training events, please select more than one as appropriate)*	☐ Orientation on Retrofitting Design and Tender Processes, February 2018	☐ Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation, April 2018	☐ e-GP Training (e-Government Procurement), May 2018

☐ Electrical, Water and Sanitary Services Design for Health Infrastructure, September 2018

☐ Retrofitting Design of Masonry Buildings, March 2019

PART II Evaluation Questions

1.	To what extent did the training programme you attended help to increase your understanding in your skills areas? - Please rank (with √) your learning level which is close to one of these statements.	a. Very little or not at all b. Little c. To some extent d. To a greater extent
2.	How relevant were the programme contents delivered during the workshop to the need of the participants and/or to deliver functional and efficient health infrastructure capacity?	a. Not relevant at all b. Somewhat relevant c. Relevant d. Very relevant
3.	How useful have you found the new Health Infrastructure Guidelines and Standards?	a. Very little or not at all a. Little b. To some extent c. To a greater extent
4.	If useful, do you regularly use any of these Guidelines and Standards in your current job?	a. Yes b. No
5.	What gaps do you feel in the use or implementation of the new Health Infrastructure Guidelines and Standards?	a. Little unclear b. Difficult to use c. Some contents are missing d. Needs more practical orientation to fully understand
6.	To what extent were the learning outcomes indicated in the programme objectives achieved?	b. Very little or not at all c. Little d. To some extent e. To a greater extent
7.	Are you able to apply some of the knowledge and skills developed through the training/workshops as expected?	a. Yes b. No
8.	What specific measures are you taking in relation to application of health infrastructure technical skills? Please write in very brief on how you are applying knowledge and skills developed through the training/workshops in your current job.	....
9.	What major challenges and constraints are you facing with or have you foreseen in application of technical knowledge and skills in your current job? Please mention in bullets.	• ..... • .....
10.	How effective were the NHSSP approach and strategies/modalities in training implementation?	a. Less effective b. Effective c. Very effective
11.	How has the technical skills development training you participated inhelped to reduce gender-based inequalities in health services? Please give brief example(s).	…..
12.	What recommendations would you like to give in order to improve:	

	(12.1) The NHSSP approach to health infrastructure technical skills capacity enhancement? • ..... •	(12.2) The contents of the training/workshop programmes to be organized in the near future, in terms of additional skills or knowledge areas you feel necessary? • ..... • ..... •
13.	(12.3) Training methods to be used in the future training/workshop? • ..... •	(12.4) Training and learning materials? • ..... • .....
14.	Please share with us your experience, if you have any, with regard to what not covered above.	• ..... • .....

Thank you for providing some time for answering and returning this questionnaire openly and trustfully!

Set 4: Resource Persons

Nepal Health Sector Support Programme III (NHSSP - III)
Technical Skills Development Training Programmes
Impact Evaluation

Questions Checklist/Guidelines for Interview and Discussion with Resource Persons of Technical Skills Training Events

Name: M F
Organization: ..... Freelancer
Position/Title: .....

1. How did you like the technical skills development training programmes organised and supported by NHSSP in the context of improving quality of health infrastructures? Ask this question as appropriate.
   .....
   In your opinion, how effectively did NHSSP organise/manage the technical skills development training events?
   .....
2. Do you think training participants have learned some of the knowledge and skills delivered through the training/workshops as expected? a Yes b No

   If so, any example? ....

3. In your experience, do you also think that some relevant trainings are required to improving health infrastructures that could eventually reduce gender-based inequalities in health services? If so, what type of training?

   .....

4. Federalism has led to major changes in which quality of health infrastructures are required. In your opinion, how could the NHSSP change the technical skills development programme to address/support new needs, roles and responsibilities in the three layers of the government?

   .....

5. From your experience, are there any specific suggestions you would like to make to improve the contents and/or the methodologies of the technical skills training events?

Thank you for providing time and information openly and trustfully!

Annex 4: Detailed Data on Participants Attended in Various Training Events

Table: Number of participants attended in various training events

Participants attended in various training events		Training Events					
		Orientation on Retrofitting Design and Tender Processes	Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	e-GP Training (e-Government Procurement), May 2018	Electrical, Water and Sanitary Services Design for Health Infrastructure	Retrofitting Design of Masonry Buildings	
One time	Count	2	4	11	14	4	35
Two times	Count	3	0	10	9	2	12
Three times	Count	3	1	3	3	2	4
Four times	Count	1	2	2	2	1	2
No response	Count						1
Total							54

Annex 5: Detailed Data on Summary Profile of the Respondents

Table 1: Gender of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	5	9.3	9.3	9.3
	Male	49	90.7	90.7	100.0
	Total	54	100.0	100.0	

Table 2: Age of the respondents by gender

			Age of respondent				Total
			20 -30 years	31 -40 years	41 - 50 years	51 years and above	
Gender of respondent	Female	Count	4	1	0	0	5
		% within Gender of respondent	80.0%	20.0%	0.0%	0.0%	100.0%
	Male	Count	26	14	7	2	49
		% within Gender of respondent	53.1%	28.6%	14.3%	4.1%	100.0%
Total		Count	30	15	7	2	54
		% within Gender of respondent	55.6%	27.8%	13.0%	3.7%	100.0%

Table 3: Education of the respondents by gender

			Education of respondent			Total
			+2 and equivalent	Bachelor's	Master's	
Gender of respondent	Female	Count	0	4	1	5
		% within Gender of respondent	0.0%	80.0%	20.0%	100.0%

	Male	Count	3	27	19	49
		% within Gender of respondent	6.1%	55.1%	38.8%	100.0%
Total		Count	3	31	20	54
		% within Gender of respondent	5.6%	57.4%	37.0%	100.0%

Table 4: Number of the respondents by Province

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Province 1	4	7.4	7.4	7.4
	Province 2	6	11.1	11.1	18.5
	Province 3	26	48.1	48.1	66.7
	Province 4	6	11.1	11.1	77.8
	Province 5	10	18.5	18.5	96.3
	Province 6	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Table 5: Number of the respondents by position/title

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Architect	4	7.4	7.4	7.4
	Electrical Engineer	2	3.7	3.7	11.1
	Engineer	39	72.2	72.2	83.3
	Sub-Engineer	9	16.7	16.7	100.0
	Total	54	100.0	100.0	

Table 6: Position/Title of the respondents working by Province

			Position/Title of respondent				Total
			Architect	Electrical Engineer	Engineer	Sub-Engineer	
Province	Province 1	Count	0	0	3	1	4
		% within Province	0.0%	0.0%	75.0%	25.0%	100.0%
	Province 2	Count	0	1	4	1	6
		% within Province	0.0%	16.7%	66.7%	16.7%	100.0%
	Province 3	Count	3	1	21	1	26
		% within Province	11.5%	3.8%	80.8%	3.8%	100.0%
	Province 4	Count	0	0	5	1	6
		% within Province	0.0%	0.0%	83.3%	16.7%	100.0%
	Province 5	Count	1	0	4	5	10
		% within Province	10.0%	0.0%	40.0%	50.0%	100.0%
	Province 6	Count	0	0	2	0	2
		% within Province	0.0%	0.0%	100.0%	0.0%	100.0%
Total		Count	4	2	39	9	54
		% within Province	7.4%	3.7%	72.2%	16.7%	100.0%

Annex 6: Detailed Output Tables

Table 1: Extent of participants' understanding

Training Programme	Very little or not at all		Little		To some extent		To a greater extent		Total	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Orientation on Retrofitting Design and Tender Processes	0	0.0	1	11.1	4	44.4	4	44.4	9	100.0
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	0	0.0	1	14.3	3	42.9	3	42.9	7	100.0
e-GP Training (e-Government Procurement)	1	3.8	2	7.7	18	69.2	5	19.2	26	100.0
Electrical, Water and Sanitary Services Design for Health Infrastructure	0	0.0	2	7.1	20	71.4	6	21.4	28	100.0
Retrofitting Design of Masonry Buildings	0	0.0	1	11.1	6	66.7	2	22.2	9	100.0

Table 2: Relevance and usefulness of training contents

Training Programme	Not relevant at all		Some what relevant		Relevant		Very relevant		Total	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Orientation on Retrofitting Design and Tender Processes	0	0.0	1	11.1	6	66.7	2	22.2	9	100.0
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	0	0.0	2	28.6	3	42.9	2	28.6	7	100.0
e-GP Training (e-Government Procurement)	0	0.0	7	26.9	17	65.4	2	7.7	26	100.0
Electrical, Water and Sanitary Services Design for Health Infrastructure	0	0.0	7	25.0	17	60.7	4	14.3	28	100.0
Retrofitting Design of Masonry Buildings	0	0.0	3	33.3	6	66.7	0	0.0	9	100.0

Table 3: Usefulness of Health Infrastructure Guidelines and Standards

Technical Programme	How useful have you found the new Health Infrastructure Guidelines and Standards?									
	Very little or not at all		Little		To some extent		To a greater extent		Total	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Orientation on Retrofitting Design and Tender Processes, February 2018	0	0.0	1	11.1	5	55.6	3	33.3	9	100.0
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation, April 2018	0	0.0	1	14.3	2	28.6	4	57.1	7	100.0
e-GP Training (e-Government Procurement), May 2018	1	3.8	3	11.5	17	65.4	5	19.2	26	100.0
Electrical, Water and Sanitary Services Design for Health Infrastructure, September 2018	0	0.0	2	7.1	18	64.3	8	28.6	28	100.0
Retrofitting Design of Masonry Buildings, March 2019	0	0.0	1	11.1	6	66.7	2	22.2	9	100.0

Table 4: Use of Health Infrastructure Guidelines and Standards

Training Programme	No		Yes		Total	
	Count	Row N %	Count	Row N %	Count	Row N %
Orientation on Retrofitting Design and Tender Processes	0	0.0	9	100.0	9	100.0
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	0	0.0	6	100.0	6	100.0
e-GP Training (e- Government Procurement)	6	23.1	20	76.9	26	100.0
Electrical, Water and Sanitary Services Design for Health Infrastructure	6	21.4	22	78.6	28	100.0
Retrofitting Design of Masonry Buildings	4	44.4	5	55.6	9	100.0

Table 5: Gaps in New Health Infrastructure Guidelines and Standards

Training Programme	Little unclear		Difficult to use		Some contents are missing		Needs more practical orientation to fully understand		Total	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Orientation on Retrofitting Design and Tender Processes	1	11.1	1	11.1	0	0.0	7	77.8	9	100.0
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	0	0.0	1	16.7	2	33.3	3	50.0	6	100.0
e-GP Training (e-Government Procurement)	3	12.5	3	12.5	7	29.2	11	45.8	24	100.0
Electrical, Water and Sanitary Services Design for Health Infrastructure	2	7.1	2	7.1	6	21.4	18	64.3	28	100.0
Retrofitting Design of Masonry Buildings	0	0.0	1	12.5	4	50.0	3	37.5	8	100.0

Table 6: Achievement of learning outcomes

Training Programme	Very little or not at all		Little		To some extent		To a greater extent		Total	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Orientation on Retrofitting Design and Tender Processes	0	0.0	2	22.2	6	66.7	1	11.1	9	100.0
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	0	0.0	3	50.0	2	33.3	1	16.7	6	100.0
e-GP Training (e-Government Procurement)	1	3.8	4	15.4	20	76.9	1	3.8	26	100.0
Electrical, Water and Sanitary Services Design for Health Infrastructure	0	0.0	6	21.4	21	75.0	1	3.6	28	100.0
Retrofitting Design of Masonry Buildings	0	0.0	1	11.1	8	88.9	0	0.0	9	100.0

Table 7: Application of technical knowledge and skills

Training Programme	No		Yes		Total	
	Count	Row N %	Count	Row N %	Count	Row N %
Orientation on Retrofitting Design and Tender Processes	0	0.0	9	100.0	9	100.0
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	1	14.3	6	85.7	7	100.0
e-GP Training (e- Government Procurement)	0	0.0	26	100.0	26	100.0
Electrical, Water and Sanitary Services Design for Health Infrastructure	1	3.6	27	96.4	28	100.0
Retrofitting Design of Masonry Buildings	1	11.1	8	88.9	9	100.0

Table 8: Effectiveness of the NHSSP approach and strategies/modalities

Training Programme	Less effective		Effective		Very effective		Total	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Orientation on Retrofitting Design and Tender Processes	0	0.0	7	77.8	2	22.2	9	100.0
Multi-hazard Resilient Health Infrastructure Planning, Design and Implementation	0	0.0	6	85.7	1	14.3	7	100.0
e-GP Training (e-Government Procurement)	2	7.7	20	76.9	4	15.4	26	100.0
Electrical, Water and Sanitary Services Design for Health Infrastructure	4	14.3	20	71.4	4	14.3	28	100.0
Retrofitting Design of Masonry Buildings	1	11.1	8	88.9	0	0.0	9	100.0

Annex 7: Programme Schedules

Orientation Training on "Retrofitting and Tender Process"
Venue: Hotel Himalaya, Skyline Hall, Lalitpur
5th – 6th February 2018

Day 1			
Time	**Session**	**Outline**	**Facilitators**
10:00-10:15	Tea and Registration		
10:15-10:45	Opening Session		
10:45-12:15	Session-I	Hospital Retrofitting in Nepal: Need, Challenges and Approach	Dr. Santosh Shrestha
12:15-12:30	Tea Break		
12:30 - 13:30	Session II	Functional Retrofitting	Ar. Sunil Khadka / Ar. Gyanendra Shakya
13:30-14:30	Lunch Break		
14:30-15:30	Session-III	Retrofitting Experiences	Er. Manohar R. Bhandari Er. NilamMainali
15:30 – 16:00	Session IV	Decanting Strategy in Retrofitting Works	Er. NabinMalakar
Day 2			
10:00-10:15	Registration and Tea		
10:15-11:00	Session-I	Tendering Process for Retrofitting works	Shakti Prasad Shrestha/ Er. Subash Bhattarai
11:00-11:45	Session II	Norms and Rate Analysis for Retrofitting works	Er. Soyuz Gautam Er. Sudip Pathak Er. Ashim Adhikari
11:45-12:00	Tea Break		
12:00-13:00	Session III	Procurement Process and Procedure	Er. Mani Ram Gelal, DDG, DUDBC
13:00-14:00	Lunch Break		
14:00-15:00	Session IV	E-Government Procurement System (e-GP)	Er. AmodUlak PPMO
15:00-15:30	Closing followed by Hi-tea		

Training on "Multi-Hazard Resilient Health Infrastructure Planning, Designing and Implementation"

Venue: Hotel Himalaya, Skyline Hall, Lalitpur
26 April 2018

Time	Session	Outline	Facilitators
8:00-8:30	Breakfast and Registration		
8:30-9:00	Opening Session		
9:00-10:00	Session-I	Existing policies and guidelines for health infrastructure development	Ar. Sunil Khadka, Lead advisor Ar. Gyanendra Shakya, Sr. Architect
10:00 - 11:30	Session II	Guidelines for design and construction of Health Infrastructure-I	Ar. Sunil Khadka, Lead advisor Ar. Gyanendra Shakya, Sr. Architect
11:30-12.00	Tea Break		
12:00 -13:00	Session-III	Guidelines for design and constructionof Health Infrastructure - II	Ar. Sunil Khadka, Lead advisor Ar. Gyanendra Shakya, Sr. Architect
13:00 – 14:00		Lunch Break	
14:00 – 15.30	Session IV	Approaches of Retrofitting and challenges in Nepalese context	Dr. Santosh Shrestha, Senior Earthquake Resilience Advisor
		Procurement strategies for retrofitting of functional health facilities	Er. SubashBhattarai, Policy Development Advisor
15:30-17:00	Session V	DUDBC Project Management Information System	Er. Himal KC, SDE, DUDBC
17:00-17:30	Session VI	Closing followed by Hi-tea	

Training on : e-GP

Date: 15 to 18 May 2018; 21 to 24 May 2018 (two events)

Venue: PPMO training hall, Tahachal, Kathmandu

Public Procurement Monitoring Office
Training on Electronic Government Procurement (e-GP) System- Phase II
www.bolpatra.gov.np/egp

Program Schedule

Date	First Session (10.00-11.30)	11.30-11.45	Second Session (11.45-1.15)	1.15-2.45	Third Session (2.45-3.15)	Fourth Session (3.15-4.45)
DAY 1	➢ Opening remarks ➢ Overview and Importance of e-GP System ➢ e-GP Implementation Strategy **Secretary, PPMO**	Tea Break	➢ e-GP Registration Process ➢ Procurement Planning System Functionality, Home Page, PE Registration, User Registration (System Demo) **Resource Person-1**	Lunch Break	➢ e-GP Registration Process (System Practical) **Resource Person-1 e-GP Instructor -2**	➢ Procurement Planning (System Practical) **Resource Person-1 e-GP Instructor-2**
DAY 2	➢ Bid Document Preparation (Works-1S1E & 1S2E) (System Demo) **Resource Person-1**		➢ Bid Document Preparation (Works-1S1E) (System Practical) **Resource Person-1 e-GP Instructor-2**		➢ Bid Document Preparation (Works-1S2E) (System Practical) **Resource Person-1 e-GP Instructor-2**	➢ Bid Document Preparation (Goods) -I (System Demo) **Resource Person-1**
DAY 3	➢ Bid Document Preparation (Goods)-II (System Practical) **Resource Person-1 e-GP Instructor-2**		➢ Bid Addendum/Supplement ➢ Bid Opening (System Demo) **Resource Person-1**		➢ Bid Addendum/Supplement ➢ Bid Opening (System Practical) **Resource Person-1 e-GP Instructor-2**	➢ Bid Evaluation Process (works) (System Practical) **Resource Person-1 e-GP Instructor-2**
DAY 4	➢ Contract Awarding & Complain Management Procedure (System Demo) **Resource Person-1**		➢ Contract Awarding & Complain Management Procedure- (System Practical) **Resource Person-1 e-GP Instructor-2**		➢ Bid Document Preparation-(Uploadable module) (System Practical) **Resource Person-1 e-GP Instructor-2**	➢ Contract Management & Dispute Management (System Demo) **Resource Person-1 e-GP Instructor-2**

Technical Skill Development Training
on
Electrical and Sanitary for Health Infrastructure
Venue: Hotel Royal Singi, Kathmandu
16th - 18th September 2018

Day 1 (16th September, 2018)		
09:30 - 10:00	Tea/Coffee and Registration	
10:00 - 10:30	Opening Session	
10:30 - 11:30	Issues and Problems in Building services (Electrical and Sanitary works) in Construction of Health Infrastructure	GyanendraShakya
11:30 - 11:40	Tea Break	
11:40 - 12:40	General electrical and mechanical appliances and equipment in HFs	SujitBanskota
12:40 - 13:30	Lunch	
13:30 - 14:30	General and Special Requirements for Electrical Design for Health Facilities.	Dinesh Shrestha Akhileshwor Mishra
14:30 - 15:30	Electrical Design process and Exercise - 1	Dinesh Shrestha Akhileshwor Mishra
	Tea Break	
15:30 - 17:00	Electrical Design process and Exercise - 2	Dinesh Shrestha Akhileshwor Mishra
Day 2 (17th September, 2018)		
09:30 - 10:00	Tea/Coffee and Registration	
10:00 - 11:00	Preparation of BoQ for electrical works	Akhileshwor Mishra
11:00 - 11:45	Wrapping up the Electrical Design Exercise	Akhileshwor Mishra
11:45 - 12:00	Tea Break	
12:00 - 13:00	General and Special Requirements for Sanitary Design for Health Facilities.	Deepak Neupane
13:00 - 14:00	Lunch	
14:00 - 15:00	Hospital Waste Management: issues, standards and practices	Rita Bhandari Joshi,
15:00 - 15:15	Tea Break	
15:15 - 16:15	Sanitary Design process and Exercise - 1	Deepak Neupane
16:15 - 17:00	Sanitary Design process and Exercise - 2	Deepak Neupane
Day 3 (18th September, 2018)		
09:30 - 10:00	Tea/Coffee and Registration	

10:00 - 11:00	Preparation of BoQ for Sanitary works	Deepak Neupane
11:00 - 11:45	Preparation of BoQ for Sanitary works	Deepak Neupane
11:45 - 12:00	Tea Break	
12:00 - 13:00	Wrapping up the Sanitary Design Exercise	Deepak Neupane
13:00 - 14:00	Lunch	
14:00 - 14:45	HVAC Requirement for Health Infrastructure	Susan Bajracharya
14:45 - 15:00	Tea Break	
15:00 - 16:45	Non burn treatment technologies in health care waste management	Mahesh Nakarmi
16:45 - 17:00	Closing session and Tea/coffee	

Training on Retrofitting Design of Masonry Buildings for DUDBC Engineers
March 5-9, 2019
View Bhrikuti Hotel, GodawariLalitpur

Time	Session		Topic	Resource person
Day 1				
8:00 - 9:00			**Travel from DUDBC – Godawari**	
9:00 - 9:45			**Breakfast/Registration**	
9:45 - 10:30			**Inauguration**	
10:30 – 10:45	S1	**INTRODUCTION**	Welcome and Introduction of participants	
10:45 – 11:15	S2		Introduction to Health Building Retrofitting Programme (NHSSP)	Santosh Shrestha
11:15 – 12:30	S3		Understanding of Masonry Building (history, building typologies, material, cement-based and low-strength masonry, construction system, diaphragm types)	Prof Dr Gokarna Bahadur Mothara
12:30– 13:30			**Lunch**	
13:30 – 13:45		**DESIGN OF MASO**	Group Division	Santosh/Jitendra

Time	Session		Topic	Resource person
13:45 – 14:45	S4		Seismic Assessment of Existing Building (collecting information, what to collect, NDT/ DT, testing methods, how far to go, balancing cost and benefits), what to look for.	BibekSigdel
14:45 - 15:00			**Tea Break**	
15:00 – 15:30	S5		Learning from the past (forensic analysis of damaged buildings, why masonry buildings fall, LSM and cement-based construction)	Jitendra
15:00 – 16:00	S6E		Basics for Analysis and Design of Masonry Buildings (flow chart, codes and standards, mechanical properties, Limit state and Working stress methods, permissible stresses, load calculation, analysis,)	Jitendra /Sudeep
			Design of masonry buildings (gravity loads analysis and masonry design)	Jitendra / Sudeep
16:30 – 17:00	S7E		Design of masonry buildings (Out-of-plane analysis, introduction to rocking analysis, NZSEE and FEMA methods)	Jitendra/ Sudeep
17:00 – 17:30			Review and wrap up of the day	Jitendra/Santosh

Time	Session		Topic	Resource person
Day 2				
8:00 - 9:00			**Breakfast**	
9:00 – 9:30			Recap of previous day	Jitendra
9:30 – 10:00			Guest / Key Speech (Experience Sharing)	Manohar Rajbhandari
10:00 – 10:30	S8E	**DESIGN OF MASONRY BUILDINGS**	Design of masonry buildings (Out-of-plane analysis, introduction to rocking analysis, NZSEE and FEMA methods)	Jitendra/ Sudeep
10:30 – 11:30	S9		Design of masonry buildings (stability, out-of-plane analysis – stability, WSM, boundary conditions and loads, box effect, diaphragm)	Sudeep/ Jitendra

11:30 – 12:30	S10 E		Design of masonry buildings (In-plane analysis – dynamic instability; seismic loads and in-plane analysis, piers and walls, penetrated vs solid walls, pier-only method, equivalent frame analysis rocking, toe, diagonal tensile and bed joint sliding failure,)	Jitendra/ Sudeep
12:30 – 13:30			**Lunch**	
13:30 – 14:30	S11 E	**DESIGN OF MASONRY BUILDINGS SEISMIC VULNERABILITY ANALYSIS**	Design of masonry buildings (In-plane analysis – "pier only" analysis, conventional method (IS1905), calculations and design, elastic analysis, shear and flexure, calculations and design vertical bars	Sudeep/ Jitendra
14:30 - 15:30	S12		Philosophy and approaches for Seismic assessment of existing buildings (issues, uncertainties and resiliency, Qualitative/quantitative approaches, Initial / Detailed Seismic Assessment, retrofitting of existing buildings, vulnerability/ capacity chain, compatibility, economics of retrofitting, case studies and examples)	Jitendra
15:30 - 17:00			Preparation for field visit	Jitendra / Sudeep / Santosh
			Field visit and field testing	
17:00 – 17:30			Review and wrap up of the day	

Time	Session		Topic	Resource person
Day 3				
8:00 - 9:00			**Breakfast**	
9:00 – 9:30			Recap of previous day	
9:30 – 11:15	S13 E	**SEISMIC ASSESSMENT AND RETROFITTING OF MASONRY**	In plane pier and Spandrel analysis/ response, effect of flexible and rigid diaphragms on in-plane walls, tributary basis, torsions issues, integrity, demand capacity ratio	Jitendra /Sudeep

11:15 – 12:30	S14E		Retrofitting I (in-plane walls), design of splints/ jacketing/ foundation, cement based and LSM walls	Jitendra /Sudeep
12:30– 13:30			**Lunch**	
13:30 – 15:00	S16E	**SEISMIC ASSESSMENT AND RETROFITTING OF MASONRY BUILDINGS**	Out-of-plane assessment of exiting walls (parapets, walls held at top and bottom, local failures), connection between walls and diaphragms, two-way vs one way bending demand capacity ratio	Purushottam / Sudeep / Jitendra / Mukesh
15:00– 15:15			**Tea Break**	
15:15 – 17:00	S17E		Retrofitting II (out-of-plane walls), design of bands and strong backs, composite action, cement based and LSM walls,	Purushottam / Sudeep /Jitendra / Mukesh
17:00 – 17:30			Review and wrap up of the day	

Time	**Session**		**Topic**	**Resource person**
Day 4				
8:00 - 9:00			**Breakfast**	
9:00 – 9:30			Recap of previous day	
9:30 – 10:00	S18	**RETROFITTING**	Diaphragm assessment strengthening (flexible and rigid diaphragms, sufficiency of diaphragms, connections, force transfer, diagonal bracing)	Jitendra / Sudeep
10:00 – 12:00	S19		Diaphragm assessment strengthening (flexible and rigid diaphragms, sufficiency of diaphragms, connections, force transfer, diagonal bracing)	Jitendra / Sudeep
12:00 – 12:30	S20		Hospital Retrofitting	Sudeep
12:30 – 13:30			**Lunch**	

13:30 – 15:00	S21N	COMPUTER AIDED DESIGN OF MASONRY	Introduction to computer aided design (Model preparation)	Purushottam / Sudeep /Mukesh
15:00 – 15:30	S22N		Introduction to computer aided retrofit design using Analysis Software: In-plane analysis	Purushottam / Sudeep / Mukesh
15:30 – 15:45			**Tea Break**	
15:45 - 16:30	S23N		Introduction to computer aided retrofit design using Analysis Software: Out of plane	Purushottam /Sudeep/Mukesh
16:30 – 17:30	S24N		Introduction to computer aided retrofit design using Analysis Software: Shear resistant of Masonry	Purushottam / Sudeep / Mukesh
Day 5				
8:00 - 9:00			**Breakfast**	
9:00 – 10:00	S25		Numerical Modelling - What it mean?	Jitendra
10:00 - 11:30	S26		Case Study: Retrofitting of Two Priority Hospitals	Santosh
11:30 - 12:00	S27		Compliance review of new design and retrofitting	Jitendra / Santosh / Sudeep
12:00 – 12:15			Training Evaluation	
12:15 – 12:30		FIELD VISIT	Preparation for field visit	
12:30– 13:30			**Lunch**	
13:30 – 15:30			Field Visit	
15:30- 17:00			**Closing**	

** N: Numerical modelling
** E: Hand calculations