

Association
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de la Route

AIPCR



PIARC

World Road
Association



**WORLD ROAD ASSOCIATION (PIARC)
ROYAL GOVERNMENT of CAMBODIA**



- SEMINAR -
SUSTAINABLE ACCESS AND LOCAL RESOURCE SOLUTIONS
PIARC TECHNICAL COMMITTEE 2.5
RURAL ROADS AND ACCESSIBILITY
in cooperation with
ROYAL GOVERNMENT of CAMBODIA

PROCEEDINGS

28 – 30 NOVEMBER 2005, CAMBODIA
APSARA ANGKOR HOTEL, SIEM REAP

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2	Andreski, Kaira & Chagunda	IRAP in Ntichisi District Malawi
3	Flanary & Dennis	The Potential for IMT Hire Centres to Improve Rural Access and Mobility
4	Granie Jayalath	River Morphology and Rural Route Alignments
5	Visser, Augustijn & Rai	Environmentally Friendly Road Construction in Bhutan
6	Ford & Done	Labour-Based Surfacing Trials on the Mozambique Feeder Road Project
7	Miao Xiuying	Cobble Stone Paving in Yunnan, China
8	Greening & Pinard	Guideline for Low-Volume Sealed Roads
9	Ugyen Chewang	Agricultural Roads in Bhutan
10	Cook, Petts & Tam	The Performance of Low-Volume Unsealed Rural Roads in Vietnam
11	Petts, Cook, Tuan & Dzung	From Road Surfacing Problems to Mainstreaming new techniques in National Standards
12	Heng Kackada & Petts	Appropriate economic appraisal for rural road upgrading
13	Abdul Quadir	Improving Mobility for the Rural Poor
14	Ranjith de Silva	Understanding the diversity of rural transport needs to address them
15	Roberts & Shyam	Rural Access Indicator: A Key Development Indicator
16	B P Chandrasekhar	Indicators for Rural Transport Sector.
17	Fergus Gleeson	Use of Poverty and Access Indicators for Fund Allocation & Project Appraisal
18	Julian Abrams	Socio-economic impact of rural access roads estimated from household survey data
19	Maini & O'Neill	SEACAP: A new Project Management Model
20	O'Neill, Greening & Fouracre	The African Community Access Programme (AFCAP)
21	Dyson & O'Neill	The Global Transport Knowledge Partnership (gTKP): Enabling Sustainable Rural Access
22	Somnuk Mektakul	Dissemination of SEACAP 17 Activities in Lao PDR
23	Done & Piouslin	DCP analysis & design of low volume roads by new TRL software
24	Pearce, Obika & Cutler	Community Involvement and Privatisation in the Implementation of Rural Access Programmes
25	Heng Kackada, Suos Kong & Petts	Developing a Knowledge Sharing Forum (CNCTP) and knowledge networking
26	Paul Starkey	Methodology for the rapid assessment of rural transport services

1. INTRODUCTION

Technical Committee TC 2.5 on Rural Roads and Accessibility of the World Road Association (PIARC) in collaboration with Royal Government of Cambodia – through the Ministry of Rural Development, organised this International Seminar on Sustainable Access and Local Resource Solutions.

Rural roads and accessibility in general – for the majority of those who live in rural areas – are major issues of concern due to widespread poor road accessibility to social and economic services, such as health, education and markets. Attainment of the objectives of poverty eradication measures, currently being pursued by many developing countries, is difficult without addressing the core problem of rural accessibility.

The seminar was organised with the intention to bring together researchers, practitioners and decision makers, to stimulate the documentation, presentation and discussion of recent experiences and developments, and contribute to the collection and dissemination of knowledge, experiences and best practices for meeting the needs of improved rural accessibility and poverty reduction.

26 papers were accepted by the Organising Committee for presentation and discussion at the seminar. These are available in English (and later also in French) to be downloadable from the CNCTP, PIARC and gTKP websites.

Over 100 participants attended the seminar, more than 60 from overseas, and many stayed for the associated ADB-SIDA sessions on Road Safety and the Technical Committee TC2.5 Meeting.



H.E. Luy Lay Sreng, Deputy Prime Minister, Minister of the Ministry of Rural Development, officially opening the Seminar.

2. SUB-THEMES

The Seminar was designed to encompass the following Sub-Themes.

Sub-theme A:	Policies, planning and management models/tools – involvement of communities, including Integrated Rural Accessibility Planning (IRAP) approaches. Rural Transport Services
Sub-theme B:	Use of local resources – human, enterprises, institutions, communities, materials. Particular attention to solving problems of hilly and mountainous terrain, communities in remote areas, flood susceptible areas, problematic materials, use of local resources and low cost surfaces.
Sub-theme C:	Review of how the social and economic functions of low volume roads for rural communities are being appraised and what indicators are used to assess the rural transport needs.
Sub-theme D:	Knowledge Generation and Mainstreaming. Practice guidance on design issues for low volume roads that deliver cost effective solutions that are fit for purpose.

3. DATE AND VENUE

The seminar was held on 28 – 30 November 2005 at Siem Reap in Cambodia, at the Apsara Angkor Hotel.

4. SEMINAR OBJECTIVES

The Seminar Objectives were:

- (a) Promoting better awareness of sustainable solutions for rural access,
- (b) Facilitating the documentation of practice guidance on rural roads and accessibility as part of the PIARC TC 2.5 intended work programme outputs.

5. TARGET AUDIENCE

The target audience was practitioners, researchers and policy makers, and development support partners from both the private and public sectors with interest in rural roads and accessibility from PIARC member countries and non-member countries.

6. SEMINAR ORGANISERS

PIARC Technical Committee TC 2.5 on Rural Roads and Accessibility, in collaboration with the Royal Government of Cambodia through the Ministry of Rural Development.

7. ORGANISING COMMITTEE

The International Organising Committee was headed by the TC 2.5 Chairman and the Local Organising Committee headed by H. E. Sous Kong, Secretary of State, MRD.

International Organising Committee:

- Kesogukewele M.I.M. Msita (Tanzania)
- Robert Petts (UK)
- Abdennebi Rmili (Morocco)
- Dóra Fenyő (Hungary)
- Suos Kong (Cambodia)
- Mour Kimsan (Cambodia)
- Rama Shah Sharma (India)
- Josée Arseneault (Quebec – Canada)
- Tony Greening (Zimbabwe)

National Organising Committee:

H. E. Suos Kong also headed the local organising committee for all the events in Cambodia. The National Organising Committee comprised the persons detailed on the following page.

8. FOURTH MEETING OF TECHNICAL COMMITTEE TC 2.5

Immediately after the Seminar, on 1 and 2 December, the 4th meeting of PIARC Committee TC 2.5 took place.



Seminar Opening Ceremony

9. NATIONAL ORGANISING COMMITTEE - CAMBODIA

The organizing committee consisted of the following persons:

Chairman	H.E. Suos Kong, PEng, ASEAN Eng, MRDM Secretary of State, MRD National Coordinator of DFID-SEACAP Programme Immediate Past Chairman of International Focus Group on Rural Road Engineering Chairman of CNCTP e-mail: Skong@online.com.kh
Co-Chairman	H.E. Lim Sidenine Under Secretary of State, MPW&T e-mail: lnine@camnet.com.kh
Advisory committee	
1	H.E Don Sammuon, Secretary of State of MRD e-mail: sammuon@hotmail.com
2	H.E. Ngy Chanphal Under Secretary of State, MRD e-mail: MRDNGYCP@forum.org.Kh
3	Prof. Meas Shokhom President of Engineering Institution of Cambodia e-mail: eic@camnet.com.kh
4	Dr. Yit Bunna Director of Research Centre, MPW&T e-mail: ybunna@camnet.com.kh
5	Mr. Mour Kimsan Deputy Director General of Technical Affaires, MRD Email: kimsanM@online.com.kh
6	Mr. Yoeurn Sophal Director of Rural Road Department, MRD Email: mrdrdd@online.com.kh
7	Mr. Robert Petts, BSc CEng MICE MIHT MIAgrE Principal of Intech Associates Regional Manager South East Asia of Intech-TRL e-mail: rob-intech-trl@fpt.vn
8	Mr. Doekle Wielinga Chief Technical Advisor NRDP – IRAP Component ILO – IRAP/GIS Project email: doekleW-ilo@online.com.kh
Secretariat	
1	Mr. Heng Kackada, Bsc CEng, MSc Transport Infra, Secretary of Cambodia National Community of Transport Practitioners (CNCTP) E-mail: CNCTP_Secretary@online.com.kh
2	Mr.Than Vuth Office Coordinator, NRDP – IRAP Component ILO – IRAP/GIS Project Email: vuthT_ilo@online.com.kh

10 SEMINAR PROGRAMME & ASSOCIATED EVENTS

*Presenters of each paper are indicated in **BOLD** font*

**SEMINAR - SUSTAINABLE ACCESS
AND LOCAL RESOURCE SOLUTIONS**

28 – 30 NOVEMBER 2005

APSARA ANGKOR HOTEL, SIEM REAP

Monday 28 November 2005 – VENUE: APSARA CONFERENCE I (Main Hall)

- | | |
|---------------|---|
| 8.00 – 9.00 | Registration |
| 9.00 – 9.05 | Participants seated in main function room |
| 9.05 – 9.10 | Arrival of Deputy Prime Minister and guests |
| | National Anthem |
| 9.10 – 9.20 | An introduction to PIARC World Road Association & Seminar Programme by Keso Msita, Chairman PIARC Technical Committee TC2.5 |
| 9.20 – 9.30 | Welcome address and official opening by Deputy Prime Minister and Minister of Rural Development H.E. Lu Lay Sreng |
| 9.30 – 10.10 | Official Seminar Photograph and Refreshment Break |
| 10.10 – 10.20 | An Introduction to the Cambodia National Community of Transport Practitioners by H. E. Suos Kong |
| 10.20 – 10.30 | Seminar Programme and Arrangements by Master of Ceremonies: Ly Savuth |
| 10.30 – 12.00 | SESSION 1 – POLICIES, PLANNING AND MANAGEMENT TOOLS/MODELS (SUB-THEME A) Session chairperson – Ngy Chanphal |
| | 1. Towards a Transport Infrastructure Management System – Doekle Wielinga |
| | 2. IRAP in Ntichisi District Malawi – Adam Andreski |
| | 3. The Potential for IMT Hire Centres to Improve Rural Access and Mobility – Adam Andreski |
| | 4. River Morphology and Rural Route Alignments – Granie Jayalath |
| 12.00 – 13,30 | Lunch |
| 13.30 – 15.00 | SESSION 2 – USE OF LOCAL RESOURCES (SUB-THEME B) Session chairperson – David Salter |
| | 5. Environmentally Friendly Road Construction in Bhutan – Hendrik Visser |
| | 6. Labour-Based Surfacing Trials on the Mozambique Feeder Road Project – Dr Jasper Cook |
| | 7. Cobble Stone Paving in Yunnan, China, Miao Xiuying |
| | 8. Guideline for Low-Volume Sealed Roads – Anthony Greening |



- 15.00 – 15.20 Refreshment Break
- 15.30 – 18.30 Buses left Apsara Angkor hotel at 15.30 for a visit to the Angkor Wat Temple, World Heritage Site, at the invitation of the Royal Government of Cambodia.
- Evening Own arrangements

Tuesday 29 November 2005 – VENUE: APSARA CONFERENCE I (Main Hall)

- 08.30 – 10.15 **SESSION 3 – USE OF LOCAL RESOURCES (SUB-THEME B)**
Session chairperson – Kesogukewele Msita
9. Agricultural Roads in Bhutan - **Ugyen Chewang**
10. The Performance of Low-Volume Unsealed Rural Roads in Vietnam – **Dr Jasper Cook**
11. From Road Surfacing Problems to Mainstreaming new techniques in National Standards – **Robert Petts**
12. Appropriate economic appraisal for rural road upgrading – **Heng Kackada**
13. Improving Mobility for the Rural Poor – Abdul Quadir unable to present
- 10.15 – 10.45 Refreshment Break
- 10.45 – 12.15 **SESSION 4 – SOCIAL AND ECONOMIC INDICATORS (SUB-THEME C)**
Session chairperson – Charles Melhuish
14. Understanding the diversity of rural transport needs to address them – **Ranjith de Silva**
15. Rural Access Indicator: A Key Development Indicator – Roberts and Shyam unable to present
16. Indicators for the Rural Transport Sector – **B P Chandrasekhar**
17. Use of Poverty and Access Indicators for Fund Allocation & Project Appraisal – **Fergus Gleeson**
18. Socio-economic impact of rural access roads estimated from household survey data – **Julian Abrams**
- 12.15 – 13.45 Lunch
- 13.45 – 15.00 **SESSION 5 – KNOWLEDGE GENERATION AND MAINSTREAMING (SUB-THEME D)** Session chairperson – H.E. Suos Kong
19. SEACAP: A new Project Management Model – **Nguyet and O'Neill**
20. The African Community Access Programme (AFCAP) – **Tony Greening**
21. The Global Transport Knowledge Partnership (gTKP): Enabling Sustainable Rural Access – **Michael Dyson**
22. Dissemination of SEACAP 17 Activities in Lao PDR – **Somnuk Mektakul**
- 15.00 – 15.30 Refreshment Break

15.30 – 17.00 **SESSION 6 – WORKING GROUPS DISCUSSION & REPORTING TO PLENARY**
Improved Management of Rural Transport Knowledge for Developing Countries & Countries in Transition
Session facilitator – Mike Dyson

17.00 Briefing on Site Visit

Evening Seminar Diner at Jasmin Angkor Restaurant,

Wednesday 30 November 2005

08.00 – 12.30 **SITE VISIT**
Rural Road Surfacing Trials at Puok Market.

12.30 – 14.00 Lunch at Apsara Angkor Hotel

14.00 – 15.15 **SESSION 7 – KNOWLEDGE GENERATION AND MAINSTREAMING (SUB-THEME D)** Session chairperson – Peter O'Neill

23. DCP analysis & design of low volume roads by new TRL software – **Dr Jasper Cook**

24. Community Involvement and Privatisation in the Implementation of Rural Access Programmes – **Mike James**

25. Developing a Knowledge Sharing Forum (CNCTP) and knowledge networking – **Heng Kackada**

26. Methodology for the rapid assessment of rural transport services – **Paul Starkey**

15.15 – 15.45 Refreshment Break

15.45 – 16.15 **SEMINAR EVALUATION & RECOMMENDATIONS**

16.15 – 16.30 **SEMINAR REVIEW & FOLLOW UP** - Keso Msita, Chairman PIARC Technical Committee TC2.5

16.30 – 16.45 **CLOSING ADDRESS AND OFFICIAL CLOSING** – H E Suos Kong, Secretary of State, Ministry of Rural Development

17.00 – 18.00 gTKP Cocktail Reception

Evening Own Arrangements

Thursday 1 December 2005 – VENUE: APSARA CONFERENCE I (Main Hall)

08.00 – 12.30 SESSION 8 – ASEAN ROAD SAFETY – Organised by ADB and SIDA with afternoon Working Groups

08.00 – 12.30	ROAD SAFETY IN ASEAN – ADB + SIDA INITIATIVE	Chairpersons Lars Karlsson & Gösta Werner
08.00 – 8.25	ADB/ASEAN Regional Road Safety Project – overview of objectives and achievements in phase 1	Charles M. Melhuish Lead Transport Sector Specialist, ADB Mike Goodge Road Safety Specialist
8.25 – 8.50	National road safety strategies and action plans and status of implementation, example from Cambodia	Stuart Wood, TRL
8.50 – 9.15	National road safety strategies and action plans and status of implementation, example from Lao PDR	Bounsoum Sihakhom Dpt Director, MCTPC, DoT
9.15 – 10.00	NGO's roles and experiences in road safety work, example from Cambodia	Jean van Wetter Handicap Intl, Cambodia Greig Craft Asia Injury Prevention Foundation, Vietnam
10.00 – 10.30	Refreshment break	
10.30 -11.00	GRSI's role in ASEAN	Andrew Downing, GRSP
11.00 – 11.30	Training and dissemination of experiences in ASEAN Region	Prof Yordphol AIT Bangkok
11.30 – 12.00	ASEAN regional road safety strategy and action plan and ADB/ASEAN Road Safety Project phase 2.	Charles M. Melhuish Lead Transport Sector Specialist, ADB
12.00 – 12.30	Concluding discussion	Panel
12.30 – 13.30	Lunch	

12.30 – 13.30 Lunch

13.30 – 17.00	ADB – SIDA session	NA
ADB-SIDA session for invited participants		

Thursday 1 December 2005 – VENUE: APSARA CONFERENCE II (Upstairs)

14.00 – 17.00 TECHNICAL COMMITTEE TC2.5 MEETING (*Separate Programme*)

Friday 2 December 2005

08.00 – 12.30 TECHNICAL COMMITTEE TC2.5 MEETING

12.30 – 14.00 Lunch

14.00 – 17.00 TECHNICAL COMMITTEE TC2.5 MEETING

11 SEMINAR OPENING ADDRESS***Opening Address****by***H.E. Luy Lay Sreng**
Deputy Prime Minister

Minister of the Ministry of Rural Development

*At***The International Seminar on Sustainable Access
and Local Resource Solutions***28 - 30 November 2005, Apsara Angkor Hotel, Siem Reap****Good Morning Excellencies, Distinguished International and National Guests,
Ladies and Gentlemen,***

First of all let me express my heartfelt gratitude to all Excellencies, Honoured Guests for coming, many of you have traveled great distances to attend this seminar. There are people from all over the world at this event. I especially would like to welcome Excellencies and representatives from Governments, Ministries and Institutions.

I wish to thank PIARC for the honor of bringing this important event to Cambodia, particularly, Mr. KESO MSITA, Chairman of PIARC TC 2.5, who has just introduced about the background and activities of PIARC. I very much appreciated the hard work contributed by the organizing committee. The members of the organizing committee have volunteered their time and effort. I am very pleased that the committee consists of representatives from the Ministry of Rural Development, Intech Associates, the International Labour Organization, and of course PIARC.

Excellencies, Ladies and Gentlemen,

The Ministry of Rural Development and the Ministry of Public Works and Transport have one common objective related to this seminar, which is to improve the local access to social and economic opportunities for rural Cambodians. In so doing, we wish to achieve two results:

First, a reduction in rural poverty;

Second, an expansion of our national economy by more fully integrating the local rural economies.

Both Ministries are working towards this objective under the overall policy framework as set out by **Samdech Prime Minister Hun Sen** and articulated in **The Cambodian Rectangular Strategy**.

The Royal Government of Cambodia has assigned to The Ministry of Public Works and Transport, the responsibility of the national, secondary national and provincial roads, and to the Ministry of Rural Development the responsibility for the rural roads.

I wish to focus on rural roads for a moment. These are the tertiary and sub-tertiary roads. They connect from main roads (provincial or higher order roads) to districts, to communes or to villages. Usually these roads have few cars and trucks but often they have many people traveling by foot, by bicycle, by ox cart and by motorcycle.

The investment in rural transport infrastructure will represent the major portion of our investment in rural development. These investments will often be financed through the international development banks in the form of loans - loans which eventually must be repaid.

These investments are well justified because an efficient rural transport system is a necessary pre-condition for the social and economic development of the rural areas of the country where many of our less well off people are found. We need to facilitate the movement of people, goods and information if we are to achieve our goals for national development. For our farmers to produce surpluses we need to make sure that they are able to move their surpluses to markets at competitive costs in a timely way in all seasons. Please remember that goods only have value to the extent that they can be easily and cheaply moved.

Further down the road hierarchy, below the tertiary roads, are small roads, trails, and footpaths. These networks, connect households and villages to the higher order transport infrastructure and services. In comparison, the length of these networks, are far greater than the higher order networks. Rural households are dependent on these networks to access social and economic opportunities. There usually are insufficient resources available for these networks. Thus rural access is often poor, directly contributing to poverty.

As we go down the road network hierarchy, while the overall road length increases, at the same time, the resources available to construct and maintain the roads decreases. Herein lays the challenge. How can we find affordable solutions so that rural households can have dependable access to social and economic opportunities?

Excellencies, Ladies and Gentlemen,

I would like to share with you, some of my reflections on the themes of this seminar.

Rural access and rural transport is of national importance, in terms of the value of the physical assets, the magnitude of the investments, and the potential contribution to national development. Therefore a government must develop policies to guide and to give coherence to developing and managing rural access. These policies are more than just technical in nature, there are important political aspects as well. I believe developing these policies provides opportunities to strengthen democratic processes and the inclusion of marginalized people. These policies will lead to programs and practices that need to be relevant to the needs of the communities. I'm very pleased to note that planning processes which include participation and consultation with the concerned communities will be highlighted.

Selectively and effectively using what we have, rather than trying to always use or copy what others have, is important not just for cost effectiveness, but also for enhancing our self confidence and our capacity for national development. We need to nurture, develop and manage our natural and human resources to our best advantage. While this is true in all areas of our national development, it is particularly true in the context of developing sustainable access. We must develop technologies that utilize our local resources. This will require engineering and management innovation and adaptation. Our history is full of examples, some of the most magnificent are very close to where we are holding this seminar, of how our ancestors did just this. The builders of Angkor did not wait for specifications from Australia, or materials from Africa, or engineers from France, they used what was locally available, and the results speak for themselves.

The participants of this seminar will be able to share our modern day efforts to find low cost and sustainable alternatives to the use of problematic gravel-laterite by a visit to the rural road surfacing trials at nearby Puok Market.

I realize that it is very difficult to predict and to quantify the social and economic impacts of developing and improving access in traditional or academic ways. However we should not let this difficulty slow down the development of sustainable access for our rural people. To me this highlights the importance of including the local communities and people in the development process. If you stay for a couple of days in a rural village you will not need too much theoretical information to know very clearly what it means to have good or poor access.

This seminar will allow us all to share our experiences in terms of what is effective and what is less effective to develop sustainable access solutions for our rural people. Through this seminar and similar initiatives we can accelerate the development of appropriate solutions for our access problems. It is clear to me that establishing internationally recognized best practices and norms will be of great benefit as a starting point and reference point for developing unique national solutions.

I appreciate what you're trying to achieve here and the enormous challenge that you are taking upon yourselves. The development of sustainable access is an extremely complex business. No aspect can be looked at in isolation. For example, the capacity of the institutions responsible for managing the road network, needs to be considered in the context of the technologies that are selected for the construction of the assets, which in turn need to reflect relevant standards and specifications, which take into account locally available materials, the capacity of the private sector, and other constraints, particularly financial constraints.

I am confident that this seminar will contribute towards finding sustainable access solutions. I hope that each of you will leave the seminar with improved knowledge regarding how the access for our rural communities can be made more sustainable with the best use of the local resources available to us.

**Finally, I wish Excellencies, Distinguished Guests, Ladies and Gentlemen, a successful seminar and I look forward to the outcome of your efforts.
I declare now, the seminar open.**

Thank you !

12 INTRODUCTION TO PIARC

WORLD ROAD ASSOCIATION
(PIARC)

**INTERNATIONAL SEMINAR ON SUSTAINABLE ACCESS
AND LOCAL RESOURCE SOLUTIONS**

NOVEMBER 28-30, 2005; APSARA ANGKOR HOTEL
SIEM REAP, CAMBODIA

OPENING REMARKS BY MR. KESOGUKEWELE M.I.M. MSITA, CHAIRMAN OF
PIARC COMMITTEE TC 2.5 ON RURAL ROADS AND ACCESSIBILITY

Excellency, Lu Lay Sreng, Deputy Prime Minister and Minister of Rural Development of the Royal Government of Cambodia, Other Excellencies, Distinguished Seminar Delegates, Ladies and Gentlemen; Good morning.

I have the honour and privilege to have the first opportunity to address you. On behalf of the World Road Association (PIARC), and indeed on my own behalf, I cordially welcome you to the Seminar on Sustainable Access and Local Resource Solutions.

The three-day Seminar will witness the presentation of 26 papers from experts on:

- Policies, planning and management models and tools for sustainable rural accessibility
- Use of local resources with particular attention to solving problems of hilly and mountainous terrain, communities in remote areas, flood susceptible areas, problematic materials, use of local resources and low cost surfaces
- Social and economic functions of low volume roads and the indicators used to assess the rural transport needs
- Practice guidance on design issues for low volume roads that deliver cost effective solutions that are fit for the purpose.

The Outcome of the Seminar is intended to contribute to the achievement of the Committee TC 2.5 work output for the period 2004 to 2007.

Considering that a total of 130 experts from a number of countries are attending, I believe we have the needed fertile ground for the achievement of the



objectives of the PIARC Committee TC 2.5 on Rural Roads and accessibility and the noble Mission of the World Road Association, as I will shortly explain.

After the Seminar, from 1st to 2nd December, 2005, our Committee will hold its fourth meeting. The meeting will review: the Outcome of the Seminar, progress in the achievement of the agreed work outputs, arrangements for the next seminar and meeting, and preparatory arrangements for the 23rd World Road Congress scheduled for September 2007 in Paris, France.

The setting for the expected success of the PIARC events in Siem Reap, could not have been possible without firstly, the agreement of the Royal Government of Cambodia to host this Seminar. Secondly, the Government's commitment of her resources towards the success of the events. It is the second time that PIARC is enjoying these privileges from the Royal Government of Cambodia. Furthermore, the personal presence of his Excellency the Deputy Prime Minister – understandably in spite of his very busy schedule - signifies the Government's commitment in this country towards the aspirations of the World Road Association and in helping other countries share knowledge and best practices for improvement of the road infrastructure and rural accessibility. In particular this is much needed for socio economic development for all nations and poverty eradication of backward economies. We salute and commend the Government and the people of Cambodia. We truly and sincerely value and appreciate such support. Thank you.

At this juncture, allow me also to thank, most sincerely, the support (moral as well as material) we have received from:

- The UK Department for International Development (DFID)
- The ILO Integrated Rural Accessibility Planning (IRAP) and the North Western Rural Development Project (NRDP)
- The Cambodia Transport Mainstreaming Partnership Project (SEACAP 2 Project), and
- The Cambodia National Community of Transport Practitioners.

The organisation of the events here has also been possible due to the painstaking and exemplary performance of the Seminar Local Organising Committee under the able leadership of His Excellency Suos Kong, the Secretary State in the Ministry of Rural Development. To him and all other members of the local Organising Committee, whom I cannot mention their names due to time constraint, I say thank you most sincerely.

At a higher level, I wish to thank the International Organising Committee which was in theory led by myself, but in practice it was under the unwavering stewardship of a friend and brother Robert Petts. Rob, thank you for the hard and good work you have put towards these events in Cambodia in collaboration with the local Organising Committee. I thank you also for

knowing my limitations and that of the members of the our Committee and for making sure that it is possible to deliver for the international community through a dedicated small group of experts acting as soldiers in the battlefield. To all other members of the International Seminar Organising Committee, who were able to equally contribute even in a little way, I equally offer my due complements.

Excellences and distinguished delegates allow me now to briefly introduce the World Road Association whose acronym is PIARC. I will do so by going through to what should have been a PowerPoint presentation which can be down loaded from the PIARC website: <http://www.piarc.com>. The PIARC Secretariat's email in Paris is: piarc@wanadoo.fr.

Thank you
Merci
Som Orkun



The World Road Association (PIARC)



A non-profit association founded in 1909 to promote international cooperation in issues related to roads and road transport




Members

- National Governments
- Regional Authorities
- Collective Members
- Individual Members

in about 130 Countries




Timeline of membership growth:

- 1909: 15 countries
- 1999: 84 countries
- 2000: Cape Verde, Gabon, Mali
- 2001: Namibia
- 2002: Bhutan, Cambodia, Ghana, Nepal, Papua New Guinea, Switzerland
- 2003: Iceland, Togo
- 2004: Azerbaijan, Viet-Nam, El Salvador
- 2004: 109 countries



PIARC Member Countries



Regional membership counts:

- Europe: 32
- Asia: 29
- Africa: 27
- Latin America: 21



Vision

PIARC being the World leading forum in exchange of knowledge on roads and road transport policy and practices within an integrated sustainable transport context



Association mondiale de la Route
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Mission

To serve all members

- by being a leading international forum
- by disseminating best practice
- by promoting efficient tools for decision making

with special emphasis for developing countries and countries in transition



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Values

PIARC's values are:

- To provide universal quality service to its members,
- To be open, objective and impartial,
- To promote sustainable and sound economic solutions,
- To recognize road transport in an integrated transport and land use context,



Association mondiale de la Route
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Values

PIARC's values are:

- To be customer driven,
- To respect the differing international road transport needs,
- To be a leader in technology transfer.



Association mondiale de la Route
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Structure

COUNCIL,
representation of all member countries

EXECUTIVE COMMITTEE
elected by the Council every four years

GENERAL SECRETARIAT

NATIONAL COMMITTEES



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National Committees

PIARC National Committees provide local animation and act as a relay for the dissemination of information in 30 member countries

Algeria, Argentina, Australia, Austria, Belgium, Burkina-Faso, Canada, Canada-Québec, Czech Rep., Denmark, Spain, Finland, France, Germany, Greece, Hungary, India, Italy, Japan, Madagascar, Morocco, Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom



Association mondiale de la Route
ALPDR
PIARC
World Road Association

Activities

- Sets up Committees and Develop Projects,
- Publishes Documents and Software,
- Cooperates with International Bodies,
- Organizes International Winter Road Congresses
- Organizes World Road Congresses



Association mondiale de la Route
ALP/R
PIARC
 World Road Association

A Strategic Plan

For each 4 year cycle, in between two World Road Congresses, a Strategic Plan guides PIARC activities.

For the 2004-2007 period, 4 strategic themes cover the work of 18 Technical Committees + Committee on Terminology.

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Strategic Themes 2004 - 2007

- ST1: Governance and Management of the Road System (K. Inoue – Japan)
- ST2: Sustainable Mobility (G. Clarke – UK)
- ST3: Safety and Road operations (C. Nottingham – USA)
- ST4: Quality of road infrastructures (A.-M. Lederc – Canada-Québec)

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ST1 : Governance and Management of the Road System

- 1.1 Road System Economics
- 1.2 Financing Road system Investment
- 1.3 Performance of Road Administrations
- 1.4 Management of Network Operations

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ST2: Sustainable Mobility

- 2.1 Sustainable Development and Road Transport
- 2.2 Interurban Roads and Integrated Interurban Transport
- 2.3 Urban Areas and Integrated Urban Transport
- 2.4 Freight Transport and Intermodality
- 2.5 Rural roads and accessibility

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ST3: Safety and Road Operations

- 3.1 Road Safety
- 3.2 Risk Management for Roads
- 3.3 Road Tunnels Operation
- 3.4 Winter Maintenance

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ST4: Quality of road infrastructures

- 4.1 Management of Road Infrastructure Assets
- 4.2 Road/Vehicle Interaction
- 4.3 Road Pavements
- 4.4 Bridges and Related Structures
- 4.5 Earthworks, Drainage and Subgrade

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On-going Projects

- World Interchange Network
- Seminars in Developing Countries and Countries in Transition
- Technology Transfer Centres in Developing Countries
- HDM-4 (software for the management of highways investments and projects)
- Terminology

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PIARC Winter Road Congresses

- Tampere 1986
- Tromsø 1990
- Seefeld 1994
- Luleå 1998
- Sapporo 2002
- Turin-Sestriere 2006

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PIARC World Road Congresses

- Brussels 1987
- Marrakech 1991
- Montreal 1995
- Kuala Lumpur 1999
- Durban 19-25 October 2003
- Paris 17-21 September 2007

Visit PIARC website <http://www.piarc.org>



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13 CLOSING SPEECH BY PIARC COMMITTEE TC2.5 CHAIRMAN: KESO MSITA

Excellencies, ladies and gentlemen,

The work programme of PIARC Committee TC2.5 on Rural Roads and Accessibility for the periods 2004 to 2007 is meant to achieve the following six outputs.

1. Report on the present, social and economic appraisal methodologies and indicators.
2. Practice guidance on design issues that deliver cost effective solutions that are fit for purpose.
3. Practice guidance on planning and management of rural roads
4. Report on key issues affecting the provision of funding for rural roads.
5. Practice guidance on the appropriate project management skills, utilising local resources wherever possible.
6. Practice guidance on effective governance, including measures to identify appropriate use of resources, community participation, and knowledge dissemination and mainstreaming.

Additionally the following three seminar theme options are to be arranged:

- i) Sustainable access and local resource solutions – topics; hilly and mountainous terrain, remote communities, flood susceptible areas, problem materials, use of local resources, low cost surfaces.
- ii) Design and construction of rural roads – topics; technologies and their design and application
- iii) Institutional capacity building – topics; management and maintenance, strengthening, service delivery, dissemination, public and private sector funding, involving stakeholders.

Through the Seminars, we expect to achieve substantial mileage in terms of the collection of data and information for the preparation of some of the work outputs. It is equally correct to say that this seminar provided adequate opportunity for dissemination of various country experiences within the framework of sustainable access and local resource solutions.

Having said that, what has been achieved is not an end in itself. During the seminar, we were repeatedly reminded on the need to apply the knowledge we have learnt. Thus, I call experts – particularly those from developing countries and countries in transition - to avoid “the business as usual” situation. These meetings and seminars are expensive to each one of us. We must accordingly make optimum use of the knowledge we have gained. Where a country finds that a certain technology or practice could be useful or appropriate, experts from that country should find time and resources to visit places where such practices or technologies are being or have been applied. Such visits will allow an in depth evaluation of the situation on the ground in terms of applicability in a different environment, adaptations needed and limitations of applications.

Within PIARC and through technical committee TC2.5 we are committed to documenting the various experiences so that – with time – they can be made available to the wider segment of the international community. We intend to organise two more seminars in Morocco in April 2006 and the second towards the last quarter of 2006 on the theme Institutional Capability Building for Rural Roads and Accessibility; hopefully during our meeting here we will reach agreement on the country which will host the third seminar. As

for the Morocco seminar, the Committee TC2.5 French Speaking Secretary Mr Abdennebi Rimili has provided the brief. We welcome all of you to attend.

Excellencies, ladies and gentlemen, as I come to the end of my remarks, allow me to thank most sincerely:

- Again the Royal Government of Cambodia for the reasons I alluded to yesterday
- All agencies which have provided financial support
- Authors of papers and the presenters of such papers
- Chairs of the various sessions
- Members of the local Organising Committee for the good work including arrangements for the social events.
- Translators, and without forgetting the rapporteurs and our Master of Ceremony

Since the list is long, allow me just to equally thank all those who do not follow under any of the categories I have mentioned and particularly the ones who have been working in the background.

Last but not least, my due thanks are to you colleagues and friends for finding the time and other resources to come and attend this seminar. The networking opportunity provided should allow us to interact more as an international community of road and road transport practitioners.

For those who will not be attending the TC2.5 meeting tomorrow and Friday, I wish them a safe passage back home. For our Cambodian friends, we wish to thank you for a happy stay in this beautiful country.

THANK YOU, MERCI BEAUCOUP, SOM ARKHUN.

14 SEMINAR CLOSING ADDRESS***Closing Address****by*

H.E. Suos Kong
Secretary of State
Ministry of Rural Development

At the

**International Seminar on Sustainable Access and
Local Resource Solutions**
28 - 30 November 2005, Apsara Angkor Hotel, Siem Reap

Excellency, Ladies and Gentlemen,

On behalf of the Royal Government of Cambodia, it is indeed a great honor to make these closing remarks for this PIARC seminar on sustainable access and local resource solutions.

I wish to thank all of you for coming to Siem Reap, I realize that many of you are very busy and have come a great distance. I know that the seminar was well worth the effort, but also I hope that the foreign visitors have had an opportunity to get to know us Cambodians a little better and appreciate some of the nearby heritage at Angkor Wat.

I am grateful to PIARC for permitting us to co-host this seminar. It has clearly been well organised, and full marks and appreciation for the hard work of the organising committee, consisting of representatives from the Ministry of Rural Development, Intech Associates, the International Labour Organization, and of course PIARC.

Excellencies, Ladies and Gentlemen,

H.E. Luy Lay Sreng, Deputy Prime Minister and Minister of Rural Development, highlighted a number of important points when he opened this seminar. I would like to take this opportunity, if I may, to build upon these points.

Although the Ministry of Public Works and Transport, is directly concerned with national, secondary national and provincial road networks, we also have an important responsibility to oversee the development of the entire road transport network. Fundamental to this development is ensuring that the road network serves, and reaches as many Cambodians as possible for the two important reasons that **Excellency Luy Lay Sreng** identified, which are to reduce rural poverty, and to expand our national economy by more fully integrating the local rural economies.

As has been pointed out several times during this seminar, investments in rural transport are fragile, and are often lost due to a number of incorrect key assumptions at the planning and design stage. This certainly has been the case in Cambodia during the past thirteen years of rapid post-conflict development. Sustainable access is critical to our national development program, and we cannot afford to ignore the importance of this objective, but we can also not afford to waste resources on poorly conceived and implemented rural access programs. Therefore we must find the better ways to invest our scarce resources so that sustainable access will really be achieved.

Excellencies, Ladies and Gentlemen,

This seminar highlighted the importance of establishing policies and strategies that will provide guidance to all stakeholders. This is vital at the higher and at the lower ends of the road transport network. We must ensure that all investments in rural transport are made efficiently and cost effectively. We must plan these investments better so that the needs of the rural people are met. The investments must not only meet the needs of the people, but they must be technically sound, and be designed within the constraints of expected maintenance capacity and with affordable recurrent cost liabilities.

We need to better utilize our local resources including, labour, materials, and ingenuity. I am very pleased to observe that much innovation and capacity building work is being done through the SEACAP initiative, and encourage that this work goes forward and is accelerated.

During this seminar I found it exciting to learn how the science of understanding, quantifying, and predicting the social and economic dimensions of accessibility are being advanced alongside appropriate technical solutions.

I observe that this seminar has provided an opportunity for professionals concerned with sustainable access and local resource solutions an important opportunity to confer, to share experiences and to learn from each other. I believe it is very important to build up a knowledge base, and to make it possible to share this knowledge base with those who really need it, both in Cambodia and in other developing nations. This is especially important for the smaller countries, because we cannot afford to develop everything by ourselves with our very limited resource base.

Excellencies, Distinguished Guests, Ladies and Gentlemen,

I once again thank all of the participants for coming to Cambodia, and contributing to this most important effort.

I declare now, the seminar closed.

Thank you !

15 SEMINAR EVALUATION



WORLD ROAD ASSOCIATION (PIARC) ROYAL GOVERNMENT OF CAMBODIA INTERNATIONAL SEMINAR



SUSTAINABLE ACCESS AND LOCAL RESOURCE SOLUTIONS

28 – 30 NOVEMBER 2005, APSARA ANGKOR HOTEL, SIEM REAP, CAMBODIA

RESULTS - SEMINAR EVALUATION FORMS

The seminar evaluation form was designed to obtain the participants' feedback in order to incorporate their views in the design and organisation of future seminars. The feedback also facilitates the identification of issues and topics considered to be important by the participants. The participants completed the form anonymously.

The evaluation form was given to the attendees after the last presentation on the final afternoon and the results were immediately assessed to give a preliminary analysis of the findings. The following summary is the complete analysis of the evaluation forms.

SAMPLE

49 Questionnaires were returned; with approximately 50% of participants present for the final afternoons' sessions.

QUESTION 1. ACCOMMODATION

The hotel/accommodation arrangements for your stay here were:

VERY GOOD	GOOD	SATISFACTORY	BELOW AVERAGE	POOR
24	16	7	0	0
51%	34%	15%	0	0

There were two forms returned with nil responses.

QUESTION 2. VALUE

Do you think that the hotel accommodation was good value?

YES	45	92%
NO	2	4%
NO RESPONSE	2	4%

QUESTION 3. COMMENTS ON ACCOMMODATION

Do you have any further comments on Accommodation?

32 of the 49 forms received had no further comment.

6 commented that they were satisfied

The remaining 11 comments were varied and consisted of the following:

- The internet provided was slow and expensive, that they would have liked ASDL to be available and another had not realised that there was a business centre available,
- Two comments received noted that the accommodation was far from the centre of Siem Reap,
- There was no airport pickup service available,
- They would have liked more vegetarian food,
- It was not necessary to cool the conference room to such a low temperature – to please save some energy,
- Prices for food and beverage were too high,
- The food was a problem.

QUESTION 4. SEMINAR OBJECTIVES

Did the Seminar meet your expectations and objectives?

VERY WELL	ALMOST	SATISFACTORY	NOT REALLY	NOT AT ALL
16	19	13	0	0
33%	40%	27%	0	0

There was one form returned with a nil response

The two top categories indicated virtually a 73% positive response.

QUESTION 5. PRESENTATIONS

Which THREE papers/authors did you find the most useful for your work?

PAPER NO	AUTHOR	ORGANISATION	TITLE	PARTICIPANT'S PREFERENCES NOMINATED
1	Doekle Wielinga	ILO	Towards a Transport Infrastructure Management System	4
2	Adam Andreski & Rachel Flanary	ITTransport	IRAP in Ntchisi District Malawi	1
3	Rachel Flanary & Ron Dennis	ITTransport	The Potential for IMT Hire Centres to Improve Rural Access and Mobility	0
4	Granie Jayalath	RDA Sri Lanka	River Morphology and Rural Route Alignments	6
5	Visser, Augustin & Rai	EFRC-SP Bhutan	Environmentally Friendly Road Construction in Bhutan	5
6	William Ford & Simon Done	TRL	Labour-Based Surfacing Trials on the Mozambique Feeder Road Project	0
7	Miao Xiuying	Yunnan Province Roads	Cobble Stone Paving in Yunnan, China	6
8	Anthony Greening	TRL	Guideline for Low-Volume Sealed Roads	8
9	Ugyen Chewang	Min. Agric Bhutan	Agricultural Roads in Bhutan	1
10	Jasper Cook, Robert Petts, Dr Tam	Intech-TRL-ITST	The Performance of Low-Volume Unsealed Rural Roads in Vietnam	13
11	Petts, Cook, Tuan & Dzung	Intech-TRL	From Road Surfacing Problems to Mainstreaming new techniques in National Standards	12
12	Heng Kackada & Petts	Intech Cambodia	Appropriate economic appraisal for rural road upgrading	6
13	Abdul Quadir	LGED Bangladesh	Improving Mobility for the Rural Poor	1
14	Ranjith de Silva	IFRTD	Understanding the diversity of rural transport needs to address them	4
15	Robert &, Shyam	World Bank	Rural Access Indicator: A Key Development Indicator	2
16	D P Chandrasekhar	NRRDA India	Indicators for Rural Transport Sector.	8
17	Fergus Gleeson	UNOPS	Use of Poverty and Access Indicators for Fund Allocation & Project Appraisal	4
18	Julian Abrams	SEILA Cambodia	Socio-economic impact of rural access roads estimated from household survey data	5
19	Yogita Maini & Peter O'Neill	DFID	SEACAP: A new Project Management Model	6
20	O'Neill, Greening, Fouracre	DFID-TRL	The African Community Access Programme (AFCAP)	3
21	Dyson & O'Neill	DFID - PWC	The Global Transport Knowledge Partnership (gTKP): Enabling Sustainable Rural Access	4
22	Somnuk Mektakul	Dept. Roads Lao PDR	Dissemination of SEACAP 17 Activities in Lao PDR	1
23	Simon Done & Samwel Piouslin	TRL	DCP analysis & design of low volume roads by new TRL software	8
24	Pearce, Obika & Cutler	Roughton International	Community Involvement and Privatisation in the Implementation of Rural Access Programmes	3
25	Heng Kackada, Suos Kong, Petts	CNCTP Cambodia	Developing a Knowledge Sharing Forum (CNCTP) and knowledge networking	4
26	Paul Starkey	Reading University, UK	Methodology for the Rapid assessment of rural transport services	12

QUESTION 6. SEMINAR PERFORMANCE

The participants were asked to rate various aspects of the Seminar **overall** by indicating in the boxes

FEATURE	VERY GOOD	GOOD	SATISFACTORY	BELOW AVERAGE	POOR
VENUE AND SEATING ARRANGEMENTS	22	21	6		
QUALITY OF PAPERS PRESENTED	8	29	11		
EVENT PLANNING AND ORGANISATION	20	23	5		
CHAIRPERSONS	15	28	5		
PRESENTATIONS	8	31	7	1	
QUESTION & ANSWER SESSIONS	1	19	24	3	
DOCUMENTATION	13	24	9	1	1 manqué français = lack of French)
SECRETARIAT/HELP	17	21	6	1	
SEMINAR CATERING	15	21	10		
SOCIAL EVENTS	12	20	13		

QUESTION 7. What aspects and arrangements should be improved for future seminars? Of the possible 49, just 33 participants responded with the following comments:

1. Consider vegetarians in deciding on the menu.
2. The committee needs to inform early regarding paper presentations and specifically highlighting on the types of relevant topics for the seminar proposed.
3. Less topics and group different continental experiences per topic.
4. Refrain from marketing consultants' own products and services.
5. Better seating arrangements, it was too congested.
6. Fewer papers; more discussion and group sessions.
7. If possible to provide for and facilitate discussions among participants.
8. Provide documentation in French and in advance
9. More time for reflection and discussion.
10. a) Some focused discussions, b) some constructive review c) Some Planning of collaboration options.
11. Some papers were not on the theme. With insufficient detail i.e. paper needs to add knowledge.
12. Documents or papers for presentation should be disseminated at least one day before the seminar.
13. Share experience on the planning of the Road Network (including Highways and Local roads) in ASEAN countries.
14. Choose hotel with good business centre/internet access.
15. Keep this level but involve "soft sectors" participants i.e. less of technical detail and more of sustainability of service.
16. Secretariat/help.
17. Grouping themes e.g. policy, technical.
18. More time for discussion, detailing in site inspection/field visit, better focus in papers on the central theme.
19. Select best practices presentation (not too many) divide group discussion.

20. I feel we have many mechanisms such as CPC, SEACAP, AFCAP, gTKP, REAAA etc., and it seems that the efforts of these organisations get duplicated, mainly all of them have the common objective of dissemination of information and knowledge.
21. More critical discussion time for creating better understanding to make knowledge applicable in my own context. Too many assumptions underlying conclusions.
22. Field trip should be arranged to see the construction work site, not the completed site. In the field we cannot see any construction work which is going on.
23. Topic: a) Expand on mainstreaming, b) Show clearly website references for all to grasp.
24. Power point presentations should have been sent in advance and made audience friendly. Some tables were not visible. Group discussions should be better organised to have effective participation and communications of all members. Field visit discussions were poorly arranged. Small groups could have been formed each with leadership and different people familiar with demonstration sites. Some ongoing construction demonstrations would have been better
25. Handout should be provided before presentation b) slides should be visible c) during presentation – question and answer should be allowed.
26. Documentation package. Period of seminar should be shorter (1 or 2 days).
27. This should be more practically orientated.
28. Organisation and content effectiveness
29. Documentation for presentation should be disseminated at least one day before seminar.
30. Less marketing of agencies/consultants.
31. Handout of each presentation should be given in advance of event.
32. Abbreviations are necessary.
33. As such it is really enormous, about 26 papers presented at the seminar.
34. Too many reference documents.
35. The Master of Ceremonies should be a “cross cutting” knowledgeable person.

QUESTION 8. What topics would be most useful for your work in future seminars?

There was a wide range of responses, however two in particular dominated.

The first was; **Approaches to Rural Design Indicators, Design and Investment Prioritisation** (on how to assess and rank).

The second was; **Integrated Planning.** In particular the impact on poverty reduction/Millennium Development Goals (**MDGs**)

These two responses are closely linked and they accounted for approximately 50% of the participant's priority replies.

Of the other specific areas suggested, most important were **The Road Surfacing Options**, followed by **Maintenance Management and Operations**, **Privatisation**, **Road Safety**, **Knowledge Barriers**, **Finance and Funding**.

16. **WORKING SESSION OUTPUTS - to be completed**
17. **DISCUSSION SESSIONS - to be completed**
18. **LIST OF SEMINAR PARTICIPANTS – to be completed**