



COMPLETE GAP ANALYSIS REPORT ON: PRIMARY LEVEL CURRICULUM & TEACHER TRAINING PACKAGE

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*Prepared by Samunnat Nepal in coordination with Curriculum Development Centre, National
centre for Educational Development and Supported by Unicef Nepal*



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This gap analysis report of primary level curriculum of Nepal is the result of the recommendation provided by high level government officers in a workshop on the dissemination of the consolidated and brief report on LMTF. This report is based on the gap analysis carried out on the primary level curriculum of five subjects on the basis of the seven LMTF domains. Similarly, as teachers are central to curriculum delivery, gap analysis of the primary level teacher training package was also carried out.

This report provides a comprehensive account of the gap analysis of the primary level curriculum as well as the teacher training package. This is the joint effort of many personnel for which Samunnat Nepal wishes to acknowledge their valuable contribution in the preparation of this report.

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Acronyms and abbreviations

CA:	Culture and Arts
CDC:	Curriculum Development Center
CUE:	Center for Universal Education
DEO:	District Education Office
DoE:	Department Of Education
ERO:	Education Reform Office
EFA:	Education for all
GEFI:	Global Education First Initiative
GMR:	Global Monitoring Report
JICA:	Japan International Cooperation Agency
LOs:	Learning Outcomes
LGOs:	Level-wide General Objectives
LM:	Learning Metrics
LMTF:	Learning Metrics Task Force
MDGs:	Millennium Development Goals
MoE:	Ministry of Education
NCED:	National Centre for Educational Development
NFEC:	Non-Formal Education Centre
NGOs:	Non-Governmental Organizations
SN:	Samunnat Nepal
SS:	Social Studies
SOs:	Specific Objectives
UIS:	UNESCO Institute of Statistics
UNICEF:	United Nations Children’s Fund
USAID:	United States Agency for International Development

CHAPTER ONE

This chapter deals with the background on how the Learning Metrics Task Force (LMTF) was formed worldwide and the nationally, giving a brief description of the international and national contexts. Furthermore this chapter describes the settings and procedures for carrying out the gap analysis.

Context:

International

The Learning Metrics Task Force (LMTF) aims to work within the Millennium Development Goals (MDG), Education for All (EFA), and Global Education First Initiative (GEFI) and contributes to their fulfillment. Convened by the UNESCO Institute of Statistics (UIS) and Center for Universal Education at the Brookings Institution (CUE) the LMTF was formed to give tangible meaning to the EFA Goal 6 which states that ***"Improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills."*** It calls for a global paradigm shift from access to access plus learning.

Despite high levels of primary school enrollment rates throughout the world; those gains have been uneven due to unacceptably low learning levels. The EFA GMR 2013/14 report pointed out that worldwide 250 million primary age children were unable to read, write and count well despite four years in school. Yet, we do not know the full scale of the crisis because measurement of learning outcomes is limited in many countries and hence difficult to assess at an international level.

As the debate intensifies over the post-2015 global development agenda, the report from the Learning Metrics Task Force lays out a framework to put learning on the agenda and track learning among the world's children and youth in order to achieve education quality for all. The Task force aimed to build consensus around three core questions:

- ***What learning is important for all children and youth?***
- ***How should learning outcomes be measured at the global and national levels?***
- ***How can measurement of learning improve education quality?***

A series of three reports, -I , II & III presents key indicators to track learning at the global level and monitor progress in foundational skills, such as literacy and numeracy, but also goes beyond these traditional indicators. The report calls for new global indicators to include "readiness to learn" in early childhood; skills and values for youth to be successful "citizens of the world"; and a "learning for all" indicator that would combine measures of education access, completion and reading into one statistic. The task force also provides a framework of seven essential domains of learning that are essential for all children and youth to master as they prepare for their future lives and livelihood. Learning serves as the foundation for all of the priorities in the run-up to 2015— from better livelihoods to climate change.

National

Nepal has been involved in the countrywide LMTF consultation discussion through Unicef support wherein the LMTF phase I and phase II consultations with high level national level stakeholders (ERO, CDC, MoE) in the presence of LMTF members (MoE, DoE, NCED, CDC, ERO, USAID, JICA) were organized. Based on these consultations, a draft report was submitted to LMTF Secretariat.

Nepal was selected as one of the Learning Champion partners by LMTF Secretariat along with 14 other countries wherein the countries develop a detailed work plan to carry forward the recommendations of the LMTF. In Nepal, the ERO was selected as the responsible government agency partner to carry forward these tasks along with the support from Samunnat Nepal, an NGO working in education and development.

A consolidated brief report based on the LMTF reports was developed with the involvement of national level stakeholders. A one day dissemination of the report was held on March 15, 2015 amongst 25 high level government officials organized under the leadership of CDC Executive Director, Mr Diwakar Dhungel. The dissemination program was chaired by the Joint Secretary of MoE, Mr Lava Deo Awasthi. During the program, participants discussed about the possibility of the post 2015 education program to be guided by this very crucial document. And, there was mutual consensus for a need to review the curriculum of Nepal based on the LMTF domains.

The LMTF has divided the school level education into three stages viz pre-primary, primary and post-primary. However, at this stage only the primary level curriculum has been reviewed. The necessary settings were arranged for carrying out the task of reviewing and finding the gap between the competencies in the Primary Level Curriculum of Nepal including Teacher Training package.

A Steering Committee was formed under the chairmanship of Executive Director of CDC. Under this committee, five thematic teams were formed to carry out the review of the primary level curriculum based on the seven domains mentioned by the LMTF. As teacher trainings are carried out based on the teacher training packages as per primary level curriculum, a working group was formed to carry out review of primary level teacher training package as well. Samunnat Nepal has been supported by Unicef to carry out these tasks.

The five thematic teams formed were comprised of Nepali, English, Maths, Social Studies and Science including Physical Education and Health consisting of subject-wide specialists from CDC and external specialists. Similarly, a working group to review the teacher training package was formed comprising of training specialists from NCED and other external specialists. (Appendix A)

CHAPTER TWO

Methodology

The previous chapter dealt with the settings arranged for carrying out this task of finding the gap between the competencies in the Primary Level Curriculum of Nepal including Teacher Training package and Global Learning Domains Framework proposed by Learning Metrics Task Force (LMTF).

This chapter presents the methodology adopted for the same. The curriculum of Nepal is designed as per subjects, covering various areas of learning and the competencies for each subject are defined as Level-wide General Objectives (LGO) – *Appendix D pg 29*. And, LGOs for each subject are further defined in detail as Learning Outcomes (LOs)/Specific Objectives (SOs) specific to each grade.

The seven domains of the Global Learning Domains Framework are divided into sub-domains and these sub-domains are described accordingly. The description of each of the sub-domains of all the seven domains gives a picture of the depth of learning with the competencies covered for that area of the sub-domain under that particular domain – *Appendix C pg 28*.

It was observed that the seven domains and their sub-domains do not match exactly, one to one, with the subjects and subject-wide areas as provided by Nepal's curriculum. However, although the domains are not subject based, because it was proposed for the global learning framework, it is apparent that many of the competencies mentioned in them are also included in one way or the other in Nepal's subject-wide LGOs. Hence, it is likely that subjects and corresponding LGOs of Nepal's curriculum are spread across the domains and descriptions of sub-domains. And so, it is imperative that LGOs of each of the subjects of Nepal's curriculum be seen across all the sub-domains of LTMF's Global Learning Domains Framework in order to find the gap between the two.

With this notion, a tool was developed to tabulate the LGOs of all the subjects of Nepal's curriculum against the descriptions of sub-domains of all the domains. The major elements included in this tool were the columns in which the Subject Experts of Curriculum Development Centre (CDC), Sanathimi can enter the serial numbers of LGOs of the subjects from Nepal's curriculum against the sub-domains, using their judgments' whether the competency level of that particular LGO matches with the description of that sub-domain very much or to some extent with some differences or is not covered at all.

Since this task of gap analysis was also linked with the teacher training conducted in Nepal, another simplified tool was developed with just three columns for three elements: Domains, Sub-domains and Provision in Nepal's Training curriculum. The tool was developed in simplified form with the understanding that teacher trainings in general in Nepal are content based.

After necessary corrections incorporating the suggestions following many rounds of discussions with the experts, the tool for the curriculum analysis in its finalized form – *Appendix E pg 31* and the tool for the teacher

training – *Appendix F pg 37* were presented to the working teams including subject experts of CDC, Training Experts of National Centre for Education Development (NCED) and external consultants.

A session was conducted at CDC including curriculum and training experts of CDC and NCED to orient them with the form and the detail process with necessary examples of tabulating LGOs/provisions in them. The forms were also translated into Nepali language following their suggestion. After they have done some exercise in the tabulation process, another round of session was conducted with them in order to clarify confusions, if they had faced any.

Completed forms of all the subjects tabulated by the CDC experts were then collated (using initial alphabet/s of the subjects) and data cleaning was done with the help of consultants. In the mean time, with the necessary support from external consultants, tables for each of the domains were constructed picking the action verbs used and competencies mentioned in the description of sub-domains. Similar types of tables were constructed for the LGOs also. The form completed by the experts of NCED was also collected to be included in the report – *Appendix F*.

In order to present the Key Findings of this task of finding the gap, simple percentages on the basis of total number of LGOs for each subject were calculated for the LGOs included/not included or matching/not matching with the description of sub-domains.

CHAPTER THREE

Key Findings

The findings are presented in two sections - curriculum and teacher training.

CURRICULUM

The previous chapter described the methodology adopted for finding the gap between the LMTF's Global Learning Domains Framework and subject-wide LGOs of Nepal's curriculum, together with teacher training.

This chapter presents the findings of the gap between these two, the LMTF's Global Learning Domains Framework and subject-wide LGOs first and then about the teacher training at the end. Before unfolding the span of subject-wide LGOs through the domains and portraying the gap, the presentation attempts to proceed with a comprehensive outlook of the range covered by the subjects of Nepal's curriculum across the LMTF's domains.

Comprehensive Outlook

The domains were not subject based and so the sub-domains under them were not as per the areas included in the subjects of Nepal's curriculum. Nevertheless, the domains were indicative enough for the subjects to correspond with, except the domain of Learning approach and cognition. As for example, domain of Physical well-being with subjects like Health and Physical Education; the domain of Numeracy and mathematics with the subject of Mathematics; the domain of Science and technology with the subject of Science, etc.

Table 1: Subjects of Nepal's Curriculum across LMTF's Domains

Domains	Subjects							
	Nepali	Maths	Social Studies	Creative Arts	Science	Health	Physical Ed.	English
1. Physical well-being						✓	✓	
2. Social and emotional	✓		✓			✓		
3. Culture and Arts	✓		✓	✓				
4. Literacy and Communication	✓	✓						✓
5. Learning approach and cognition	✓	✓	✓		✓			
6. Numeracy and mathematics		✓						
7. Science and technology			✓		✓			

Although the domains were indicative to subjects to some extent (Table 1), LGOs of all the subjects were found to be spreading over more than one domain, except for the subject of Mathematics limiting to the domain of Numeracy and mathematics only. Whereas, even though the domain of Learning approach and cognition does not specifically indicate to any subject as such, this domain was found to be having the LGOs of most subjects – Nepali, Mathematics, Social Studies and Science – spreading over it.

The table below (Table 2) gives an overall picture of the LGOs of various subjects matching the domains. The coverage has been presented as per the number and percentages of matching levels of the comparable competencies mentioned as the LGOs of Nepal's curriculum and the description of sub-domains of LMTF's domains.

Table 2: Coverage of LGOs of various Subjects in LMTF's Sub-domains

Subjects in Nepal's Curriculum	Total number of LGOs	Number and percentage of LGO's in Nepal's Curriculum							
		Matching LMTF's Sub-domains						Not covered by LMTF's Sub-domains	
		Level matching (#)	Percentage (%)	Matching with some difference (#)	Percentage (%)	Total #	Percentage %	Not covered (#)	Percentage (%)
1.Nepali	12	3	25.0	8	66.7	11	91.7	1	8.3
2.Mathematics	9	5	55.6	3	33.3	8	88.9	1	11.1
3.Social Studies	15	x	x	11	73.3	11	73.3	4	26.7
4.Creative Arts	12	x	x	8	66.7	8	66.7	4	33.3
5.Science	7	4	57.1	3	42.9	7	100.0	*	*
6.Health	7	1	14.3	5	71.4	6	85.7	1	14.3
7.Phy.Education	6	3	50.0	2	33.3	5	83.3	1	16.7
8.English	5	2	40.0	2	40.0	4	80.0	1	20.0
Total	73	18	24.7	42	57.5	60	82.2	13	17.8

* Partially not covered

It was found that almost all the subjects have at least one LGO, the competency of which level matches with the description of LMTF's sub-domain, except two subjects, Social Studies and Creative Arts that have none. The subject of Science was found to be with highest percentage (57.1) of LGOs that have competency level matching with the description of LMTF's sub-domain, followed by the subject of Mathematics (55.6 %). The subject of Health was found to be with the lowest percentage (14.3) at this level, followed by the subject of Nepali (25.0 %)

On the level of LGOs matching with some difference with the description of LMTF's sub-domain, the subject of Social Studies was found to be with the highest percentage (73.3), followed by the subject of Health (71.4 %). And, two subjects, namely, Mathematics and Physical Education were found to have lowest percentages (33.3) followed by the subject of English at this level (40.0 %).

When seen from the angle of totality irrespective of level matching or with some difference – in the use of action verbs to make so for the competency level – the subject of Science was found to be with the highest percentage (100%) of its LGOs covering the description of LMTF's sub-domain, followed by the subject of Nepali (91.7 %).

It was also understandable that not all the descriptions of LMTF's sub-domain could be expected to have covered by the LGOs and vice-versa. Hence, there were LGOs in every subject, which were not covered by the description of LMTF's sub-domain, and so also description of LMTF's sub-domains not included in the LGOs. Some descriptions relating to these aspects have been presented in the corresponding domain related sections followed.

The subjects of Social Studies and Creative Arts, both having no LGOs at the level matching were found to be with the highest percentages (33.3 and 26.7 respectively) of their LGOs – four each out of a total of 15 and 12 respectively – not covered by the descriptions of LMTF's sub-domains.

Overall, the coverage of the LGOs from Nepal's curriculum in the description of sub-domains of LMTF's domains were found to be 82.2 per cent – 24.7 per cent of level matching and 57.5 per cent with some differences.

And, out of a total 73 LGOs from all the subjects of Nepal's curriculum, it was found that 13 LGOs – none from Science out of seven, one each from Nepali out of 12, from Mathematics out of nine, from health out of seven, from Physical Education out of six and from English out of five and four each from Social Studies and Creative Arts – were not covered (17.8 %) by the descriptions LMTF's sub-domains.

The LGOs from Nepal's curriculum that were not covered by the descriptions of LMTF's sub-domains were found generally of the local and national contexts.

Domains and Sub-domains

The descriptions provided for the sub-domains of LMTF's domains were in broader sense. And, it was found that many of those descriptions have not explicitly mentioned action verbs to exemplify the competencies sought. So, it is likely that people might have different perspectives on the coverage and the matching levels of the subject-wide LGOs of Nepal's curriculum with the descriptions of the sub-domains of LMTF's domains.

Nevertheless, subject-wide LGOs were also being the general ones for the primary level might apparently be not addressing the descriptions of sub-domains of LMTF's domains, as one would consider. But, those LGOs were found elaborated when coming to grade-wide specific objectives covering various levels of competencies (Tables 3c - 9c). However, dealing with all those details is beyond the scope of this analysis.

Presented below are the details of the subject-wide LGOs of Nepal's curriculum compared to each of the LMTF's domains and sub-domains. The LGOs presented in the tables are categorized as "level matching", "matching with some differences" and "not covered" compared with the definitions of the LMTF's sub-domains.

The tables (Tables 3a - 9a) present number and percentages of LGOs coverage in the sub-domains of various domains denoting them by the initials of the subjects and a numeral following, i.e. "N a1" for the LGO with serial number "1" of the section (a) in Nepali subject; "M 1" for the LGO with the serial number "1" in Mathematics subject and so on.

And, tables (Tables 3b and c - 9b and c) are presented, with the action verbs used, under each of the tables (tables 3a - 9a) for the quick look at the competencies sought by the descriptions of sub-domains of LMTF's domain and LGOs of Nepal's curriculum.

1. ¹Physical well-being

This domain has four sub-domains. It was found to have coverage over two subjects, Health and Physical Education, from Nepal's curriculum. The tables below (Table 3a, 3b and 3c) present the details of the coverage.

Table 3a: Coverage of LGOs of various Subjects in LMTF's First Domain

Domain	Sub-domains	Serial Nos. of LGOs in Nepal's Curriculum matching with the description of LMTF's Sub-domains				Serial Nos. of LGOs not covered by descriptions of LMTF's Sub-domains	
		Level matching	%	With some difference	%	Not covered	%
1. Physical well-being	1. Physical health and hygiene	H 3	14.3	H 1; H 2	28.6	H 5	14.3
	2. Food and nutrition			H 4	14.3		
	3. Physical activity	PE 2; PE 3; PE 6	50.0	PE 1; PE 5	33.3	PE 4	16.7
	4. Sexual health						

Table 4: Action Verbs used in Sub-domains

Domain	Sub-Domains	The Action Verbs used in describing the Sub-domains of a Domain, reflecting the Competencies (knowledge, skills, attitudes and values)
1. Physical well-being	1. Physical health and hygiene	Understanding; Learn
	2. Food and nutrition	Recognizing; Focus; Maintain
	3. Physical activity	Exercise; Developing
	4. Sexual health	Understanding

Table 5: Action Verbs used in, and Number of LGOs in Subjects

Subjects	No. of Level-wide General Objectives	The Action Verbs used in defining the Level-wide General Objectives for each subjects reflecting the Competencies in the Primary Level
Health	7	Have Positive feelings; Carry personal/environmental cleaning; Follow ways; Form habit; Use as per necessity; Understand and Adopt
Physical Education	6	Demonstrate basic skills; Play general games and sports; Do creative and imitation works

It was found that this domain has covered four out of seven (57.1 %) LGOs mentioned for the subject of Health in Nepal's curriculum. Of these, LGO serial number "3" was found to be at the matching level (14.3 %) and LGO serial numbers "1" and "2" were found to be with some differences in the level (28.6 %) under the sub-domain of Physical health and hygiene. LGO serial number "4" was found to be with some difference in level (14.3 %) under the sub-domain of Food and nutrition. One of the LGOs with serial number "5" was found to be not covered (14.3 %) by the LMTF's sub-domain of Physical health and hygiene. This LGO mentions about *following safety measures in daily activities*.

¹ How children and youth use their bodies, develop motor control, and understand and exhibit appropriate nutrition, exercise, hygiene and safety practices.

Also, this domain was found to cover five out of six (83.3 %) LGOs - three LGOs at the matching level (50.0 %), and two with some difference in level (33.3 %) mentioned for the subject of Physical Education. Again, this subject was found to have one of the LGOs with serial number “4” not covered (16.7 %) by description of the LMTF’s sub-domain of Physical activity under the domain of Physical well-being. And it mentions about *doing activities of mimicry and creativity based on stories and animals*.

One of the four sub-domains, Sexual health, of this domain was found to be completely missing in the LGOs of the subject of Health in Nepal’s curriculum. In a way it is a little bit unusual to find this fact when with the provision of a LGO related to communicable diseases was found to be including introduction of HIV/Aids in the scope and sequence table of grade V in Nepal’s curriculum. This may be the result of ambiguity or vagueness in the statement of LGO.

Gap 1: on physical well being

The descriptions of sub-domains from this domain found not included in the LGOs of Nepal’s curriculum were the competencies related to (i) understanding how disease is acquired from the sub-domain of Physical health and hygiene; (ii) recognizing how food has an impact on mind and body functions; and eating right amount of food to maintain a healthy weight from the sub-domain of Food and nutrition; (iii) developing individual talents through sports and games from the sub-domain of Physical activity; and (iv) understanding basic concepts of human reproduction from the sub-domain of Sexual Health.

2. ²Social and emotional

This domain has three sub-domains. It was found to have coverage over three subjects, Nepali, Social Studies and Health, from Nepal’s curriculum. The tables below (Table 4a, 4b and 4c) present the details of the coverage.

Table 6: Coverage of LGOs of various Subjects in LMTF’s Second Domain

Domain	Sub-domains	Serial Nos. of LGOs in Nepal’s Curriculum matching with the description of LMTF’s Sub-domains				Serial Nos. of LGOs not covered by descriptions LMTF’s of Sub-domains	
		Level matching	%	With some difference	%	Not covered	%
2. Social and emotional	1. Social and community values			N a2; SS 3; H 6	8.3; 6.7; 14.3	SS 5; SS 9	13.3
	2. Civic values			SS 1; SS 4; SS 7; SS 8; SS 12	33.3	SS 14	6.7
	3. Mental health and well-being			SS 2; H 7	6.7 14.3		

² How children and youth foster and maintain relationships with adults and peers. Also, how they perceive themselves in relation to others.

Table 7: Action Verbs used in Sub-domains

Domain	Sub-Domains	The Action Verbs used in describing the Sub-domains of a Domain reflecting the Competencies (knowledge, skills, attitudes and values)
2. Social and emotional	1. Social and community values	Knowledge; Use of life skills
	2. Civic values	Knowledge; Understanding; Ability; Propose
	3. Mental health and well-being	Develop positive coping mechanisms

Table 8: Action Verbs used in, and Number of LGOs in Subjects

Subjects	No. of Level-wide General Objectives	The Action Verbs used in defining the Level-wide General Objectives for each subjects reflecting the Competencies in the Primary Level
Nepali	12	Listen; Do; Understand; React; Pronounce correctly and Speak naturally; Tell; Put views; Read clearly/ with interest; Write sequentially and Correctly; Prepare compositions.
Social Studies	15	Introduce; Be aware; Be compassionate and Respect; Habituate; Be encouraged; Identify and Support for solution; Use in daily life; Follow rules; Tell; Describe and Practice; Investigate; Observe,
Health	7	Have Positive feelings; Carry personal/environmental cleaning; Follow ways; Form habit; Use as per necessity; Understand and Adopt

As could be guessed by the title of this domain, LGOs of the subject of Social Studies were found covered most by this domain. It was found covering seven out of 15 (46.7 %) LGOs mentioned for the subject of Social Studies in Nepal's curriculum and all of them were found to be with some difference in the level. This domain was found having none of the LGOs at the matching level category.

Of the LGOs covered by this domain from the subject of Social Studies ,LGO serial number "3" was found to be under the sub-domain of Social and community values; serial numbers "1", "4", "7", "8" and "12" under Civic values; and serial number "2" under Mental health and well-being.

This domain was also found to cover two LGOs, out of seven (28.6 %) from the subject of Health; and one LGO out of 12 (8.3 %) from the subject of Nepali, all with some difference in level. Of those two LGOs from Health, serial number "6" was found under the sub-domain of Social and community values, and serial number "7" was found under Mental health. And, one of the LGOs from Nepali was found under the sub-domain of Social and community values.

The subject of Social Studies was found to have three (20.0 %) LGOs, serial numbers "5", "9" and "14" not covered by the descriptions of the LMTE's sub-domain of Social and community values and Civic values respectively under this domain of Social and emotional. These LGOs in Nepal's curriculum mention about (i) *being encouraged by the contributions of famous people of local community and national level, and respect them* and (ii) *telling composition and functions of various local institutions, and (iii) respecting labor and be laborious and adopt habit of being economized.*

Gap 2: on social and emotional

The descriptions of sub-domains from this domain found not included in the LGOs of Nepal's curriculum were the competencies related to (i) knowledge and use of life skills including communication, decision making, assertiveness, peer resistance,

self-awareness, negotiation, friendship, self-esteem, advocacy for inclusiveness and non-discrimination, and emotional intelligence related to social and community values from the sub-domain of Social and community values; (ii) developing positive coping mechanisms to respond to traumas and other negative environmental factors from the sub-domain of Mental health and well-being.

3. ³Culture and the arts

This domain has two sub-domains. It was found to have coverage over three subjects, Nepali, Creative Arts and Social Studies, from Nepal's curriculum. The tables below (Table 5a, 5b and 5c) present the details of the coverage.

Table 9: Coverage of LGOs of various Subjects in LMTF's Third Domain

Domain	Sub-domains	Serial Nos. of LGOs in Nepal's Curriculum matching with the description of LMTF's Sub-domains				Serial Nos. of LGOs not covered by descriptions of LMTF's Sub-domains	
		Level matching	%	With some difference	%	Not covered	%
3. Culture and the arts	1. Creative arts			N d3; CA a1; CA a2; CA a3; CA a4; CA b1; CA b2; CA b3; CA b4;	8.3 66.7	CA a5; CA a6; CA a7; CA b5	33.3
	2. Cultural knowledge			SS 13	6.7		

Table 10: Action Verbs used in Sub-domains

Domain	Sub-Domains	The Action Verbs used in describing the Sub-domains of a Domain reflecting the Competencies (knowledge, skills, attitudes and values)
3. Culture and the arts	1. Creative arts	Develop understanding; Learn; Evaluate; Learn to Apply
	2. Cultural knowledge	Increase knowledge; Develop appreciation; Respect, Honor and Live peacefully

Table 11: Action Verbs used in, and Number of LGOs in Subjects

Subjects	No. of Level-wide General Objectives	The Action Verbs used in defining the Level-wide General Objectives for each subjects reflecting the Competencies in the Primary Level
Nepali	12	Listen; Do; Understand; React; Pronounce correctly and Speak naturally; Tell; Put views; Read clearly/ with interest; Write sequentially and Correctly; Prepare compositions.
Social Studies	15	Introduce; Be aware; Be compassionate and Respect; Habituate; Be encouraged; Identify and Support for solution; Use in daily life; Follow rules; Tell; Describe and Practice; Investigate; Observe
Creative Arts	12	Use; Draw and colour; Make; Express; Protect; Sing; Play; Dance; Act; Familiarize and Practice

This domain was found to be covering LGOs of the subject of Creative Arts the most, as evident from its title. It was found covering eight out of 12(66.7 %) LGOs mentioned for the subject of Creative Arts in Nepal's curriculum. All the eight LGOs – serial numbers "a1", "a2", "a3", "a4", and "b1", "b2", "b3" "b4" –covered by this domain were found to be with some difference in the level. And, all of them were found to be under the same sub-domain of Creative arts.

³ Creative expression, including activities from the areas of music, theater, dance or creative movement, and the visual, media and literary arts. Also, cultural experiences in families, school, community and country.

This domain was also found to cover two LGOs, one each from the subjects of Nepali (8.3 %) and Social Studies (6.7 %), both at the same level – with some difference. Of those two LGOs, one from the subject of Nepali with serial number “d3” was found under the sub-domain of Creative arts, and the other from the subject of Social Studies with serial number “13” was found under the sub-domain of Cultural knowledge.

The subject of Creative Arts of Nepal’s curriculum was found to have four (33.3 %) LGOs, serial numbers “a5”, “a6”, “a7” and “b5” not covered by the descriptions of the LMTF’s sub-domain of Creative arts under this domain of Culture and the arts. These LGOs in Nepal’s curriculum mention about (i) *using basic skills of knitting*, (ii) *selecting appropriately and using art materials*, (iii) *being familiar with the process of making local art and preserve them*, and (iv) *being familiar with the local music and dance and practice them*.

Gap 3: on culture and arts

The descriptions of sub-domains from this domain found not included in the LGOs of Nepal’s curriculum were the competencies related to (i) developing an understanding of different artistic processes, and learn how to create, perform, respond to, or evaluate works in one or more artistic forms: dance, music, theater, visual or media arts, and (ii) learning how to apply artistic processes to other areas of their learning and development, such as language development, math, science or critical thinking from the sub-domain of Creative arts; and (ii) increasing knowledge of other cultures, as well as one’s own culture, and develop an appreciation of the similarities and differences that exist between oneself and other cultures and how to respect, honor and live peacefully with others from diverse backgrounds from the sub-domain of Cultural knowledge.

4. ⁴Literacy and communication

This domain has seven sub-domains. It was found to have coverage over three subjects, Nepali, Mathematics and English, from Nepal’s curriculum. The tables below (Table 6a, 6b and 6c) present the details of the coverage.

Table 12: Coverage of LGOs of various Subjects in LMTF’s Fourth Domain

Domain	Sub-domains	Serial Nos. of LGOs in Nepal’s Curriculum matching with the description of LMTF’s Sub-domains				Serial Nos. of LGOs not covered by descriptions of LMTF’s Sub-domains	
		Level matching	%	With some difference	%	Not covered	%
4. Literacy and communication	1. Oral fluency	N b1; M 2; E 2	8.3 11.1 20.0				

⁴ Communication in the primary language(s) of the society in which children and youth live, including speaking, listening, reading, writing, and understanding the spoken and written word in various media.

	2. Oral comprehension	E 1	20.0	N b2	8.3	N a3	8.3
	3. Reading fluency	N c1	8.3	E 3	20.0		
	4. Reading comprehension	N c2	8.3	M 6; M 7	22.2		
	5. Receptive vocabulary			N a1 N a2; N c3	25.0		
	6. Expressive vocabulary			N b3; N d3	16.7		
	7. Written expression/ composition			N d1; N d2; N d3 E 4	25.0 20.0	E 5	20.0

Table 13: Action Verbs used in Sub-domains

Domain	Sub-Domains	The Action Verbs used in describing the Sub-domains of a Domain reflecting the Competencies (knowledge, skills, attitudes and values)
4. Literacy and communication	1. Oral fluency	Extent of speaking
	2. Oral comprehension	Extent of understanding
	3. Reading fluency	Read easily/fluently; Use strategies
	4. Reading comprehension	Understanding well; Answer; Retell
	5. Receptive vocabulary	Know/understand
	6. Expressive vocabulary	Know/feel comfortable
	7. Written expression / composition	Capture ideas; Producing; Writing; Progress

Table 14: Action Verbs used in, and Number of LGOs in Subjects

Subjects	No. of Level-wide General Objectives	The Action Verbs used in defining the Level-wide General Objectives for each subjects reflecting the Competencies in the Primary Level
Nepali	12	Listen; Do; Understand; React; Pronounce correctly and Speak naturally; Tell; Put views; Read clearly/ with interest; Write sequentially and Correctly; Prepare compositions.
Mathematics	9	Classify and Name; Investigate; Count, Read, Write, Resolve daily life mathematical problems (add, subtract, multiply, divide); Estimate and Use; Solve general problems; Prepare; Communicate; Present; Classify; Use algebraic skills and Solve simple problems
English	5	Understand and Respond; Practice and Communicate; Responsive and Knowledgeable; Creative writing; Confidence building

Matching with the title, this domain was found to be covering 11 out of 12 (91.7 %) LGOs mentioned for the subject of Nepali language in Nepal's curriculum. Of the 11 LGOs covered by this domain from the subject of Nepali, three (25.0%) were found to be at the level matching and the rest eight (66.7 %) were found to be with some difference in the level. The LGOs at the level matching were of the serial numbers: "b1", "c1" and "c2", and the ones with some difference in level were: "a1", "a2", "b2", "b3", "c3", "d1", "d2", and "d3".

Of the three LGOs at the level matching, LGO serial number "b1" was found to be under the sub-domain of Oral fluency; serial number "c1" under the sub-domain of Reading fluency; and "c2" under the sub-domain of Reading comprehension. And, of the remaining eight LGOs with some difference in level, LGO with the serial number "b2" was found to be under the sub-domain of Oral comprehension, serial numbers "a1", "a2", and "c3" were found under the sub-domain of Receptive vocabulary; "b3" and "d3" under the sub-domain of Expressive vocabulary; and "d1" "d2" and again "d3" were found to be under the sub-domain of Written expression/composition.

This domain was also found to be covering four LGOs, out of five (80.0 %) from the subject of English language; and three LGOs out of nine (33.3 %) from the subject of Mathematics. Of those four LGOs covered from the subject of English, two each were found at the level matching (40.0 %) and with some difference in level (40.0 %) respectively. The two LGOs lying at the level matching were found to be under the sub-domains of Oral fluency (serial number "2") and Oral comprehension (serial number "1"). And, the other two LGOs lying at the level with

some difference were found to be under the sub-domains of Reading fluency (serial number “3”) and Written expression/composition (serial number “4”).

And, of the three LGOs out of nine from the subject of Mathematics, one (11.1 %) with serial number “2” was found at the level matching under the sub-domain of Oral fluency, and the other two (22.2 %) LGOs with serial numbers “6” and “7” were found with some difference in level under the sub-domain of Reading comprehension.

The subjects of Nepali language and English language were found to have one LGO each (8.3 % and 20.0 %), serial numbers “a3” and “5” not covered by the descriptions of the LMTF’s sub-domain of Oral comprehension and Written expression/composition respectively under the domain of Literacy and communication domain. These LGOs in Nepal’s curriculum mention about (i) *listening to children’s stories, songs, poems etc. with interest*, and (ii) *developing a positive attitude towards learning English and build up confidence in using English*.

Gap 4: on literacy and communication

The descriptions of sub-domains from this domain found not included in the LGOs of Nepal’s curriculum were the competencies related to (i) reading fluently including speed, accuracy, and prosody (expression), using strategies when encountering new words including decoding, knowledge of word parts (such as prefixes and suffixes), context clues, and background knowledge from the sub-domain of Reading fluency; (ii) understanding what he or she is reading, answering questions about a passage of text or retelling from the sub-domain of Reading comprehension; (iii) knowing words well enough to understand when reading or hearing them from the sub-domain of Receptive vocabulary; (iv) knowing words well enough to feel comfortable using when speaking or writing from the sub-domain of Expressive vocabulary; (v) capturing ideas through writing (expressions and composition) and producing the written symbols of the language (handwriting) and writing simple original texts and progress to writing for a variety of purposes (e.g., fiction, non-fiction) from the sub-domain of Written expression/composition.

5. ⁵Learning approach and cognition

⁵ Learning approaches describe a learner’s engagement, motivation and participation in learning. Cognition is the mental process of acquiring learning through these various approaches.

This domain has seven sub-domains. It was found to have coverage over four subjects, Nepali, Science, Mathematics and Social Studies, from Nepal's curriculum. The tables below (Table 7a, 7b and 7c) present the details of the coverage.

Table 15: Coverage of LGOs of various Subjects in LMTF's Fifth Domain

Domain	Sub-domains	Serial Nos. of LGOs in Nepal's Curriculum matching with the description of LMTF's Sub-domains				Serial Nos. of LGOs not covered by descriptions of LMTF's Sub-domains	
		Level matching	%	With some difference	%	Not covered	%
5. Learning approaches and cognition	1. Persistence and attention			N a2	8.3		
	2. Cooperation						
	3. Autonomy						
	4. Knowledge	Sc 3	14.3	Sc 2	14.3		
	5. Comprehension	M 8	11.1	M 7	11.1		
	6. Application	M 4	11.1	SS 6	6.7		
	7. Critical thinking			SS 15	6.7		

Table 16: Action Verbs used in Sub-domains

Domains	Sub-Domains	The Action Verbs used in describing the Sub-domains of a Domain reflecting the Competencies (knowledge, skills, attitudes and values)
5. Learning approaches and cognition	1. Persistence and attention	Persistence; Study skills
	2. Cooperation	Interact; Contributing; Learning; Engaging in and Completing
	3. Autonomy	Ability to work alone; Knowing; Persisting
	4. Knowledge	Factual, procedural and conceptual knowledge; Recall; Draw
	5. Comprehension	Construct; Interpreting, Classifying; Summarizing, Comparing
	6. Application	Apply prior knowledge to Solve problems
	7. Critical thinking	Reasoning or judgment (from Interpretation, Analysis/Inference); Metacognition/ Cognitive process (Problem solving-strategy, Deduction, Generalization, Drawing on known facts to Generate new knowledge).

Table 17: Action Verbs used in, and Number of LGOs in Subjects

Subjects	No. of Level-wide General Objectives	The Action Verbs used in defining the Level-wide General Objectives for each subjects reflecting the Competencies in the Primary Level
Mathematics	9	Classify and Name; Investigate; Count, Read, Write, Resolve daily life mathematical problems (add, subtract, multiply, divide); Estimate and Use; Solve general problems; Prepare; Communicate; Present; Classify; Use algebraic skills and Solve simple problems
Social Studies	15	Introduce; Be aware; Be compassionate and Respect; Habituate; Be encouraged; Identify and Support for solution; Use in daily life; Follow rules; Tell; Describe and Practice; Investigate; Observe
Science and Environment	7	Adopt Scientific methods and processes to get information; Understand importance, Investigate ways and adopt; Tell cause and effects, importance;

It was found that this domain has covered one out of 12 (8.3 %) LGOs mentioned for the subject Nepali; two out of seven (28.6 %) LGOs mentioned for the subject of Science; three out of nine (33.3 %) LGOs mentioned for the subject of Mathematics; and two out of 15 (13.3 %) LGOs mentioned for the subject of Social Studies in Nepal's curriculum.

Of these, LGO of the subject of Nepali with serial number "a2" in Nepal's curriculum was found with some difference in level under the sub-domain of Persistence and attention. The two LGOs of the subject of Science with serial numbers "3" and "2" were found at the level matching and with some differences in the level respectively

under the sub-domain of Knowledge. Of the three LGOs of the subject of Mathematics, two LGOs with serial numbers “8” and “4” were found to be at the level matching under the sub-domain of Comprehension and Application respectively and the remaining one with the serial number “7” was found with some difference in level under the sub-domain of Comprehension as well. And, both of the two LGOs of the subject of Social Studies with serial numbers “6” and “15” were found with some difference in level under the sub-domain of Application and Critical thinking respectively.

Two sub domains, Cooperation and Autonomy of this domain were found to be completely missed in dealing with and have none of the LGOs from any subjects in Nepal’s curriculum covering these sub-domains. Although parts of the LGOs from the subjects of Nepali, Science, Mathematics and Social Studies in Nepal’s curriculum were found to be covered by the description of some of the sub-domains from this domain of Learning approaches and cognition, the important aspects of this domain were still found missing in general in addressing the LGOs of Nepal’s curriculum.

Gap 5: on learning approach and cognition

And so, the descriptions of sub-domains from this domain found not included in the LGOs of Nepal’s curriculum were the competencies related to (i) showing persistence through beginning and completing activities, especially challenging tasks from the sub-domain of Persistence and attention; (ii) interacting in a variety of group settings, both contributing to the task at hand as well as learning from more knowledgeable peers and adults, and engaging in and completing tasks that require more than one person to complete from the sub-domain of Cooperation; (iii) working alone, knowing when and how to seek out resources to complete a task and persisting at that task from the sub-domain of Autonomy; (iv) reasoning or judgment resulting from interpretation, analysis, or inference requiring meta cognition, which refers to one’s knowledge of one’s own cognitive processes (problem solving-strategies, deductions, generalizations, drawing on known facts to generate new knowledge, etc. form the sub-domain of Critical thinking.

6. ⁶Numeracy and mathematics

This domain has three sub-domains, all related to Numeracy and mathematics. And so, it was found to have coverage over the subject of Mathematics only from Nepal’s curriculum. The tables below (Table 8a, 8b and 8c) present the details of the coverage.

⁶ The science of numbers and quantitative languages used universally to represent phenomena observed in the environment

Table 18: Coverage of LGOs of various Subjects in LMTF's Sixth Domain

Domain	Sub-domains	Serial Nos. of LGOs in Nepal's Curriculum matching with the description of LMTF's Sub-domains				Serial Nos. of LGOs not covered by descriptions of LMTF's Sub-domains	
		Level matching	%	With some difference	%	Not covered	%
6. Numeracy and mathematics	1. Number concepts and operations	M 2; M 3	22.2				
	2. Geometry and patterns	M 1	11.1				
	3. Mathematics application	M 6; M 7	22.2	M 5; M 4	22.2	M 9	11.1

Table 19: Action Verbs used in Sub-domains

Domains	Sub-Domains	The Action Verbs used in describing the Sub-domains of a Domain reflecting the Competencies (knowledge, skills, attitudes and values)
6. Numeracy and mathematics	1. Number concepts and operations	Understanding; Knowing to Compute; Four operations - addition, subtraction, multiplication and division
	2. Geometry and patterns	Recognition; Recognition and Development of patterns; Demonstrate mastery; Recognize and Draw
	3. Mathematics application	Application; Operations; Communicate; Interpret; Reason

Table 20: Action Verbs used in, and Number of LGOs in Subject

Subjects	No. of Level-wide General Objectives	The Action Verbs used in defining the Level-wide General Objectives for each subjects reflecting the Competencies in the Primary Level
Mathematics	9	Classify and Name; Investigate; Count, Read, Write, Resolve daily life mathematical problems (add, subtract, multiply, divide); Estimate and Use; Solve general problems; Prepare; Communicate; Present; Classify; Use algebraic skills and Solve simple problems

As the title has implied, this domain was found to be covering seven out of nine (77.8 %) LGOs mentioned for the subject of Mathematics in Nepal's curriculum. Of these, five (55.6 %) LGOs were found to be at the level matching and the remaining two (22.2 %) were found to be with some difference in the level.

Of the five at the level matching, LGOs with serial numbers "2 and "3" were found to be under the sub-domain of Number concepts and operations; serial number "1" under the sub-domain of Geometry and patterns; and serial numbers "6" and "7" were found to be under the sub-domain of Mathematics application. And, of the two with some difference in level, LGOs with the serial numbers "4" and "5" were found to be under the sub-domain of Mathematics application.

The subject of Mathematics in Nepal's curriculum was found to have one (11.1 %) LGO with serial numbers "9" not covered by the descriptions of the LMTF's sub-domain of Mathematics under this domain of Numeracy and mathematics. This LGO in Nepal's curriculum mentions about *solving common problems related to algebraic expressions and equations using skills of Algebra*.

Gap 6: on numeracy and mathematics

The descriptions of sub-domains from this domain found not included in the LGOs of Nepal's curriculum were the competencies related to (i) understanding how numbers are organized in systems (e.g., natural numbers, whole numbers, integers, and rational

numbers), and (ii) knowing how to compute with different number systems with fluency and whether the outcomes of these computations are reasonable from the sub-domain of Number concepts and operations; (ii) recognizing development of patterns and demonstrating mastery of sequencing patterns of numbers, shapes and objects or recognizing and drawing common two- and three-dimensional geometric figures from the sub-domain of Geometry and patterns.

7. ⁷Science and technology

This domain has five sub-domains, all related to Science and technology. And so, it was found to have coverage over the subject of Science only from Nepal's curriculum. The tables below (Table 9a, 9b and 9c) present the details of the coverage.

Table 21: Coverage of LGOs of various Subjects in LMTF's Seventh Domain

Domain	Sub-domains	Serial Nos. of LGOs in Nepal's Curriculum matching with the description of LMTF's Sub-domains				Serial Nos. of LGOs not covered by descriptions of LMTF's Sub-domains	
		Level matching	%	With some difference	%	Not covered	%
7. Science and technology	1. Scientific inquiry	Sc 3	14.3	Sc 1	14.3		
	2. Life science	Sc 2	14.3	Sc 1	14.3		
	3. Physical science	Sc 3	14.3				
	4. Earth science	Sc 5	14.3	SS 11; Sc 4	6.7 14.3	SS 10; Sc 4*	6.7 x
	5. Awareness and use of digital technology	Sc 7	14.3	Sc 6;	14.3		

* *Partially not covered.*

Table 22: Action Verbs used in Sub-domains

Domains	Sub-Domains	The Action Verbs used in describing the Sub-domains of a Domain reflecting the Competencies (knowledge, skills, attitudes and values)
7. Science and technology	1. Scientific inquiry	Ability to ask questions; Identify; Know; Knowledge of basic problem solving (scientific method); Apply
	2. Life science	Describe; Interaction
	3. Physical science	Study (matter, motion, energy – what, how)
	4. Earth science	Study (earth in solar system, geology, oceanography, weather, climate and resources)
	5. Awareness and use of digital technology	Interact (information and communication technologies)

Table 23: Action Verbs used in, and Number of LGOs in Subjects

Subjects	No. of Level-wide General Objectives	The Action Verbs used in defining the Level-wide General Objectives for each subjects reflecting the Competencies in the Primary Level
Social Studies	15	Introduce; Be aware; Be compassionate and Respect; Habituate; Be encouraged; Identify and Support for solution; Use in daily life; Follow rules; Tell; Describe and Practice; Investigate; Observe

⁷ Science is specific knowledge or a body or system of knowledge covering physical laws and general truths. Technology refers to the creation and usage of tools to solve problems.

Science and Environment	7	Adopt Scientific methods and processes to get information; Understand importance, Investigate ways and adopt; Tell cause and effects, importance;
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Although the title of this domain signify the subject of Science, it was found to be covering one (6.7 %) of the LGOs from the subject of Social Studies apart from covering all the seven (100 %) LGOs mentioned for the subject of Science in Nepal's curriculum. Of these, four (57.1 %) LGOs were found to be at the level matching and the remaining three (42.9 %) were found to be with some difference in the level. One (6.7 %) of the LGOs out of 15 from the subject of Social Studies in this domain was found to be with some difference in level under the sub-domain of Earth science.

Of the four LGOs of the subject of Science covered in this domain at the level matching, LGOs with the serial numbers "2", "3", "5", and "7" were found to be under the sub-domains of Life science, Scientific inquiry and Physical science, Earth science and Awareness and use of digital technology. And, of the three LGOs with some difference in level, LGOs with the serial numbers "1", "4", and "6" were found to be under the sub-domains of Scientific inquiry and Life science, Earth science and Awareness and use of digital technology.

The subjects of Science and Social Studies in Nepal's curriculum were found to have one LGO each not covered by the descriptions of the LMTF's sub-domain of Earth science under this domain of Science and technology. The LGO of Science with serial numbers "4" was found to be not covered only partially, and this uncovered partial LGO in Nepal's curriculum mentions about *telling the effects caused by weather on people*. And, the LGO serial number "10" of Social Studies found not covered in Nepal's curriculum mentions about *studying and describing about geographical features of one's surroundings and practice making map*.

Gap 7: on science and technology

The descriptions of sub-domains from this domain found not included in the LGOs of Nepal's curriculum were the competencies related to (i) *studying of oceanography* from the sub-domain of Earth Science; (ii) *access to computers and tablets* from the sub-domain of Awareness and use of digital technology.

TEACHER TRAINING

Under the policy of Teacher Professional Development (TPD), the present teacher training strategy of NCED is demand based. Since the trainings were based on the demands of teachers, no fixed curriculum of any kinds were available for the trainings at NCED. It was so, because the teacher training institutions prepare the training manuals on their own based on the demands of the teachers, which are generally contextual, and deliver the training accordingly. In this context, it was found to be virtually impractical to analyze the present day teacher training modules against the descriptions of the sub-domains of LMTF's domains.

Hence, a more realistic and feasible approach was adopted for the analysis of teacher training. Accordingly, it was decided to choose ten-months teacher training curriculum of previous years (2000-2009) for this purpose. Because, majority of the teachers still continuing in their profession at present were trained through the NCED prepared subject-wide training modules/packages based on that curriculum.

It was found that those training modules/packages NCED had prepared were fully based on the primary level curriculum. Therefore, a rigorous exercise, like the one done for the primary level curriculum analysis was decided not necessary for the teacher training. It was decided so, because it was evident that any gap existed in between the primary level curriculum and LMTF's domains would naturally be the same for the teacher training as well. Nevertheless, the major findings regarding the teacher training packages have been presented below in points:

- As the subjects were found to be spreading over more than one domain, some of the contents of training curriculum were found to be cross cutting ones as well.
- Some of the contents of the training curriculum, being more of the pedagogical nature, were found to be not directly relating to any of the sub-domains of domains as such.
- Some of the contents, being more related to local and national context, were seemingly found to be not relating to the sub-domains of domains concerned. Hence, the training curriculum was found with no coverage of any content relating to global contexts.
- Despite the fact that the primary level curriculum in its scope and sequence table mentioned about introduction of HIV/Aids under communicable diseases, the training curriculum lacks the contents about sexual health, mental health and well-being.
- Literacy and communication domain and its sub-domains were found to be heavily represented relating to English and Nepali languages.

CHAPTER FOUR

Recommendations

LMTF has recommended that education systems around the world should focus to develop competencies across seven domains of learning to prepare children and youths for their future lives and livelihoods.

In order to have our curriculum also at par with the curriculums of other countries should they consider LMTF's recommendations as essential as it is for the rest of the countries, then based on the analysis of Nepal's curriculum carried out against the definitions of the sub-groups of the seven domains provided by LMTF, the following recommendations have been forwarded to take care of during the revision of our curriculum in due course of time.

1. The **Gaps** presented in this report need to be minimized as much as possible taking care of the local/national contexts.
2. Special attention needs to be paid regarding the inclusion of competencies related to Learning approaches and cognition in all the subjects.
3. Level-wide General Objectives need to be more explicitly stated to avoid uncertainty of the range in defining and/or in developing grade-wide learning objectives.
4. Teacher training curriculum needs to be matching with the Level-wide General Objectives/Grade-wide Specific Objectives, if they were to be designed for the purpose of content-based training.

Appendix

Appendix A: Name list of five thematic groups for carrying out gap analysis of primary level curriculum.

S.N	Name of resource person	Organization
1	Diwakar Dhungel (Executive Director as lead)	CDC
2	Mohan Gopal Nyachhyon	Lead consultant
3	Pushpa Raj Dhakal (Curriculum Specialist in Science)	CDC
4	Harish Panta (Curriculum Specialist in Maths)	CDC
5	Hem Raj Khatiwada (Curriculum Specialist in Social Studies)	CDC
6	Rajani Dhimal (Curriculum Specialist in Nepali)	CDC
7	Nim Prakash Singh (Curriculum Specialist in English)	CDC
8	Tukraj Adhikari	CDC
9	Bhojraj Kafle	External consultant
10	Prof. Bholi KC	External consultant
11	Yubaraj Laudari	Samunnat Nepal
12	Paban K Adhikari	Samunnat Nepal
13	Yogesh K Shrestha	Samunnat Nepal
14	Rosy Shakya	Samunnat Nepal

Appendix B: Name list of working groups for carrying out gap analysis of primary level teacher training package

S.N	Name of resource person	Organization
1	Khagaraj Baral (Executive Director as lead)	NCED
2	Mohan Gopal Nyachhyon	Lead consultant
3	Bodh Kumar Khanal (Teacher Training Curriculum Analyst)	NCED
4	Shankar Adhikari (Teacher Training Curriculum Analyst)	NCED
5	Paban K Adhikari	Samunnat Nepal
6	Yuba Raj Laudari	Samunnat Nepal
7	Yogesh K Shrestha	Samunnat Nepal
8	Rosy Shakya	Samunnat Nepal

Appendix C: Domains and Sub-domains of the Global Learning Domains Framework

Domain Stages	Physical well-being	Social and emotional	Culture and the arts	Literacy and communication	Learning approaches and cognition	Numeracy and mathematics	Science and technology
Early Childhood Level	- Physical health and nutrition - Health knowledge and practice - Safety knowledge and practice - Gross, fine, and perceptual motor.	- Self-regulation - Emotional awareness - Self-concept and self-efficacy - Empathy - Social relationships and behaviors - Conflict resolution - Moral values	- Creative arts - Self- and community-identity - Awareness of and respect for diversity	- Receptive language - Expressive language - Vocabulary - Print awareness	- Curiosity and engagement - Persistence and attention - Autonomy and initiative - Cooperation - Creativity - Reasoning and problem solving - Early critical thinking skills - Symbolic representation	- Number sense and operations - Spatial sense and geometry - Patterns and classification - Measurement and comparison	- Inquiry skills - Awareness of the natural and physical world - Technology awareness
Primary Level	- Physical health and hygiene - Food and nutrition - Physical activity - Sexual health	- Social and community values - Civic values - Mental health and well-being	- Creative arts - Cultural knowledge	- Oral fluency - Oral comprehension - Reading fluency - Reading comprehension - Receptive vocabulary - Expressive vocabulary - Written expression/ composition	- Persistence and attention - Cooperation - Autonomy - Knowledge - Comprehension - Application - Critical thinking	- Number concepts and operations - Geometry and patterns - Mathematics application	- Scientific inquiry - Life science - Physical science - Earth science - Awareness and use of digital technology
Post-primary Level	- Health and hygiene - Sexual and reproductive health - Illness and disease prevention	- Social awareness - Leadership - Civic engagement - Positive view of self and others - Resilience/“grit” - Moral and ethical values - Social sciences	- Creative arts - Cultural studies	- Speaking and listening - Writing - Reading	- Collaboration - Self-direction - Learning orientation - Persistence - Problem Solving - Critical decision making - Flexibility - Creativity	- Number - Algebra - Geometry - Everyday calculations - Personal finance - Informed consumer - Data and statistics	- Biology - Chemistry - Physics - Earth science - Scientific approaches - Environmental awareness - Digital learning

Appendix D: Level Wide general objectives (LGOs) in five subjects as per the Primary Education Curriculum

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Subject	Scope	Level Wide general Objectives
1. Maths	Geometry	Classify and name the following objects on the basis of their geometrical features (shape, type, angle, measurement) and also explore other geometrical features with measurements * Solid Objects: sphere, cylinder, cube, cuboid, cone, prism and its parts (side, angle, surfaces, edges.....) * Plane figures: triangle, quadrilateral, parallelogram, square, rectangle, circle.
	Concept of Numbers	2. Count read and write in numerals and words the numbers above one crore in Devnagari and Hindu Arabic numerals and also read the numbers upto 10 lacs (one million) in English. Read and write the numbers 1 to 12 in Roman numerals.
	Basic operation of Mathematics	Solve the mathematical problems of daily life by using addition, subtraction, multiplication and division.
	Time, Currency and measurement	Apply in daily life even by approximation Time, Currency, Measurement (distance, perimeter, capacity, temperature, area and volume) and Weight.
	Fraction, Decimal, Percentage, Unitary Method and Interest	Solve simple problems on fractions, decimals, percentage, unitary method and interest (by unitary method).
	Bill and Budget	Prepare an account of household expenses and income; receive and provide information by reading bills and meter as well.
	Statistics	Receive and provide information by reading graph, chart, table and diagram and present the given information in bar graphs as well.
	Sets	Prepare a list of elements using set notations { } and write them in words and classify objects in sets on the basis of different characteristics.
	Algebra	Solve simple problems on algebraic expressions and equations using algebraic skills.
2. Social Studies and Creative Arts	Social Studies	To give introduction of self, one's family and neighbour 2. To be aware of social evils, untouchably, conservatism etc. 3. To have good faith and respect on practices, costumes, different castes, languages, genders, occupations, religious and fairs and festivals. 4. To show love, reverence and devotion to the nation and to behave according to the norms and values of democracy (Loktantra). 5. To get inspiration from the deeds of local community and famous people of national level and to show respect on them. 6. To identify various social problems and be helpful to solve them. 7. To be aware of human right, child right and one's duties and show it in practical life. 8. To obey social codes and rules. 9. To be able to explain the formation and functions of different local bodies (ward/village development committee/municipality and district development committee) 10. To be able to observe and explain the immediate geographical features and practice on drawing map. 11. To give a short introduction of the earth and to explain the geographical feature of Nepal. 12. To be able to give a short introduction of neighboring countries. 13. To say the historical background of one's community and the country and to explore about the historical facts. 14. To respect work and to form a habit of labor and economy. 15. To observe and explain about the local economic activities and to contribute in them as far as

		possible
	Creative Arts: a. Visual art	To use pencil and eraser properly 2. To make different patterns, shape and faces and color depending on their level 3. To make picture of their choice 4. To express themselves freely
	b. Music	1. To sing solo or in choro in accordance with the beat 2. To introduce/define various instruments and play them 3. To dance solo, in pair or in group 4. To act solo or in group on any plot
3. Science, Health and Physical Education	Science and environment education	Adopt scientific methods and process to obtain knowledge about living beings b) Understand the importance of living and nonliving beings found in the environment and explore and adopt the ways to conserve and make proper use of them c) Adopt simple scientific methods and process to obtain knowledge about matter and energy d) Find out the causes of change in seasons and weather, the change brought about by them on living beings, nonliving things, earth and water and their impact on human beings. e) Obtain basic information about the earth and space f) Have basic knowledge of information technology and describe its importance g) Have basic information of local technology and describe its importance
	Health Education	a. Do personal cleanliness with positive attitude of personal hygiene b. Carry out environmental sanitation to keep the hygienic environment of home, school and community c. Adopt preventive measures to keep oneself safe from communicable diseases d. Form the habit of selecting nutritious food from various foodstuff e. Adopt safety measures in accomplishing daily work f. Utilize health services available in the community g. Keep oneself away from narcotic drugs and smoking with a realization of their bad effects.
	Physical Education	Demonstrate the basic skills of physical education b. Demonstrate PT and Drill in rhythm in groups c. Play minor and local games d. Perform creative and imitative actions based on stories and animals e. Throw, catch and pass a ball, and play common ball games. f. Perform simple gymnastic activities like lying down, suspending and balancing
4. English	Listening, speaking, reading and writing	to give pupils ample exposure to the English language so that they can understand and respond in simple English with acceptable pronunciation and intonation, f to provide them with the opportunities to practice their English in and outside the classroom, so that they can communicate in simple English, f to help them develop enthusiasm for reading so that they will be responsive and knowledgeable readers, f to help them develop their potentialities in writing so that they can be creative writers, and f to develop a positive attitude towards learning English and build up confidence in using English.
5. Nepali	नुनाइ िप	विभिन्न प्रकारका निर्देशनहरू ुनेर ोहीअनु ार गर्न । - कुनै विषयवस्तुको वर्णन, छलफल आदि ध्यानपूर्वक ुनेर तिनको अर्थ र आशय बुझी प्रतिक्रिया जनाउन । - बालकथा, गीत, कविता आदि आनन्द लिने गरी ुन्न ।
	बोलाइ िप	शब्दहरू शुद्ध र स्पष्ट “ग उच्चारण गरी स्वाभाविक गतिका ाथ बोल्न । - देखे ुनेका र अनुभव गरेका कुरा ि ली ला मिलाई बताउन । ना कुरा धक नमानी शिष्ट ढङ्गले राख्न ।□- कुराकानी, छलफल आदिमा आ
	पढाइ िप	नेपाली भाषामा लेखिएका रल पाठ्य ामग्रीहरू गति र यति मिलाई स्पष्ट रूपमा पढ्न । - ाना ूचना विवरण पढेर आशय बुझ्न । - रल बाल ाहित्यका रचनाहरू रुचि लिई पढ्न ।
	लेखाइ िप	ठीक दुरीमा बान्की मिलाएर अक्षर लेख्न । - देखे ुनेका र अनुभव गरेका कुराहरू ि ली ला मिलाएर शुद्ध “ग लेख्न । नो अनुभवका ेरोफेरोका विषयमा छोटो लिखित रचना तयार गर्न ।□- आ

Appendix E: Tool for curriculum analysis

Domains	Sub-Domains	Description of Sub-domains	LGOs in Nepal's Curriculum matching with the description of Sub-domains of LTMF		Level of Difference (behavioral verbs/terms) in between LGO and LTMF	Descriptions of Sub-domains not included in LGOs	LGOs not covered by descriptions of Sub-domains of LTMF
			Exactly	Some Difference			
1. Physical well-being	1. Physical health and hygiene	1. Understanding how disease is acquired is important at this level. Children learn how to prevent infectious diseases through hygiene, water and sanitation practices and noninfectious diseases through health and behavioral choices.					
	2. Food and nutrition	2. Outcomes for food and nutrition can vary widely by context. This domain involves recognizing how food has an impact on mind and body functions. In some contexts the focus is on making sure children get enough nutrients, while in others the focus is on eating the right amount of food to maintain a healthy weight.					
	3. Physical activity	3. Physical activity includes exercise and developing individual talents through sports and games.					
	4. Sexual health	4. Sexual health at the primary level varies by context, but includes understanding basic concepts of human reproduction.					
2. Social and emotional	1. Social and community values	1. Social and community values refers to knowledge and use of life skills, including communication, decision making, assertiveness, peer resistance, self-awareness, negotiation, friendship, self-esteem, advocacy for					

		inclusiveness and nondiscrimination, and emotional intelligence.					
	2. Civic values	2. Civic values refers to knowledge and understanding of social and political concepts, such as democracy, justice, equality and citizenship. It may also include the ability to defend respect for rules and guidelines and propose modification appropriate to contexts in school, home and community.					
	3. Mental health and well-being	3. Children develop positive coping mechanisms to respond to traumas and other negative environmental factors.					
3. Culture and the arts	1. Creative arts	1. Develop an understanding of different artistic processes, and learn how to create, perform, respond to, or evaluate works in one or more artistic forms: dance, music, theater, visual or media arts. Learn how to apply artistic processes to other areas of their learning and development, such as language development, math, science or critical thinking.					
	2. Cultural knowledge	2. Increase knowledge of other cultures, as well as one's own culture, and develop an appreciation of the similarities and differences that exist between oneself and other cultures and how to respect, honor and live peacefully with others from diverse backgrounds					
4. Literacy and communication	1. Oral fluency	1. Oral fluency is the extent to which a child speaks in the language(s) used in his/her environment.					

	2. Oral comprehension	2. Oral comprehension the extent to which a child understands the language(s) used in his/her environment.					
	3. Reading fluency	3. Reading fluency refers to how easily a child can read, it includes speed, accuracy, and prosody (expression). It is sometimes measured by calculating the speed and accuracy with which a child reads. In order to read fluently children use strategies when encountering new words including decoding (in alphabetic languages), knowledge of word parts (such as prefixes and suffixes in Bahasa Indonesia and English, or characters in Chinese), context clues, and background knowledge.					
	4. Reading comprehension	4. Reading comprehension refers to how well a child understands what he or she is reading, sometimes measured by answering questions about a passage of text or retelling.					
	5. Receptive vocabulary	5. Receptive vocabulary describes the words a child knows well enough to understand when reading or hearing them.					
	6. Expressive vocabulary	6. Expressive vocabulary describes the words a child knows well enough to feel comfortable using when speaking or writing.					
	7. Written expression/ composition	7. Written expression and composition refers to how a child captures ideas through writing. Students may initially focus on producing the written symbols of the language (handwriting) and writing simple original texts and progress to writing for a					

		variety of purposes (e.g., fiction, non-fiction)					
5. Learning approaches and cognition	1. Persistence and attention	1. Children show persistence through beginning and completing activities, especially challenging tasks. Skills related to studying can fall under this category.					
	2. Cooperation	2. Children interact in a variety of group settings, both contributing to the task at hand as well as learning from more knowledgeable peers and adults. It involves engaging in and completing tasks that require more than one person to complete.					
	3. Autonomy	3. Abilities related to working alone, knowing when and how to seek out resources to complete a task and persisting at that task.					
	4. Knowledge	4. Includes factual, procedural and conceptual knowledge. Children recall previously learned facts, problem-solving procedures and draw on their conceptual understanding of a problem or topic. This knowledge serves as a foundation for more conceptually complex problem-solving tasks.					
	5. Comprehension	5. Children construct meaning from data and material, including interpreting, classifying, summarizing and comparing.					
	6. Application	6. Children apply prior knowledge to solve new and/or challenging problems.					
	7. Critical thinking	7. Reasoning or judgment resulting from interpretation, analysis, or inference. Requires metacognition, which refers to one's knowledge of one's own cognitive processes (problem solving-strategies, deductions, generalizations,					

		drawing on known facts to generate new knowledge, etc.).					
6. Numeracy and mathematics	1. Number concepts and operations	1. This subdomain focuses on numbers and number systems. Mastery of this subdomain refers to understanding how numbers work to represent magnitude, that they can be ordered and counted, and that numbers are organized in systems (e.g., natural numbers, whole numbers, integers, and rational numbers). This subdomain also involves knowing how to compute with different number systems with fluency and whether the outcomes of these computations are reasonable. The four operations (addition, subtraction, multiplication and division) are emphasized in this subdomain.					
	2. Geometry and patterns	2. This subdomain focuses on the recognition of geometric shapes and on the recognition and development of patterns. For example, children may demonstrate mastery of sequencing patterns of numbers, shapes and objects or recognize and draw common two- and three-dimensional geometric figures.					
	3. Mathematics application	3. This subdomain focuses on application of number knowledge and operations to solve problems across a range of content domains. In addition, mastery in this subdomain requires that students be able to communicate their understanding of problems, interpret data and data					

		displays, and reason in problem solving.					
7. Science and technology	1. Scientific inquiry	1. Ability to ask questions, identify what knowledge is lacking and know how to acquire it. This includes knowledge of basic problem solving perspectives of science (including the scientific method) and the ways they can be applied.					
	2. Life science	2. Describes the study of living things, life cycles, reproduction, heredity and interaction. Life science also covers interaction with the environment and ecosystems. Health is commonly included in life science.					
	3. Physical science	3. Includes the domains of matter, motion and energy. Physical science is the study of what things are made of, how they interact with one another and how energy may move from place to place.					
	4. Earth science	4. The study of the earth in the solar system, geology, oceanography, weather and climate and resources.					
	5. Awareness and use of digital technology	5. Digital technology refers to the variety of ways children interact with available information and communication technologies. At the primary level, children may have access to cellular telephones, computers, tablets, etc.					

Appendix F: Tool used for Teacher Training package - Analysis of Learning Outcomes of Nepal's Training Curriculum (Primary Level, I-V) against LMTF's Global Learning Domains Framework

Domain	Sub-domain	Provision in Nepal's Training Curriculum (Primary Level, I-V)
1. Physical Well-being	1. Physical health and hygiene	Need of cleaning the body and its parts (such as hair, nose, eye, teeth, tongue, fingers) Methods of cleaning (bathing, cutting nails, brushing teeth) Types of communicable diseases (common cold, dysentery, diarrhea, worms, chicken pox, tuberculosis, typhoid, jaundice, aids) and preventive measures (immunization: DPT, Polio, BCG, Hepatitis-B, use of boiled water) Prevention of drug abuse, smoking, drinking Developing habits of cleanliness among the students Safety measures
	2. Food and Nutrition	Importance of Balanced Diet (types of food, contents/elements of balanced diet, hygienic ways of preservation of food) Concept of food habit
	3. Physical activity	Basic skills of physical education (balance, walking, running, jumping, hopping, stretching, flexibility) PE games Skill involving activities in static condition (move, bend, pull, push, balancing, rolling, headstand) PT and games
	4. Sexual health	-----
2. Social and emotional	1. Social and Community values	Concept of home and role and responsibilities of a family member
	2. Civic values	Heritage and their protection Prevention of gambling
	3. Mental health and well-being	-----
3. Culture and the arts	1. Creative arts	Clay work Songs, games, movement Printing work Drawing match-stick Singing, dancing, handicraft (mosaics, origami)
	2. Cultural Knowledge	National festivals and heritage and their protection
4. Literacy and communication	1. Oral fluency	Development of listening skill Development of speaking skill Teaching pronunciation Story telling Rhythmic activities

	2. Oral comprehension	Guessing games Story games Action games
	3. Reading fluency	Teaching pronunciation Teaching poem Teaching story Teaching essay Teaching biography Teaching loud reading Drills Stress and intonation Listening, speaking and singing with movement Recognition and reading based on visual and auditory
	4. Reading comprehension	Teaching poem Teaching story Teaching essay Teaching biography Reading of texts Teaching comprehension Read and point
	5. Receptive vocabulary	Teaching vocabulary Vocabulary and use of word class Types of vocabulary Aspects of vocabulary Presentation of vocabulary
	6. Expressive vocabulary	
	7. Written expression/composition	Techniques of teaching letter writing Teaching of writing common documents Practice of writing skill Alphabet writing Different writing exercises Stages of writing Teaching writing
5. Learning approaches and cognition	1. Persistence and attention	Action game Listen and do
	2. Cooperation	Strategies of learning (Cooperative learning) Personal behaviour favourable to the class (be as a friend and helper of the students) Planning and application of cooperative learning
	3. Autonomy	Strategies of learning (individualistic learning, competitive learning) Project work/field work report preparation and presentation Material collection by the students

	4. Knowledge	Learning through sense Concept formation
	5. Comprehension	Reading comprehension Concept formation Story telling Report writing
	6. Application	Transfer of learning (type and significance of transfer of learning)
	7. Critical thinking	Personal behavior favorable to the class (logical and systematic expression, be innovative and use initiative) Problem solving
6. Numeracy and mathematics	1. Number concepts and operations	Number and numerals Basic operations Simple practical problems on basic operations Number counting and recognition Addition and subtraction (problem solving and concept formation)
	2. Geometry and patterns	Identification and distinction of geometric figures (Plain figures: triangle, square, rectangle, circle & Solids: sphere, cylinder, cube, cuboids, cone, prism)
	3. Mathematics application	Graphs and charts (application)
7. Science and technology	1. Scientific inquiry	Exploration
	2. Life science	Classification of living beings Ecological system Planting and caring of trees/plants Maintaining clean environment Help provided by plants to the human beings
	3. Physical science	Concept of heat and its effect
	4. Earth science	Natural calamities Energy around us Role of plants and animals for balancing eco-system in environment
	5. Awareness and use of digital technology	Demonstration of modern technology to identify its role for development (radio, telephone, television, e-mail, internet, fax, computer)

Appendix G: List of References

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