|  |  |
| --- | --- |
| **Programme** | **Venue** |
| **23 October 2017, Monday** |  |
| **8.00 p.m. – 10.00 p.m.** | **eBKF6 Pre-workshop** | **Lawas** |
| **24 October 2017, Tuesday** |  |
| **12.00 p.m. – 3.00 p.m.** | **Borneo Drive Through Workshop & Innovation Walk*** Lunch
* Exploring Long Tanid
* Community Workshop : Issue faced by community in term of sustainability of their livelihood and cultures
 | **Long Semadoh** |
|  | **Arrival of participants** | **Ba’kelalan** |
| **7.30 p.m. – 8.30 p.m.** | **Dinner** | **Main Hall**  |
| **Day 1:** **25 October 2017, Wednesday** |
| **7.00 a.m. – 8.30 a.m.** | **Breakfast**  | **Main Hall****\* Health Screening by Ba’kelalan Health Clinic** |
| **8.30 a.m. – 9.00 a.m.** | **Recap of eBKF 5 Knowledge Tree**  |
| **9.00 a.m. – 9.45 a.m.** | **Workshop 1 : Tagal/Tagan: Traditional Practices Of**  **Environmental Protection by Dr Roger Harris** **(Founder of Roger Harris Associates)** |
| **9.45 a.m. – 10.30 a.m.** | **Workshop 2 : Global Service-Learning in Borneo: Lessons Learned** **and Moving Forward By Associate Professor Dr**  **Shorna Allred** **(Associate Professor and Associate Director Human**  **Dimensions Research Unit Dept. of Natural**  **Resources, Cornell University)** |
| **10.30 a.m. – 10.45 a.m.** | **Break**  | **Main Hall**  |
| **10.45 a.m – 11.30 a.m.** | **Keynote Speaker : Safeguarding The Interests Of The Marginalised:**  **Rhetoric And Reality Of Global ICT4D Initiatives**  **Designed To Deliver The SDGs By Professor Dr**  **Tim Unwin (UNESCO Chair in ICT4D and Emeritus**  **Professor of Geography, Royal Holloway, University of London Honorary Professor, Lanzhou University, China)** | **Main Hall**  |
| **11.30 a.m. - 12.15 p.m.** | **Workshop 3 : Workshop on Transformation of community** **telecentres into Knowledge Centres in rural**  **Malaysia Centres By Associate Professor Dr**  **Poline Bala** **(Associate Professor of Faculty of Social**  **Sciences University Malaysia Sarawak)** |
| **12.15 p.m. – 1.00 p.m.** | **Lunch** | **Main Hall**  |
| **1.00 p.m. – 2.00 p.m.** | **Prize Giving Presentation for School Children Competition and Visit to Exhibition** | **Main Hall** |
| **2.00 p.m – 4.00 p.m.** | **Sites’ Presentation:** **Overview by Professor Dr. Narayanan Kulathuramaiyer*** eBario – Cr. John Tarawe

 (eBario Knowledge Centre, Rebranding of eBario)* eBa’Kelalan – Lisa Buing
* eLamai – Garen Jengan
* Pos Gob – Dr Peter Karubi
* Pos Lenjang – Dr Joh Phoa
* Pos Sinderut – Dr Wong Siew KIong
 | **Main Hall** |
| **4.00 p.m. – 4.30 p.m.** | **Tea Break** | **Main Hall**  |
| **7.30 p.m. – 10.30 p.m.** | **Opening Ceremony and Community Dinner**  | **Main Hall** |

|  |  |
| --- | --- |
| **Programme** | **Venue** |
| **Day 2:** **26 October 2017, Thursday** |
| **7.00 a.m. – 8.30 a.m.** | **Breakfast**  | **Main Hall** |
| **8.30 a.m. – 9.15 a.m.** | **Workshop 4 : Resolusi Konflik dalam Adat Masyarakat**  **Dataran Tanah Tinggi Borneo by**  **Ba’kelalan Community - FORMADAT** |  |
| **9.15 a.m. – 10.00 a.m.** | **Workshop 5** : **Language Landscape; Mapping and**  **Preserving Endangered Languages by**  **Charlotte Hemmings** **(University of Oxford, Linguistics, Philology,**  **and Phonetics, Post-Doc** |  |
| **10.00 a.m. – 10.45 a.m.** | **Tea Break** | **Main Hall** |
| **10.30 a.m. – 11.15 p.m.** | **Invited Speaker : Resource-Based Agropreneur**  **Development in Bario and Ba’Kelalan**  **by Make Jiwan**  **(Department of Crop Science Faculty**  **Of Agriculture and Food Scienc Universiti Putra Malaysia Bintulu)** | **Main Hall** |
| **11.15 p.m. – 12.00 p.m.** | **Workshop 6 : Community Area Zoning in the**  **Highlands of Sabah and**  **Sarawak by Alicia Ng** **(WWF – Malaysia Sarawak) - FORMADAT** |
| **12.00 p.m. – 12.45 p.m.**  | **Invited Speaker : Tapak Budaya di Daerah Lawas by Ipoi Datan (Director of Sarawak Museum)** |
| **1.00 p.m. – 2.00 p.m.** | **Lunch** | **Main Hall** |
| **2.00 p.m. – 2.45 p.m.** | **Workshop 7 :** Digital Economy by Prof. Dr  Narayanan Kulathuramaiyer (eBKF Co-Chair Director of Institute of Social Informatics and  Technological Innovations)  | **Main Hall** |
| **2.45 p.m. – 4.30 p.m.****(20 minutes each paper)** | **eBKF Paper Presentations*** Oroo’ Digitization Project: Looking back to move forward – Dr Tariq Zaman
* Geomorphology Of Ba Kelalan Area – Potentials And Limitation For Rural Development - Edward anak Muol
* Language Landscape: a tool for mapping indigenous languages - Charlotte Hemmings, University of Oxford
* The Cultural And Environment Impacts Of Tourism Development In Sarawak - Komathi Wasudawan
* Using Crowdsensing to Improve Community Resilience to Climate Change - Dr Amit Pariyar
 |
| **4.30 – 5.00 p.m.** | **Tea Break** | **Main Hall** |
| **7.30 p.m. – 8.30 p.m.** | **Dinner** | **Main Hall** |

|  |  |
| --- | --- |
| **Day 3:****27 October 2017, Friday**  |  |
| **7.00 a.m. – 8.30 a.m.** | **Breakfast**  | **Main Hall** |
| **8.30 a.m. – 10.30 a.m.** | **Finale: Bring it all together (1)** | **Main Hall** |
| **10.30 a.m. – 10.45 a.m.** | **Tea Break** | **Main Hall** |
| **10.45 a.m. – 11.30 a.m.** | **Finale: Bring it all together (2)** | **Main Hall** |
| **11.30 a.m. – 1.00 p.m.** | **Closing Ceremony & Lunch** | **Main Hall** |
| **3.30 p.m. onwards** | **Exploring Ba’Kelalan** | **Gather at Main Hall** |
| **6.00 p.m. – 7.30 p.m.** | **Dinner**  | **Main Hall** |

**Info regarding eBKF 6 2017.**

**About**

The **eBorneo Knowledge Fair(eBKF)** is a re-branded version of what was previously called **the eBario Knowledge Fair** and it represents the expansion of the eBario project to include more indigenous communities in Borneo, and beyond. The event is a bi-annual un-conference, held in the central Borneo highlands of Sarawak, Malaysia. It showcases the use of Information and Communication Technologies (ICTs) for development in isolated rural communities, especially those that consist of indigenous peoples. It is organised by the **Institute of Social Informatics and Technological** **Innovations** at Universiti Malaysia Sarawak in conjunction with the local community, bringing together researchers, practitioners and policy makers with the resident indigenous peoples, in both Malaysia and neighbouring Indonesia.

**Location**

eBKF 6 will be held at Ba’kelalan, in the heart of Borneo. The host community of Ba’Kelalan consists of a group of nine villages in the Kelabit Highlands, at about 3,000 feet above sea level and 4 km from the border with Indonesian Kalimantan. The residents mostly belong to the Lun Bawang indigenous people. The name Ba’Kelalan is derived from the Kelalan River and Ba’bwhich means wet lands in the Lun Bawang language. The population is around 1,200, although several thousand people call it home. In the cool mountain climate, temperate fruits such as apples and mandarin oranges are grown. The area also produces rice, and mountain salt is obtained from the nearby hills.

**Borneo Drive-Thru**

Travelling to eBKF6 offers a choice between flights by MASwings Rural Air Service; Miri-Ba'Kelalan; Miri-Bario-Ba'Kelalan or Lawas-Ba'Kelalan, or by road from Lawas. It is also possible to travel by road from Miri to Bario and then take a flight from Bario to Ba'Kelalan. Because there are limited seats on the Twin-Otter flights, the road option from Lawas will be inevitable for many. Lawas is accessible by air or road from Miri (via Brunei) or by road from Kota Kinabalu. The road journey from Lawas to Ba'Kelalan is something of an adventure, requiring a 4x4 vehicle; it follows a logging road which is paved some of the way. The journey time is between five and eight hours, depending on the weather and length of stops. It offers an intimate encounter with Borneo's undeveloped interior and it passes through several traditional kampungs. So for the first time we are incorporating the travel experience into the proceedings of eBKF; as a pilot for the Borneo Drive-Thru. Paticipants will engage in a community workshop that will examine issues that the residents face with regard to the sustainability of their livelihoods and cultures in one of the kampungs along the way. The proceedings will be summarised and the party will be joined by community representatives to proceed to Ba'kelalan to present them at the eBKF. If there is more than one group of travellers, we will select different kampungs so that the outputs from the workshops can be compared and contrasted. The intent is to enrich the local knowledge that will be exchanged at the Knowledge Fair in support of proposals for further research and development that will contribute to community sustainability and resilience in the Highlands.

**Theme: Community-Based Sustainability**

Our theme for eBKF 2017 is Community-Based Sustainability, as we acknowledge that sustainable development and environmental protection go hand-in-hand; you can’t have one without the other. We further recognize that whilst Borneo accounts for just 1% of the world's land, it holds approximately 6% of global biodiversity, with an average of three new species being discovered each month. Moreover, governments and global agencies are now agreeing that the areas that are most impacted by climate change are those that are occupied by indigenous peoples. Ironically, whilst they contribute the least to the human causes of climate change, they suffer the most from its effects. At the same time, it is becoming increasingly evident that the indigenous occupants of these areas are the most effective stewards of their environments and that the effectiveness of their continued stewardship is based on their ability to maintain their traditional and sustainable lifestyles. As unsustainable agricultural practices remain one of the greatest threats to ecosystems and biodiversity, Community-Based Sustainability sits at the heart of environmental protection.

**Community Workshops**

The essence of the eBorneo Knowledge Fair consists of the interchanges among community members, researchers, policy makers and practitioners. This year’s event will pick up the rolling agenda from eBKFV in 2015; presenting the latest research findings to the communities of the highlands and seeking their responses and inputs for further inquiries. Topics that have been identified so far include:

• Service Learning

• Tagal/Tagan: Traditional Practices of Environmental

Protection

• Climate Change and Indigenous Knowledge

• Community Based Tourism

• Highland Arts and Crafts

• Digital Economy

• Aerial Photography for Community Land Planning

• Klik Dengan Bijak: Cyber Security (Community)

• Community Museum

**Tagal/Tagan: Traditional Practices of Environmental Protection**

**Prof. Dr Roger Harris**

**eBKF6 Co-Chair,**

**Visiting Professor, Institute of Social Informatics and Technological Informations, UNIMAS**

**Founder of Roger Harris Associates**

rogharris.org@gmail.com

**Abstract**

The system is practiced by communities to control and preserve their natural forest resources through the application of traditional customs and knowledge and by enhancing their values, increasing participation among community members through education as well as promoting their traditional customs. The workshop will examine how the practice can be strengthened and broadened through the use of ICTs.

**Global Service-Learning in Borneo: Lessons Learned and Moving Forward**

**Shorna Allred. PhD**

Associate Professor and Associate Director,

Human Dimensions Research Unit

Dept. of Natural Resources, Cornell University

srb237@cornell.edu

**Amy Kuo Somchanhmavong**

Associate Director, Service-Learning and Partnership

ayk3@cornell.edu

**Prof. Nara Kulathuramaiyer, Prof. Tariq Zaman, Prof. Roger Harris**

**Institute of Social Informatics and Technological Innovations, UNIMAS**

nara@unimas.my

ztariq@unimas.my

rogharris.org@gmail.com

**Abstract**

In 2016, a group of Cornell and UNIMAS students came together to work and learn from and with elders and community members in Long Lamai on documenting the history and challenges in four areas of concern in the community: Micro-Hydro, Telecentre, Tourism and Water Supply.  Through this experience, lessons were learned by three entities as we continue to prepare both university students for the upcoming engagement with Long Lamai.  The workshop is intended to share and report back on all three entities’ experience with service-learning and community based research in Long Lamai.  While reporting back, the workshop will engage in conversation with participants, particularly with various indigenous communities in Borneo on developing a global service-learning framework that lead university students and communities to work together as a collective rather as partners.  We will also present a model of the partnership for indigenous community resilience through global service-learning.

**Safeguarding the interests of the marginalised: rhetoric and reality of global ICT4D initiatives designed to deliver the SDGs**

**Prof Dr Tim Unwin**

UNESCO Chair in ICT4D and Emeritus Professor of Geography, Royal Holloway, University of London
Honorary Professor, Lanzhou University, China

tim.unwin@rhul.ac.uk

**Abstract**

Much attention is being placed on how ICTs can deliver the Sustainable Development Goals (SDGs). However, the World Bank has highlighted that many of the world’s most marginalised people have been left behind by technological developments, and that global inequality has actually increased. It seems that the dream of ICT4D (ICT for Development) has been subtly replaced by the reality of D4ICT (Development for ICTs), whereby the private sector, governments, and civil society are using development as a vehicle to enhance their own ICT agendas rather than delivering on the needs of the most marginalised. There are four issues: problems with the SDGs and the role of ICTs; the absence of the interests of the marginalised; the implications of a cyborg dominated world; and suggestions for safeguarding the interests of the marginalised by focusing on human responsibilities rather than rights.

**Transformation of community telecentres into Knowledge Centres in rural Malaysia**

**Associate Professor Dr Poline Bala
Associate Professor Dr Tan Eng Chong**

**Institute of Social Informatics and Technological Innovation**, **UNIMAS**
bpoline@unimas.my
cetan@unimas.my

**Abstract**

This paper has three objectives. First, it explains the increasing importance of knowledge, information and ideas in contemporary global system. In relation to this, the second objectives attempt to answer the question is what and where are the roles of rural communities (in this case in Sarawak and Malaysia in general) in the rapid circulation of knowledge especially in the context of revolutionary communication technologies, and – the roles of universities as knowledge centres. The third objectives, will explore in what ways existing telecentres can be transformed into knowledge centres in rural and remote communities?

**Community Workshop: Dispute Resolution and Conflict Management Mechanisms among Highland Communities of Central Borneo**

**Associate Professor Dr Poline Bala**

**eBKF6 Co-Chair**

**Institute of Social Informatics and Technological Innovation**, **UNIMAS**

bpoline@unimas.my

**Abstract**

This workshop is mooted and designed to understand how disputes and conflicts from trivial interpersonal disagreements to serious dispute are managed and resolved among communities in the highlands of Central Borneo. It aims to identify most common conflict issues in the highlands, and what are the existing traditional and governmental-based institutions to solve these conflicts (including crimes) among Highlands communities. This is very important as the highlands and their inhabitants continue to experience social, economic and political change as a result of modernization. And these have direct implications on the roles of customary institutions in maintaining order in many of these communities.

 **Language Landscape: a tool for mapping indigenous languages**

**Charlotte Hemmings**

**University of Oxford**

**charlotte.hemmings@ling-phil.ox.ac.uk**

**Abstract**

This paper introduces Language Landscape, a digital tool for mapping languages by uploading language recordings to a world map at the location at which they were made. The paper discusses the rationale behind the LL mapping concept, illustrates the key features of the website and presents three case studies of LL projects that have been used to raise awareness for minority languages and multilingualism. The website enables users to browse existing content and gain a snapshot of the world’s linguistic diversity. In addition, it enables users to directly contribute to the map by uploading new recordings, either individually or as part of a custom ‘project’ sub-map. Hence, LL is a useful tool for promoting indigenous languages by sharing language materials and empowering communities to play a central role in how their languages are presented.

**Resource-Based Agropreneur Development in Bario and Ba’Kelalan**

Make Jiwan, Louisiana Lulu Lukas, Saripah Banseng

Department of Crop Science, Faculty of Agriculture and Food Sciences

Universiti Putra Malaysia Bintulu Campus, 97000 Bintulu, Sarawak

make@upm.edu.my

**Abstract**

Bario and Ba’kelalan are unique highland settlement area reside by two different ethnic (Kelabit and Lun Bawang) that sharing same trade commodities such as Adan Rice a.k.a Bario Rice and natural products (e.g. highland salt), besides having almost similar microclimate and geographical condition. Rice-based business is the key to the economic enhancement for these two areas besides tourism. Labour or workforce and logistic are the common problems that become the drawback factors in introducing new labour intensive agriculture venture within this area besides logistic and some socio-cultural factors. Agro-entrepreneur in both areas should optimise the existing resources and focus on the production of low input high value products. Paddy production need to be increase from traditional 1 tonne to 5 tonnes per hectare which will generate RM20,000.00 per hectare (RM4.00 per kg of paddy). Five tonnes of paddy will be produced by 20 tonnes of straw which will be the resources for growing mushroom and making compost for enhancing the horticultural sectors. This will give additional RM4000.00 per hectare from straw. Study conducted in Ba’kelalan showed that the paddy has the potential to produce up to 6 tonnes of paddy per hectare per season. The fallow paddy field should be optimised for rearing fishes or other aquatic products that can be harvested within 5 months period. With abundance of water sources and slight modification of paddy field, yield or revenue gain per acreage of land can be increased without having additional labour force. Mushrooms, stingless bee and bee rearing are among new agro-enterprise that suit the condition of areas where the community are practising pesticide free farming system. Other less damaging farming activity is coffee farming which will be became the nectar and pollen source for the bees. Decorative or complimentary agro-enterprise such as flower, strawberry or other sub-tropical fruits or vegetables will become the accessories for attracting tourist to this area. Furthermost, packaging, branding and distribution of these rural premium products are the key for sustaining this resource-based agro-preneur within this highland region. Thus, this paper will discuss on resource optimisation and agro-preneur development strategy applicable for this areas from science, social, economic and environmental perspectives.

**Community Area Zoning In The Highlands Of Sabah And Sarawak**

**Alicia K.C. Ng**

**Senior Programme Officer - Community Engagement and Education**

**WWF-Malaysia**

kcng@wwf.org.my

**Abstract**

This presentation comprises two parts: 1) sharing of a community empowerment activity using zoning of community-use and natural resource areas; 2) using part of the outcomes as a jump-off point for further dialogue. From 2014 – 2017, a series of training workshops and mapping activities with the indigenous communities of Ba’ Kelalan, Long Semadoh and Long Pa’ Sia’ were carried out for a total of 30 participants in the highlands of Sarawak and Sabah. The objective of carrying out community area zoning was to empower the indigenous people from the highlands of Sabah and Sarawak towards management and monitoring of their own community-use and important conservation areas. This then built towards developing a plan to establish Indigenous Community Conserved Areas (ICCAs) by the people themselves so that they can be part of the initiative towards sustainable development in the highlands. This activity is a collaborative effort between the Alliance of the Indigenous Peoples in Borneo (FORMADAT) and WWF-Malaysia. It also involved other partners such as Forest Department Sarawak (FDS), Sarawak Forestry Corporation (SFC), Ministry of Tourism and Culture, and Curtin University. Local communities were trained by GIS experts from WWF-Malaysia together with previously trained community members from Bario. The activities comprised one capacity building workshop per village, aimed to introduce local communities in the highlands to GPS and usage; basic mapping theory, field work and practical mapping exercises. The communities then carried out work on the ground to tag waypoints at key trails and places of interests, cultural sites (old cemeteries, crocodile mounds, megaliths, sharpening stones, etc.), paddy fields, hunting grounds, salt licks, important sources of water and much more. The result from Ba’Kelalan has produced an initial zoning map. This must now be used as a tool towards planning and sustainable management of their area. The next part of this session will consist of a dialogue with the communities and other stakeholders for this purpose.

**Digital Economy**

**Professor Dr Narayanan Kulathuramaiyer**

**eBKF6 Co-Chair,**

**Director of Institute of Social Informatics and Technological Innovations, UNIMAS**

nara@unimas.my

**Abstract**

Digital Economy is not a new concept, but it is now widely being seen as the way forward for the state of Sarawak. This workshop is aimed at helping us answer some basic questions relating to Digit a l Economy. Do we really know what it is all about? Do we know how it relates to our daily lives? Can it help us to shape our future?

**Paper Presentation**

**Oroo’ Digitization Project: Looking back to move forward**

Tariq Zaman1, Heike Winschiers Theophilus2 and Garen Jengan3

1Universiti Malaysia Sarawak, 2Namibia University of Science and Technology, 3Long Lamai Community

ztariq@unimas.my

**Abstract**

In this presentation, we share our experiences and insights of co-designing mobile technologies with indigenous communities for digitization and preservation of Oroo’ sign language. We reflect upon and report the outcomes of design journey which we initiated during the 4th eBario Knowledge Fair in 2013.  We recognize the fact that the representation of Oroo’ language is transformed within the digitization process under the limitations and capabilities of the technology. We believe that a continuation of local appropriation and co-design of tools will lead to an integrated, intuitive and non-intrusive design process within the local communities.

Geomorphology Of Ba Kelalan Area – Potentials And Limitation For Rural Development

Edward Muol
Senior Geologist
Mineral and Geoscience Department Sarawak

edwardm@jmg.gov.my

**Abtract**

The Minerals and Geoscience Department Malaysia, Sarawak has undertaken the geological terrain mapping in areas which have been designated to be developed and one of it is Ba Kelalan. Ba Kelalan, a remote place in Sarawak has grown phenomenally during the 2012 when the so-called tar-sealed road was completed at the end of 2011. The hilly topographical features which covered the eastern and western wings of Ba Kelalan’s Valleys influence the construction suitability of the locality for development. Geological terrain mapping of an area 20km2was carried out mainly to cater for land use planning and sustainable development of Ba Kelalan. Basic informations such as geology, topography, landform and zones which are potentially unstable are required to produce thematic maps. These maps would serve as a guide for the planned development in Ba Kelalan area. The results of the study showed that more than 63% of the Ba Kelalan area are in Classes I and II that is suitable for land development purposes, with low to moderate geotechnical constraints. Less than 37% are in Classes III and IV, whereby 28.13% which are in Class III are less suitable for development and would have high geotechnical constraints, while 8.79% are in Class IV that are not suitable for development. The Class IV land would encounter extreme geotechnical constraints, require very high development costs and very intensive site investigations.

**Language Landscape: a tool for mapping indigenous languages**

Charlotte Hemmings

University of Oxford

charlotte.hemmings@ling-phil.ox.ac.uk

**Abstract**

This paper introduces Language Landscape, a digital tool for mapping languages by uploading language recordings to a world map at the location at which they were made. The paper discusses the rationale behind the LL mapping concept, illustrates the key features of the website and presents three case studies of LL projects that have been used to raise awareness for minority languages and multilingualism. The website enables users to browse existing content and gain a snapshot of the world’s linguistic diversity. In addition, it enables users to directly contribute to the map by uploading new recordings, either individually or as part of a custom ‘project’ sub-map. Hence, LL is a useful tool for promoting indigenous languages by sharing language materials and empowering communities to play a central role in how their languages are presented.

**The Cultural And Environment Impacts Of Tourism Development In Sarawak**

Komathi Wasudawan & *Rossazana Ab-Rahim*

Faculty of Economics & Business, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak.

arrossazana@unimas.my

**Abstract**

Tourism development and poverty alleviation have focused on cultural and environmental impact since 1990s’ for sustainable tourism development. Therefore, the study aims to investigate the rural culture, cultural attraction, rural environment and environment conservation on poverty alleviation. A total of 520 completed questionnaires were collected from communities in East Sarawak, Malaysia and the partial least squares analysis is used to analyse data. The statistical result indicates that rural culture, cultural attraction, rural environment and environment conservation have positive impact on the local community well-being through preserving and conserving the culture and environment.

**Using Crowdsensing to Improve Community Resilience to Climate Change**

**Dr Amit Pariyar**

**Post-Doctoral**

**Institute of Social Informatics and Technological Innovation**, **UNIMAS**

pamit@unimas.my

**Abstract**

The world is witnessing serious impacts of climate change such as severe droughts, recurring flash floods, extreme heat waves and violent storms. IPCC estimates that the frequency and intensity of such climate induced hazards are certain to increase, given the current trajectory of rise in surface temperature up to 4.8 degrees in the highest emission scenarios. Though both urban and rural communities are collectively exposed to this crisis, indigenous people are most vulnerable because of their dependence on biodiversity for socio-economic reasons. This puts community resilience to climate induced hazards as a ‘must have’ to cope, withstand and recover from adverse situations and lead a prosperous life. Meanwhile ICT4D research in delivering services to address developmental challenges in areas such as agriculture, health and education has received positive outcomes in developing countries. It is expected that ICT4D solutions will be replicated to ensure community resilience when facing climatic adversities. But climate change has not been central to ICT4D and hence their solutions are contextual to specific development challenges. For instance, having better access to information on agricultural productivity with mobile phone enabled agriculture extension services will partly make community resilient to food shortages, but may not exclusively justify for a community being resilient to several other consequences of climate change. This working paper conceptualizes an integrated information sharing solution to improve community resilience particularly to climate induced hazards. We also suggest using locally sensed data such as temperature, humidity via sensors in mobile phones called as Crowdsensing, to augment information sharing solution. We also propose to target Ba’ Kelalan and Long Lamai communities to integrate their indigenous knowledge on climate change.

Organizing Committee

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Advisors | Co-Chairs | **Secretary** | **Treasurer** | **Publications and Program** | **Meals** |
| [Profesor Datuk Dr Mohamad Kadim bin Suaidi](https://expert.unimas.my/profile/2562) | [Profesor Dr. Narayanan Kulathuramaiyer](https://expert.unimas.my/profile/130) | Dr Amit Pariyar  | Yusri Jumat | Dr Roger Harris | Farina Osman |
| [Profesor Dr. Kopli bin Bujang](https://expert.unimas.my/profile/145) | [Profesor Madya Dr. Poline Bala](https://expert.unimas.my/profile/355) | Bunia Samiran  | Samsina Serah | Farina Osman | Nor Safura |
| [Profesor Mohd Fadzil bin Abd Rahman](https://expert.unimas.my/profile/270) | Dr Roger Harris |  |  | Dr Amit Pariyar | Halluyah  |
| [Profesor Dr. Wan Hashim bin Wan Ibrahim](https://expert.unimas.my/profile/1633) |  |  |  | Jaya Laxhmi | Bunia Samiran |
|  |  |  |  | Prof Narayanan Kulathuramaiyer | Samsina Serah |
|  |  |  |  | A.P. Dr Poline Bala | Siti Zuraina |
|  |  |  |  |  | Community : Kaum Ibu |
|  |  |  |  |  | Mikal Peru |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Accommodation** | **Transportation** | **Registration** | **Protocol** | **Publicity** | **Technical** | **Workshop Committee** |
| Farina Osman | Farina Osman | Halluyah | Prof Narayanan Kulathuramaiyer | Jaya Laxshmi | Mohd Zaki | Dr Poline |
| Nor Safura | Edwin Meru  | Samsina | Dr Amit Pariyar | Yusri Jumat | Yusri Jumat | Dr Roger |
| Edwin Meru | Lisa Buing  | Nor Safura | Bunia Samiran  | Bunia Samiran | Justin Malik | Prof Narayanan |
| Lisa Buing | Yusri Jumat | Siti Zuraina | Nor Safura | Edwin Meru | Edwin Meru | Farina |
| Evvia Veno | Justin Malik |  | Halluyah | Ismail | Lisa Buing | Yusri Jumat |
| KK. Yudan Meru | Robert Agong |  | Edwin Meru | Community Ba’kelalan | Franklin George | Edwin Meru |
|  | Marten Balang |  | Lisa Buing |  | Alex Sigau | Evvia |
|  | Community :4wd lawas |  | Community Long Tanid & Ba'kelalan |  | Evvia Veno |  |
|  |  |  | TK. Yudan Meru |  | Coommunity Ba’kelalan | Community Ba’kelalan (Translator) |
|  |  |  | TK. Agong Tai |  | Kading Sultan | Sang Sigar |
|  |  |  |  |  | Paulus Padan | Lawrance Rining |
|  |  |  |  |  | Slutan Padan |  |