

Annex A – Workshop Information Note

AsCAP Training on Use of the DCP Pavement Design Method for Low Volume Sealed Roads Information to All Delegates

1. Aims and Objectives of Training Programme

The overall aim of the training programme is to expose delegates from AsCAP countries (Afghanistan, Bangladesh, Myanmar, Nepal and Pakistan – approximately 30 in all) to the use of the DCP Pavement Design Method for low volume sealed roads to enable them to apply this innovative design methodology cost-effectively in their respective countries.

2. Date, Venue and Programme

The training programme will take place from Monday 28 May – Saturday 02 June, 2018. There will be a field visit on Wednesday 30 May, 2018 to an on-going low volume road project in Nagargot which is located in the outskirts of Kathmandu. The programme will end at lunch time on Saturday, 02 June, 2018. Delegates will return to their countries on Sunday 03 June, 2018.

The venue for the training programme is the Summit Hotel, Kupondele Height, Lalitpur, Kathmandu.

The training programme is provided in Annex A of this Information Note.

3. Arrival Logistics

All delegates have been provided with air tickets from their respective countries to Kathmandu, Nepal, as well as Letters of Invitation to Nepal from the host organization in Nepal, DoLIDAR (Department of Local Infrastructure Development and Agricultural Roads). These letters are to facilitate the granting of a visa by the immigration authorities at Kathmandu Airport. The delegates from Afghanistan will be getting their visas from the Nepal Embassy in Delhi, before flying to Kathmandu. All delegates will be met on arrival by the workshop logistics organizer in Kathmandu by way of a poster with their name on it. Transport will be provided to take all delegates to the Summit Hotel.

4. Accommodation, Meals and Per Diems

Accommodation has been reserved for all the delegates, except those from Nepal, at the Summit Hotel. Breakfast and lunch will be provided for all delegates. A per diem will be provided on arrival in Kathmandu to cover evening meals and incidental expenses.

5. Download of AfCAP DCP Software

All delegates are required to bring their laptop computers to the training programme where they will be used during the training. In addition, all delegates are requested to download the AfCAP DCP software as follows:

- (1) Insert www.afcap.org in your internet browser. This will take you to a webpage entitled: Research for Community Access Partnership – Home
- (2) Navigate to the *Resources* tab > Low Volume Roads DCP Software
- (3) Press the link AfCAP Low Volume Roads DCP Software
- (4) Go to the right-hand column of the page and press Download your copy of the LVR DCP software.
- (5) Fill out the online registration form **here** (press *here*)

- (6) Fill out the LVR DCP software access request form
- (7) Save the information provided and submit your request. You should receive notification of your request in 2 – 3 days from ReCAP and then you will be able to download the software to your computer.

Note: If you have problems downloading the LVR DCP software, do not worry. We will provide you with a copy at the workshop.

6. Country Delegate Brief on Low Volume Roads

You will note from the programme that during the first session we are anticipating that a representative delegate from each country will make a brief (10 minutes) presentation, preferably by PowerPoint, on basic information pertaining to low volume roads in their country in terms of the following:

- The size of the low volume rural road network
- The percentage of paved and unpaved low volume rural roads
- The design method used for paved low volume rural roads
- The major challenges/concerns faced in providing low volume rural roads
- If possible, the outline details of a typical low volume road design in terms of:
 - Design traffic loading
 - Pavement structure in terms of the thickness of the pavement layers (base, subbase) and subgrade, and the quality of the materials used (strength/CBR, plasticity, grading, etc.).
 - Any concerns, if any, regarding the current methods of design use.

The above information will be very informative in our discussions regarding appropriate methods used for designing low volume, rural roads in relation to the DCP-DN method.

7. Useful Telephone Numbers

In case you need assistance of anything pertaining to your travel to Kathmandu, you should call the following numbers:

- (1) Dekesh Maharjan – Workshop logistics manager
Contact Dekesh for all matters related to your air travel and visa issues on arrival.
- (2) Summit Hotel – Venue for accommodation and holding of the workshop
Contact the hotel receptionist:

On behalf of ReCAP, we look forward to welcoming you all to what we hope will be a stimulating and useful training programme in the cost-effective use of the DCP for the design of low volume roads.



Mike Pinard
Lead Trainer

Annex B – Workshop Programme

AsCAP DCP-DN Training, Kathmandu, Nepal						
Outline Classroom Training Programme: Monday 28 May – Saturday 02 June 2018						
Date		Tuesday 29 May	Wednesday 30 May	Thursday 31 May	Friday 01 June	Saturday 02 June
Session No.	Monday 28 May					
Session 1: 08.30 – 10.00	Preliminaries <ul style="list-style-type: none"> Welcome remarks (DoLIDAR) Opening statement (ReCAP) Delegate introductions Country LVR briefs Course overview 	Materials <ul style="list-style-type: none"> Construction Materials Materials Testing Surfacing Discussion 	Field Trip	AfCAP LVR DCP Software <ul style="list-style-type: none"> Demonstration of Features <ul style="list-style-type: none"> Create project Data entry Data saving Discussion 	DCP Lab Testing <ul style="list-style-type: none"> DCP testing demo Analysis of results <ul style="list-style-type: none"> Use of DCP software Interpretation of outputs Discussion 	Assessment Review <ul style="list-style-type: none"> Review and discussion of exercise assessment
	Break 10.00 – 10.30	Break 10.00 – 10.30	<ul style="list-style-type: none"> Visit DoLIDAR road project under construction in Nagarkot. Demonstration of DCP In-situ strength measurement Lunch at Hotel Country Villa, Nagarkot Inspection of DoLIDAR road project Return to hotel 	Break 10.00 – 10.30		
Session 2 10.30 – 12.00	LVRs in Perspective (Cont'd) <ul style="list-style-type: none"> Motivation for LVRs Characteristics of LVRs Site Investigations Discussion 	Practical Considerations <ul style="list-style-type: none"> Drainage Pavement Cross-Section Pavement Selection (LCC) Discussion 			AfCAP LVR DCP Software (Cont'd) <ul style="list-style-type: none"> Data Analysis & Pav Design <ul style="list-style-type: none"> Single point analysis Average analysis Data transfer to Excel Discussion 	DCP Design Example <ul style="list-style-type: none"> Guided design example
	Lunch: 12.00 – 13.00	Lunch: 12.00 – 13.00	Lunch: 12.00 – 13.00			
Session 3 13.00 – 14.30	LVRs in Perspective (Cont'd) <ul style="list-style-type: none"> Traffic Geometric Design Road Safety Discussion 	Construction Issues <ul style="list-style-type: none"> Compaction and QC Borrow Pit Management Technical Auditing Discussion 		AfCAP LVR DCP Software (Cont'd) <ul style="list-style-type: none"> Data Analysis & Pav Design <ul style="list-style-type: none"> CUSUM analysis Create CUSUM graph Determine uniform sections Ave analysis uniform sections Discussion 	DCP Design Example (Cont'd) <ul style="list-style-type: none"> Guided design example 	Free
	Break 14.30 – 15.00	Break 14.30 – 15.00	Break 14.30 – 15.00			
Session 4 15.00 – 16.30	Pavement Design - General <ul style="list-style-type: none"> Design Principles LVR Design Methods EOD Approach Discussion 	Pavement Design - DCP <ul style="list-style-type: none"> DCP-DN Design Method <ul style="list-style-type: none"> Development Design Concepts Design Procedure Pavement Balance Discussion 		AfCAP LVR DCP Software (Cont'd) <ul style="list-style-type: none"> Upgrading requirements Risk factors Implementation & Sustainability Discussion 	DCP Design Example (Cont'd) <ul style="list-style-type: none"> Guided design example 	
						Delegates overnight assessment exercise

Annex C – List of Workshop Delegates

Afghanistan	
Name	Designation
1. Abdul Bari Rahimi	Director for Afghanistan Technical Vocational Institute
2. Atta Mohammad Halimi	Road Design Engineer
3. Hayat Ullah Ghaznawi	Road and Bridge Design Engineer
4. Sayed Shah Jan Sadiqi	Regional Manager
5. Arsallah Majedi	Chief quality control Engineer
Bangladesh	
Name	Designation
6. Sharmin Jebin (Ms)	Assistant Engineer (Design), LGED
7. MD Abdul Basir	Sr. Assistant Engineer (Road Constr & Supervision), LGED.
8. MD Shahidul Islam	Assistant Engineer (Design), LGED.
9. MD Rezaul Islam	Assistant Engineer (Road Constr & Supervision), LGED.
10. Partho Kumar Sarkar	Assistant Engineer (Quality Control), LGED
11. MD Tarikuzzaman	Executive Engineer (Quality Control), LGED
12. MD Shazzad Hossain	Assistant Engineer (Road Maintenance), LGED.
Myanmar	
Name	Designation
13. Daw Wutt Hmone Win (Ms)	Deputy Director, DRRD
14. Daw Yuzana Aung (Ms)	Assistant Engineer, DRRD
15. Kyaw Min Naung	Sub-Assistant Engineer, DRRD
16. Daw Hnin Pwint Wai (Ms)	Sub-Assistant Engineer, DRRD
17. Hein Lin Zaw	Sub-Assistant Engineer, DRRD
18. DawThae Zarchi Win (Ms)	Sub-Assistant Engineer , DRRD
Nepal Delegates	
Name	Designation
19. Krishna Bahadur Katwal	Senior Divisional Engineer, DoLIDAR
20. Shradha Poudyal (Ms)	Engineer, DoLIDAR
21. Kali Bahadur Shahi	Engineer, DoLIDAR
22. Rupak Acharya	Engineer, DoLIDAR
23. Anil Marsani	Engineer and Program Coordinator for MSc Transp. Eng. Inst. Pulchok Campus, Lalitpur
24. Sachit Singh Shahi	Material and Geotechnical Engineer, Viswa Consult Pvt. Ltd., Kathmandu
25. Sachin Shrestha	Engineer, Dept. of Roads
Pakistan Delegates	
Name	Designation
26. Muhammad Burhan Sharif	Associate Prof. Civil Eng Dept,UET, Lahore.
27. Somia Mubarak (Ms)	Asst. Design Engr. Irrigation Dept, Govt of the Punjab, Lahore
28. Muhammad Iftikhar Rasool	General Manager Engineering, Punjab Municipal Development Fund Company, Lahore Pakistan
29. Saadat Rashid	Asst. Director Design, Planning and Design Directorate (Building), Lahore.
30. Sehrish Mazari (Ms)	Section Officer Ministry of Communications, Govt of Pakistan Islamabad

Annex D – Workshop Opening Remarks by Acting Director General, DoLIDAR DoLIDAR, Ram Krishna Shrestha

Master of Ceremonies
Delegates from AsCAP Countries

Good morning to you all.

It is my pleasure to welcome you all to Kathmandu, the capital of the mountain kingdom of Nepal noted for having the highest mountain in the world, the highest lake in the world and the highest concentration of world heritage sites in the world!

I am happy to welcome our colleagues from Afghanistan, Bangladesh, Myanmar and Pakistan who have all come here with one common objective – to learn about developments in low volume roads technology in the context of the environmentally optimized design of rural roads in which the key focus will be on the use of the Dynamic Cone Penetrometer (DCP) method of pavement design.

At the outset, we also acknowledge the support provided by ReCAP in holding this workshop. ReCAP is a research programme funded by UK Aid, with the aim of promoting safe and sustainable transport for rural communities in Africa and Asia. ReCAP supports knowledge sharing between participating countries in order to enhance the uptake of low cost, proven solutions for rural access that maximise the use of local resources.

Like all countries in Asia, Nepal views rural roads as a key component of rural development. The importance of such roads extends to all aspects of development of rural communities, including demand for and access to health, education, information, etc. More than 95% of people in rural area get their livelihood by agriculture. Therefore, the development of rural infrastructure, particularly roads, has a significant impact on the rural livelihood. Not surprisingly, our community leaders invariably list reliable roads as a top priority.

As we all know, without reliable access to markets and productive resources, economic development stagnates and poverty reduction cannot be sustained. Thus, it is crucially important for us to ensure that we use our scarce resources to, as far as possible, provide such roads in the most cost-effective manner.

The rugged terrain of Nepal poses formidable natural obstacles to road construction. Even where roads are built, they are barely operable during the rainy season. Though connectivity has improved significantly in the past few years, there is still a long way to go.

We have often debated amongst ourselves as to what standard and technology are suitable for rural road development in Nepal. The history of development of road technology has tended to be viewed in the concept of highways. However, it is becoming increasingly apparent that the approach to the provision of low volume rural roads is quite different to that for main roads. This requires the adoption of appropriate standards, materials specifications and design methods for our low volume roads.

Due to the three-months of excessive rainfall in Nepal, our unpaved rural roads have proven to be very unpredictable in delivering effective transport services. There is therefore a need to explore and apply low cost solutions to upgrade our unpaved roads to a sealed road standard in the most cost-effective manner. It is therefore my hope that this is one area that we hope the workshop will focus on in terms of suggesting proven methods of low volume road design and construction.

As I understand it from the programme, the objective of the workshop is to expose delegates to the latest developments in rural roads technology with the aim of making rural road design more cost-effective than the more traditional methods which often apply inappropriate standards and specifications that are more suited to more heavily trafficked main roads.

I see from the programme that there will be a visit to an on-going DoLIDAR project in Nagarkot where you will see typical challenges that we face in providing rural roads in terms of slope instability, landslides and erosion problems. Enjoy the visit which will also provide an opportunity for you to see the majestic beauty of our country.

In conclusion, I wish you well in your deliberations during the workshop. I would urge all delegates to participate actively in the workshop discussions and to share their experiences from their countries in terms of good practice examples from which we can all learn and benefit.