

**MINISTRY OF COMMUNICATION TRANSPORT AND
CONSTRUCTION**

**MAINSTREAMING APPROPRIATE LOCAL ROAD
STANDARDS AND SPECIFICATIONS AND
DEVELOPING A STRATEGY FOR THE MCTPC
RESEARCH CAPACITY**

**PROGRESS REPORT 2
March 2007**

SEACAP 03

UNPUBLISHED PROJECT REPORT



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**Prepared for: Project Record: SEACAP 03. Mainstreaming Appropriate Local
Road Standards and developing a Strategy for the
MCTPC Research Capacity**

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ABBREVIATIONS & ACRONYMS

ACCESS	Microsoft database software
ADT	Average Daily Traffic
ASEAN	Association of South East Asian Nations
BRC	Bamboo Reinforced Concrete
CAFEO	Conference of ASEAN Federation of Engineering Organisations
CBR	California Bearing Ratio
CNCTP	Cambodia National Community of Transport Practitioners
CSA	Crushed Stone Aggregate
CSIR	Council for Scientific and Industrial Research (South Africa)
DBM	Dry Bound Macadam
DBST	Double Bituminous Surface Treatment
DCP	Dynamic Cone Penetrometer
DFID	Department for International Development
DoR	Department of Roads
EDCs	Economically emerging and Developing Countries
ENS	Engineered Natural Surface
esa	equivalent standard axles
EXCEL	Microsoft spreadsheet software
FHWA	Federal Highways Association (US)
FM	Fines Modulus
FWD	Falling Weight Deflectometer
GMSARN	Greater Mekong Sub-region Academic and Research Network
gTKP	global Transport Knowledge Partnership
HDM4	Highway Development and Management Model
HQ	Headquarters
IFG	International Focus Group
IFRTD	International Forum for Rural Transport Development
ILO	International Labour Organisation
IRF	International Road Federation
IRI	International Roughness Index
ITS	Indirect Tensile Strength
Km	kilometre
LCS	Low Cost Surfacing
LRD	Local Roads Division (DoR)
LRSP	Lao Swedish Road Sector Project
m	metre(s)

MCTPC	Ministry of Communication Transport and Construction
mm	Millimetre(s)
MERLIN	M achine for E valuating R oughness using L ow-cost I Nstrumentation
MPa	Mega pascals
NUL	National University of Laos
OM	Operations Manual
ORN	Overseas Road Note
PCU	Passenger Car Unit
Pen Mac	Penetration Macadam
PIARC	World Road Association
PTD	Planning and Technical Division (DoR)
QA	Quality Assurance
RED	Roads Economic Decision Model
Ref.	Reference
RRGAP	Rural Road Gravel Assessment Programme (Vietnam)
RRSR	Rural Road Surfacing Research (Vietnam)
RRST	Rural Road Surfacing Trials (Vietnam)
RTU	Rural Transport Unit
RT1	Rural Transport 1 st Project, Vietnam
RT2	Rural Transport 2 nd Project, Vietnam
RT3	Rural Transport 3 rd Project, Vietnam
SBST	Single Bituminous Surface Treatment
SDC	Swiss Development Cooperation
SEACAP	South East Asia Community Access Programme
SIDA	Swedish International Developments Cooperation Agency
SOE	State Owned Enterprise
TRL	Transport Research Laboratory
UCS	Unconfined Compression Strength
UK	United Kingdom
UNOPS	United Nations Office for Project Services
VN	Vietnam
VOCs	Vehicle Operating Costs
VPD	Vehicles per day
WAN	Wide Area Network
WBM	Water Bound Macadam
WLC	Whole Life Costs

1 Introduction

1.1 General

The SECAP 3 project is part of the wider South East Asia Community Access Programme (SEACAP), whose strategic theme is 'livelihoods of poor and vulnerable people in SE Asia improved sustainability'. SEACAP 3 will contribute to this overall objective through the development and mainstreaming of local resource-based standards for low volume rural roads. The project seeks to achieve three key outcomes:

Mainstream appropriate local road standards and specifications into the national road programme..

Develop an affordable and sustainable strategy for attaining the necessary road (all road categories) research capacity

Increase the awareness of good practice experience from this project by disseminating the outcomes at the national, sub-regional and international levels.

This report outlines the work undertaken on the SEACAP 3 project during March 2007; presents a summary of staff resources used and outlines the anticipated programme for the coming month.

1.2 Contractual Arrangements

The Agreements for the project to be undertaken was established under a Memorandum of Understanding (MoU) between the Ministry of Communication, Transport, Post and Construction (MCTPC) on behalf of the Government of Lao PDR and the Department for International Development (DfID), UK. The MoU defines The scope of the project, that it will be undertaken by TRL Limited as the Consultant and implemented under Terms of Reference, and that the Consultant will be appointed by DfID. The MoU also expresses certain Exemptions and Facilities to be provided by MCTPC to the Consultant to facilitate implementation of the project. The MoU was signed on the 16th of October 2006.

Thereafter, TRL provided a comprehensive technical proposal and a financial proposal for carrying out the project to DfID and subsequently entered into a contractual arrangement with DfID. TRL were appointed on 21st of November 2006. The duration of the project is 12 calendar months.

TRL is supported in its undertaking of the project by associate firms and by competent and experienced individual consultants. The principal associate firm is Lao Technical Engineering Consultants (LTEC) who are providing comprehensive local consulting services.

TRL have entered into a contractual agreement with LTEC to provide a total of 68 person months of services over the duration of the project. Forty-Eight (44) person months are for engineering and translation services and 24 person months are for administrative, secretarial and coordination services.

The other associate firm is Intech Associates consulting engineers who have worked extensively with TRL on other SEACAP projects in the region. Intech will provide a short-tem specialist role on this project similar to that to be provided by the individual consultants.

2 Work Undertaken

2.1 General

The following sections summarise the work undertaken on SEACAP 3 during March 2007. During this month a number of meetings were attended with stakeholders; these are listed in Table.1. Progress on individual Modules is summarised in Table 2.

2.2 Inception Report and Workshop

The SEACAP 3 Inception Report was completed in draft form on 9th March and circulated to the SEACAP Coordination Committee (SCC) for comment. The Inception Workshop, held on 19th March, was attended by the SCC and other representatives from the MCTPC, SIDA and SEACAP.

The presentation by Dr Cook (TRL) is included in Appendix A together with key points from the discussion. The principles of the Inception Report, as presented, were approved in general terms by the Workshop participants.

2.3 Task Group 1

The document and information review process continued with an increasing emphasis on the collation of information into summary tables, such as

1. A matrix of regional and international LVRR classifications and their key classification points.
2. A summary LVRR technical pavement specifications from the SEACAPs together with references to where they have been trialled or mainstreamed
3. A listing of available Lao technical pavements specifications and where used.

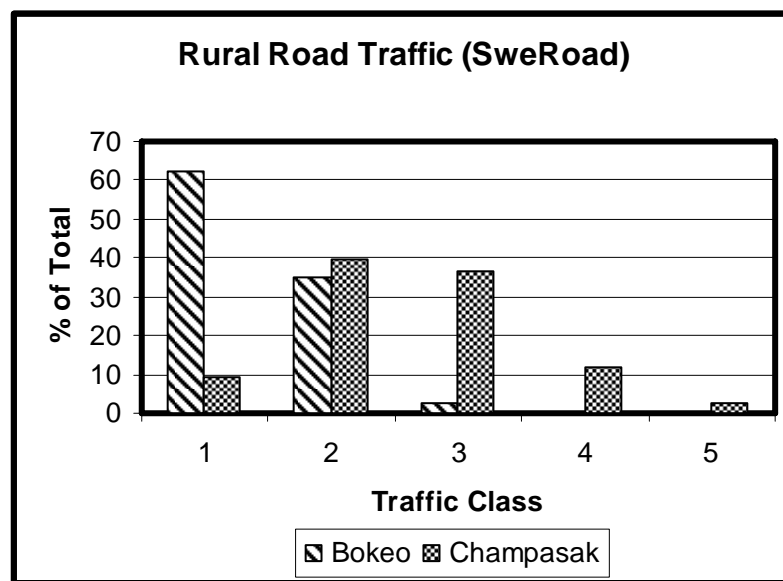
The LSRSP PRoMMS database was identified as containing potentially very useful data on traffic, road type, condition, terrain and economic activity. Figure 1 presents an example of the type of traffic data that can be extracted.

2.4 Task Group 3

Some key points have emerged following meetings with the representatives of the NUoL and the DoR

1. Although there has been a Research and Development (R&D) unit within DoR, it undertakes very little work at the moment.
2. DoR view is that PTD should be involved in any research development programme in order to ensure its practical nature.
3. The DoR is initially supportive of a suggestion that PDT could fill a “Research Manager” role with responsibilities for initiation, general management and application/dissemination of research programmes, whilst actual research studies could be undertaken by a body like the NUoL.
4. In the past the MCTPC Minister has expressed a wish for some form of Technical and Research organisation within MCTPC.

5. The Civil Engineering Department of the NUoL has research interests/capacity in geotechnics; structures and construction materials, with a particular interest in the use of local materials in road construction.
6. The Civil Engineering Department of the NUoL has 20 academic staff, of whom 8-9 have some research experience; it also has a geotechnical laboratory and some field equipment such as DCPs and some shallow boring equipment.
7. There could be role for final year students getting involved in small sub-projects as part of their final year thesis.
8. The Civil Engineering Dept of NUoL would have no problem with working under some form of DoR “Research Management”



Traffic Class		
Code	Description	Definition
1	Very Light	< 20 VPD; No heavy trucks
2	Light	20-50 VPD (1-4 heavy trucks)
3	Moderate	50-150 VPD (5-10 heavy trucks)
4	Heavy	150-500 VPD (10-100 heavy trucks)
5	Very Heavy	500 VPD (>100 heavy trucks)

Figure 1 Comparison to Two Sets of Traffic Data from PRoMMs 2006

2.5 Other Project-Related Activities

A concept note was drafted on potential SEACAP 3 contribution to proposed SIDA-SEACAP cooperation on basic access. This was discussed in general terms with LRD. The Concept Note is attached as Appendix B

Support in the form of advice and a technical briefing was given to the SEACAP 17- DoR mission to visit SEACAP 1 monitoring in Ha Tinh province, Vietnam.

Date	Organisation	Key Personnel	Comment
5/03	LRD/DoR	Sengarith Kattignasack	Inception phase progress
12/03	PDT/DoR	Ounheuang Siriamphone	Task Group 3: Research capacity strategy
12/03	NUoL	Nhinxay Visane	Task Group 3: Research capacity strategy
13-14/03	KfW/MCTPC	Peter Rooney	KfW-GTeC-LRD workshop on village road maintenance
15/03	SweRoad	Voitto Kuronen	Maintenance issues and background data from LSRP database
15/03	LRD	Sengarith Kattignasack	Visit of DoR/SC17 personnel to SC1 monitoring programme
19/03	DoR	Laokham Sompeth SCC Members SIDA	SEACAP 3 Inception Workshop (See Appendix A)
21/03	SC17/DoR	Ounheuang Siriamphone Delegates to SC1 Monitoring	Briefing by Dr J Cook on the programme and technical background
23/03	SIDA LRD/DoR	Belal Hussein Sengarith Kattignasack	SIDA-SEACAP cooperation: concept note
25/03	DoR (in Hanoi)	Ounheuang Siriamphone Delegates to SC1 Monitoring	Debriefing discussions on SC1 visit

Table 1 Key Meetings

No.	Module Description	Completion	Activity to End February
Task Group I: Develop Standards and Specifications			
1	Review current situation	75%	Review of documents and extraction of key information.
2	Research to fill knowledge gaps	25%	Identification if some key information sets; eg the PRoMMS database.
3	Draft technical standards	0%	No activity this month
4	Finalise technical standards	0%	No activity this month
Task Group II: Develop a Relevant Training Programme			
5	Training needs assessment	5%	Preliminary discussions on training make-up of Training Group
6	Training programme elaborated	0%	No activity this month
7	Training course tested and trialled	0%	No activity this month
Task Group III: Develop an Appropriate Research Capability:			
8	Gaps in research capacity identified	40%	Further information accessed on research capacity.
9	Strategy for strengthening research capacity	10%	Outline strategies identified
10	Adoption of strategy by MCTPC	0%	No activity this month
Task Group IV: Initiate Dissemination			
11	Package of materials prepared for dissemination	0%	No activity this month

Table 2 Summary of Module Progress

3 Staff Resources

A summary of the SEACAP 3 staff resources utilised up to the end of March 2007 is presented in the following Table 3

Name	Position	Project Time : End January to End February
Dr Jasper Cook (TRL)	Team Leader Geotechnical Specialist	1 st March – 23 rd March
Michael O'Connor (TRL)	Transport and road engineering specialist and Deputy Team Leader	1 st March -8 th March
Simon Done (TRL)	Training Specialist	No input
Trevor Bradbury (TRL)	Dissemination and IT specialist	No input
Bounta Meksavanh (LTEC)	Local Team Leader and Road Engineer Specialist	1 st March-31 st March
Saysongkham Manodham (LTEC)	Road engineering specialist	1 st March-31 st March
Chittakone Maniphan (LTEC)	Training Support	No input
Keithiphan S (LTEC)	IT Support	No input
Ms Chandita Ph (LTEC)	Office Management	1 st March -31 st March

Table 3 Staff Resources March 2007

4 Programme

Key activities in the next month can be summarised as follows:

1. Continued collation of national, regional and international information on LVRR classification and technical specifications; leading to a summary working document/file.
2. Continued collection and collation of information on the LVRR environments in Lao; in particular data sources on traffic, local construction materials, climate and topography will be targeted, although other issues will also be addressed. This will lead to a summary working document/file on the regional variations that will have to be taken into account in drafting the appropriate standards and specifications.
3. Look in more detail at research capacity building and develop further a potential model involving both the DoR and NUoL.

5 Key Summary Points

The Inception Report has been drafted,

An Inception Workshop has been held at which the general principals of the Inception Report were agreed,

Key coordination meetings have been held,

Significant progress continues to be made on Module 1,

Data collection to fill information gaps under Module 2 has been commenced,

A concept note has been submitted on possible SEACAP 3 support of SIDA-SEACAP cooperation.

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APPENDIX A: INCEPTION REPORT WORKSHOP

A1: WORKSHOP PRESENTATION

A2: COMMENTS FROM STAKEHOLDERS

SEACAP 003

Mainstreaming Appropriate Local Standards and Specifications & Developing a Strategy for MCTPC Research Capacity

TRL Ltd

In Association with

LTEC and Intech Associates



Content

- **Project Background**
- **Contract, Structure & Mobilisation**
- **The Task Groups**
- **Programme**



Rural roads are of vital importance to rural communities for socio-economic wellbeing and reduction of poverty



Appropriate Standards & Specifications

It is now appreciated that low volume rural roads tend to respond to the dominance of a range of factors, collectively known as the "Road Environment"



Natural factors

- Climate/rainfall
- Hydrology
- Terrain
- Materials availability
- Sub-grade

Imposed factors

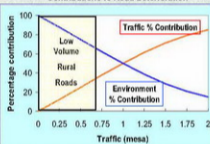
- Materials selection
- Traffic mix
- Axle loads
- Construction regime
- Maintenance regime

Socio-economic factors

- Whole-life costing
- Health and safety
- Local Employment
- Local Economy



Contributions to Road Deterioration



Regional Lessons

SEACAP 4 in Vietnam has highlighted an apparent mismatch between the pavement options currently being used, their road environment, and many of the materials being used to construct them.



Materials for Maintenance

Local (village) driven maintenance will tend to use immediately available local materials.



Maintenance causing gravel surface deterioration to earth condition

SEACAP 1, 8 and 17 Trials

Sustainable Options Potentially Available



Research Application

Undertaking research and developing likely solutions is not nearly enough.

Suitable Standards are therefore seen as essential to provide the context and control framework within which resource-based pavement options may be assessed and selected for appropriate use with appropriate technical specifications.

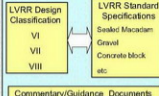


Talk Terminology	Project Definition	Working Terminology
Local Roads	Low volume rural roads - design classes V5VR8 as defined in the MCTPC document 'Specifications for Local Roads'	Low Volume Rural Roads (LVRR)
Road Task Standards	A classification of Low Volume Rural Roads and their geometric design based on the location they have to perform in terms of traffic mix and acknowledging the road environment in which they have to operate.	LVRR Design Classification
Road Design specifications	Technical construction specifications (for example for SEACAP's 1, 2 and 3)	LVRR Standard Specifications
Design Standards Matrix	A matrix of available pavement and surfacing options related to LVRR Design Classification and appropriate rural regions defined by materials, climate and terrain	LVRR Option Matrix
Local Road Technical Standards	The combination of the LVRR Design Classification and LVRR Standard Specifications together with associated supplementary documents	LVRR Standards

Administration Classification

National
Provincial
District
Kum Ban
Village
Etc

LVRR STANDARDS



Content

- Project Background
- Contract, Structure & Mobilisation
- The Task Groups
- Programme



Contract

The Agreement for the project was established under a Memorandum of Understanding (MoU) between the MCTPC on behalf of the Government of Lao PDR and the Department for International Development (DFID), UK

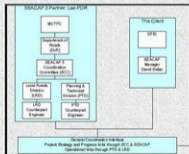
A contractual agreement has been signed between Crown Agents (acting as agents for DFID) and TRL Ltd. The duration of the project is 12 calendar months.

TRL have entered into a contractual agreement with LTEC as the principal associates to provide a total of 68 person months of services over the duration of the project

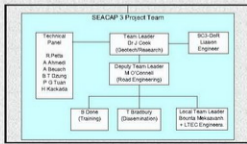


SEACAP 3 Structure

3 Components comprising:
11 modules organised into 4 Work Groups



SEACAP 3 Project Team



Mobilisation

Effective mobilisation of SEACAP 3 commenced in week beginning 29th January with the arrival in Vientiane of Dr J Cook and Mr M O'Connell

A Project Office has been set up in the LTEC main office at Km 5, Thadeua Road, and fully mobilised on 1st February with telephone and internet communications.



Content

- **Project Background**
- **Contract, Structure & Mobilisation**
- ***The Task Groups***
- **Programme**



Task Group 1

Collect, collate and review available documents relevant to LVRRs in Lao PDR, followed by a report summarising the review and highlighting key issues. Collate review findings into a LVRR -road environment- technical specification matrix. Knowledge gaps will be identified.

Draft or amend existing road definitions into LVRR Standards based on their perceived function. Draft or amend existing local & regional Technical Specifications suitable for linkage into the above Standards

Advise and assist the MCTPC on procedures for mainstreaming the LVRR Standards and associated Technical Specifications



A2: COMMENTS FROM STAKEHOLDERS

The following main comments and suggestions were made by SCC members and others participants at the workshop. *Comments and clarifications by the SEACAP 3 Team are shown in italics.*

1. Rural road classification should consider including Classes V to Class –VIII. *Further discussions will be held on the rural road classification, but it has to be recognised that the SEACAP emphasis in general is on basic access and rural poverty alleviation.*
2. The Kum Ban concept should be included under the LVRR umbrella. *This point is noted by SEACAP 3, but it should also be borne mind the “functional” nature of proposed standards will be the key issue rather than administrative classification.*
3. LVRR design classification shall take note of likely future traffic after road completion or rehabilitation. *This is good point– local experience at district level is likely to be important for this issue.*
4. The training programme should not be strictly limited to a selected group of 15 trainers and that some central DoR staff should be included. *SEACAP 3 considers a group of up to 20 would be acceptable.*
5. Notes on research capability are acceptable. *Noted.*
6. The solution of problems associated with dust on unsealed roads could be discussed with SIDA in terms of technical audit. *This issue could be put forward as a research topic.*
7. Each class of LVRR should be defined in terms of Average Daily Traffic (ADT) and axle load limit (max: 2.5 tonne, 4 tonne , 6 tonne etc.). *This is line with SEACAP 3 thinking.*
8. LVRRs shall include a classification for light traffic roads (Tuk-Tuk, Farm Tractor...). *This is line with SEACAP 3 thinking.*
9. SEACAP should seek to provide MCTPC with whole-life costs estimate for alternative pavement options and include such items as construction costs, estimates of vehicle, operating costs and benefits in terms of local employments etc. *This is currently not included within the ToR of the project – SEACAP might want to consider topics such these as an extension.*
10. Some guidance for limiting or governing the access of big trucks or overloaded axles should be included in the standards and specification and user manual. The SIDA experience with basic access is that in many cases as soon as a road is opened up there is a problem with logging trucks. *This issue is noted – there two main approaches to address this; either by prevention/legal means or to design roads to deal with the problem (which is costly).*

11. There is a need to ensure that all issues covered by SEACAP 3 are successfully sustainable. *There is quite correctly a significant emphasis put on dissemination and mainstreaming in the project.*
12. Environmental issues should be taken into account in drafting appropriate standards and specifications. *Agreed – in particular, r note will be taken of the impact of borrow pit opening.*
13. Training should have distinctly practical aspect. *Agreed*

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**APPENDIX B: SIDA-SEACAP COOPERATION
SEACAP 3 CONCEPT NOTE**

SEACAP 3 Links with Proposed SIDA (BAC)-SEACAP Cooperation

Concept Note

Background

The SEACAP 3 project, described as “**Mainstreaming Appropriate Local Road Standards and Specifications and Developing a Strategy for for the MCPTC Research Capacity**” is detailed in the Inception Report¹ as containing 4 key Task Groups:

Task Group 1: Develop Standards and Specifications

Task Group 2: Develop a Relevant Training Program for MCTPC Staff

Task Group 3: Develop a Sustainable Research Capability for MCTPC including NUoL

Task Group 4: Initiate Dissemination of SEACAP 3 Outcomes

Discussions between the Local Roads Department (LRD), SEACAP management (David Salter) and the SIDA (BAC) programme have identified areas of cooperation that will benefit the scientific validation and application of ongoing Low Volume Rural Road (LVRR) research in Loa PDR within its overall strategy of rural poverty reduction. These areas of cooperation have been summarised in a draft SIDA (BAC) concept note², as follows

Module 1: The application of spot improvements to critical sections of the routes selected by BAC, using surfacing and paving technologies currently being trialled in SEACAP 17

Module 2: The application of technologies and approaches for slope stability management to critical sections of the routes selected that are currently being trialled under SEACAP 21

Module 3 The integration of the SEACAP 17 and 21 projects into the National University of Lao (NUoL) curricula, ensuring that the courses are completed and the relevant NUoL faculties are able to deliver the courses.

It was further correctly noted that the above activities would complement the SEACAP 3 work in developing appropriate standards and specifications for rural roads and it is proposed in this Concept Note that the above be supplement by an additional module,

Module 4. Mainstreaming of outputs from Module 1 and 2 into LVRR Standards and Specifications

General Strategy

The SEACAP 3 Team Leader fully supports the above concept of pro-active cooperation under the strategic guidance of the DoR through the LRD. Such cooperation will provide significant added value to the impacts of the individual projects in the LVRR sector.

It has been correctly noted by the LRD that a fundamental aspect of this cooperation should be a clear definition of responsibilities so as to ensure no unnecessary overlap or duplication of effort. To this end this Concept Note suggests the following responsibilities for the SEACAP project teams.

Module 1; Lead SEACAP input by SEACAP 17 with support from, and links into, SEACAP 3

Module 2: Lead SEACAP input by SEACAP 21 with links into SEACAP 3

Module 3: Lead SEACAP input by SEACAP 3 with support from SEACAPs 17 and 21.

¹ TRL-LTEC, SEACAP 3 Inception Report, Draft for Comment, March 2007

² Draft Concept Paper, MCTPC-SIDA/BAC-DFID/SEACAP Cooperation, 9th March 2007

Module 4: Lead SEACAP input by SEACAP 3 with support from SEACAPs 17 and 21

It possible that the practical aspects of cooperation and programming could be managed by a Working Group comprising SIDA/BAC, SEACAP management, and the individual SEACAP Team Leaderships under the direction either of the LRD or the existing MCTPC Coordination Committee

Specific SEACAP 3 Links

The following Table 1 summarises SEACAP 3 support links to specific aspects of the proposed SIDA/BAC-SEACAP cooperation modules.

Resources

A programme for SEACAP 3 based on the links outlined in Table 1 would be possible using the currently nominated International and Regional specialists. There would however of necessity have to some extension of inputs and project timescales depending on the exact nature of the programme and the amounts of finally agreed cooperation.

Dr J R Cook

Team Leader

SEACAP 3

25th March 2007

Module	SEACAP 3 Link	Rationale for Link
1	Support set up and design of spot improvement trials including advice to contractors and supervisors on construction and QA procedures	Intech-TRL management of regional LVRR trial programmes SEACAPs 1 and 8 and in particular the RRST-II demonstration trials TRL involvement in international spot improvement trials and programmes
	Use of this module as a demonstration and training ground for NUoL Rural Engineering courses and for engineers from other DCPTCs.	SEACAP 3 training requirements under Task Group 2; its links with NUoL through Task Group 3 and its proposed links under Module 3 of this cooperation programme
2	Use of this module as a demonstration and training ground for NUoL Rural Road course	Proposed SEACAP 3 links under Module 3 of this cooperation programme.
	Secondary links to regional slope stabilisation initiatives	Links into SEACAP 19 in Cambodia and previous RT2 initiatives in Vietnam through International and Regional specialists on the SEACAP 3 team
3	Support to NUoL in terms of advice on lecture content based on current practical projects for the 3 courses in <i>Rural Development & Engineering; Rural Transport Infrastructure Engineering and Rural Engineering Materials and Techniques</i> . Development of field-based course content including practical problem-solving examples. Support in organising a Guest Lecture programme	Task Group 3 links with the NUoL have already been established with key staff. TRL Ltd and its associated company Intech Associates have a long established record of practical transport-related course development and delivery, in which senior specialists within the SEACAP 3 team have played key roles. Senior specialists within the SEACAP 3 team have proven experience in formal academic course development both with UK and overseas Universities.
	Preparation of in-service training courses for MCTPC/DCPTC staff, based on the completed NUoL courses. These to run at 1 central and 4 regional venues.	SEACAP 3 training requirements under Task Group 2; and its links with NUoL both through Task Group 3 and its support to curricula development within this module.
4	Ensuring that relevant outcomes from the cooperation Modules 1 and 2 are fully incorporated into the LVRR Standards and Specifications framework	Task Group 1 of SEACAP 3 requires that relevant local, regional and international knowledge be incorporated into the draft LVRR Standards and Specifications
	Ensure that the above outcomes are given suitable prominence in the SEACAP related and other dissemination paths.	Task Group 4 within SEACAP 3 provides a suitable vehicle to target national, regional and international rural road practitioners

Table 1 SEACAP 3 Links