

**Proposal Form for
Applications to the *infoDev* Core Program**

Electronic Commerce for Community-Based Pro-Poor Tourism.

Proposal ID number (to be completed by *infoDev*):

2. Date of Proposal: 25 September 2002

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4. Project Cost and Duration:

4.1 Total project cost (in \$US): US\$236,321

4.2 Funding Requested from *infoDev* (in \$US): US\$92,211

4.3 Project Duration (months or years): 2 years

5. Participating/Partner Organizations:

Bario Village Development Security and Health Council
Pemanca Ngimat Ayu, Paramount Chief of the Kelabits,
Bario Region, Kelabit Highlands, Bario, Baram 98050, Sarawak, Malaysia.
Overall project facilitation, guidance, direction and community mobilisation.

The Tourism Bureau, Board of Committees

Head, Mr. John Tarawe

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Bario Region, Kelabit Highlands, Bario, Baram 98050, Sarawak, Malaysia.

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Mobilisation and co-ordination of local tourism committees for; accommodation providers,
guides, porters, produce growers, handicraft artisans, sales outlets, catering operators, tea shops
and local flora and fauna experts.

Gatuman@Bario (Bario Telecentre)

Bario Region, Kelabit Highlands, Bario, Baram 98050, Sarawak, Malaysia.

<http://www.unimas.my/ebario/>

ICT support and Internet access for the Bario community.

CLASSIFICATION OF PROJECT

6. Category: E-Commerce

7. Type of Organization: Academic/Research Institution

8. Geographic Location of Proposed Project: Malaysia

9. Proposal Executive Summary:

Bario is a remote rural community in the Kelabit Highlands of the Malaysian State of Sarawak, on the island of Borneo.¹ It is the homeland of the Kelabit people, one of the smallest indigenous Sarawakian ethnic minorities. Bario is one of the centres visited by the indigenous Penan tribe, constituting the last remaining nomadic and semi-nomadic peoples living in the rainforest. Bario is also the site of a pioneering international award-winning rural ICT project, *e-Bario*, which involved the establishment of a development telecentre. This proposal seeks to utilise e-commerce to promote community based pro-poor tourism in Bario in order to raise incomes and to construct a model for doing the same with other rural and remote communities in Asia.

10. Poverty Reduction Impact

The Kelabit Highlands of Borneo are rich in natural assets; climate, mountains, rainforest, wildlife and local indigenous cultures. Bario, is an isolated farming community accessible only by air. The Bario population has been dwindling and the economic viability of the community is threatened. The new telecentre brings opportunities for local development with ICTs. The telecentre will be linked directly to an e-commerce server in the City University of Hong Kong. The project will develop appropriate tourism in the Highlands, generating paid employment and trade opportunities for a wide range of local people, including the semi-nomadic Penan.

11. Comparative Projects in the Subject Area

The proposal brings together three complementary concepts that are rarely associated together; community-based tourism, pro-poor tourism and e-commerce. Community based tourism is closely associated with ecotourism, and is regarded as a tool for natural and cultural resource conservation and community development.² It is a community-based practice that provides contributions and incentives for natural and cultural conservation as well as providing opportunities for community livelihood. Community-based tourism provides alternative economic opportunities, which are in essence in rural areas. It has the potential to create jobs and generate entrepreneurial opportunities for people from a variety of backgrounds, skills and experiences, including rural communities and especially women.

Pro-poor tourism aims to increase the net benefits for the poor from tourism, and ensure that tourism growth contributes to poverty reduction. It is not a specific product or sector of tourism, but a specific approach to tourism. Pro-poor tourism strategies unlock opportunities for the poor; whether for economic gain, other livelihood benefits, or participation in decision-making.³ Early experience shows that pro-poor tourism strategies do appear able to 'tilt' the industry at the margin, to expand opportunities for the poor and have potentially wide application across the industry. Poverty reduction through pro-poor tourism can therefore be significant at a local or district level. Moreover, the poverty impact may be greater in remote areas, though the tourism itself may be on a limited scale.⁴

Tourism and e-commerce are natural partners.⁵ Tourism is highly information-intensive. Purchase and delivery are normally remote occurrences. During the intermediary period the tourism product exists in the form of information only (reservation number, ticket, voucher). Value added by international tourism intermediaries, who are often no more than marketers and information handlers and who rarely own or manage physical tourism facilities, can be as high as

¹ The Kelabit Highlands remains "one of the most unspoiled regions on earth", Charles de Ledesma, Mark Lewis and Pauline Savage, "Malaysia, Singapore and Brunei: The Rough Guide", Penguin Books, 1995.

² Proceedings of the Conference on Community Based Ecotourism in Southeast Asia, Thailand, 27 February - 8 March 2002, http://www.recoftc.org/download/CBT_discussion/CBETconf_summary.pdf

³ Pro-Poor Tourism Report No. 1. Pro-Poor Tourism Strategies: Making Tourism Work For The Poor. A Review of Experience, Caroline Ashley, Dilys Roe and Harold Goodwin, Overseas Development Institute, International Institute for Environment and Development, Centre for Responsible Tourism, April 2001, http://www.propoortourism.org.uk/ppt_report.pdf.

⁴ Pro-Poor Tourism: Harnessing the World's Largest Industry for the World's Poor Dilys Roe IIED, UK and Penny Urquhart Khanya, South Africa. <http://www.propoortourism.org.uk/Dilys%20IIED%20paper.pdf>

⁵ E-Commerce and Development Report 2001, United Nations Conference on Trade and Development. <http://www.unctad.org/en/docs/ecdr01ove.en.pdf>

30 per cent or more, thus controlling general terms and conditions throughout the whole value chain. Although it is the destination's socio-economic, cultural and geographical content that forms the fundamental tourism product, it often happens that with each intermediary party taking a commission, little income remains for the destination at which the product is consumed.

Electronic commerce for tourism (e-tourism) can disintermediate and deconstruct the tourism value chain driving income closer towards the actual providers of tourism experiences. But online payment possibilities, which are fundamental to closing sales, and a lack of local financial and technological infrastructure that is typical of rural and remote locations in developing countries, regularly force e-businesses to establish external subsidiaries and accounts, thereby perpetuating dependence on established intermediary operations.

Marketing is a strategic tool for community-based tourism advocacy and sustainability. Marketing can enhance the success of community-based tourism by identifying market segments, defining the products based on the community-based tourism objectives and inputs from market studies, bring the products to a wide audience and help clarify what products are the most viable. The Internet is the ideal technology to handle the information and marketing aspects of community-based tourism.

Community-based tourism has been implemented in many developing countries, often in support of wildlife management, environmental protection and/or development for indigenous peoples.⁶ Similarly, several pro-poor tourism initiatives have been attempted in various developing countries.⁷ Alongside the development of community-based and pro-poor tourism, ICTs and the Internet are finding their way into rural and remote regions of the developing world, often in the form of multipurpose community telecentres. Experience so far suggests that ICTs alone are insufficient for substantial local benefits to emerge, and that additional factors such as sound development planning and properly mobilised communities contribute significantly to the success of rural development with ICTs.⁸

Few other initiatives that combine the three concepts of community-based tourism, pro-poor tourism and electronic commerce have been identified. The University of New Brunswick is conducting research into e-commerce and eco-tourism in Ecuador and Cuba. The objective is to provide research and training to help the eco-tourism industries of those countries to become more competitive in the global economy.⁹ Although building on village-based applied research projects, it is not clear to what extent the research is adopting a pro-poor focus. In any case, given the potential for tourism to open up opportunities for millions of poor people in the South¹⁰, there is room for multiple perspectives on the new knowledge that is required in order to make that possible.

Another relevant source of important experience comes from Nepal.¹¹ The lessons learned that are relevant to this proposal suggest that in remote areas with tourism potential, social

⁶ See Outcomes of the Conference on Community Based Tourism in Southeast Asia, Regional Community Forestry Training Center for Asia and the Pacific http://www.recoftc.org/activity_CBFE_conference.html

⁷ See Pro-Poor Tourism publications, http://www.propoortourism.org.uk/ppt_pubs.html. 'Practical strategies for pro-poor tourism' is a collaborative research project of the Overseas Development Institute (ODI), the International Institute for the Environment and Development (IIED) and the Centre for Responsible Tourism at the University of Greenwich (CRT).

⁸ Harris, R.W., Songan, P., Khoo E., Bala, P., Methodologies for Developing Community Information Systems in Remote Communities of Sarawak, Sixth Biennial Borneo Research Conference 2000, 10-14 July 2000, Kuching, Sarawak, Malaysia.

Harris, R.W, Bridging the Digital Divide: Explaining the Success of Rural Asian Telecentres. The Information Society, forthcoming.

⁹ An IDRC funded project. http://www.idrc.ca/pan/pr04440_e.htm

¹⁰ Ashley, Roe and Goodwin, op. cit.

¹¹ Naomi M. Saville, "Practical Strategies for Pro-Poor Tourism: Case Study of Pro-Poor Tourism and SNV (Stichting Nederlandse Vrijwilligers) In Humla District, West Nepal". April 2001, http://www.propoortourism.org.uk/nepal_cs.pdf

mobilisation with communities through community-based organisations is an excellent (perhaps essential) entry point to prepare community level stakeholders for development of tourism. The Nepal initiative is not using e-commerce. It has been pointed out that the Internet can play a pre-eminent role in a pro-poor tourism marketing strategy by providing information about remote tourist locations, including photos of key features as well as providing a ready means of low cost communication via e-mail.¹²

Often, rural and remote communities in developing countries are rich in natural and cultural assets that can form the basis for appropriate tourism enterprises capable of sustaining local livelihoods and lifestyles as well as generating alternate sources of income that ease the pressure on the natural environment. Community-based pro-poor e-tourism offers an application specific opportunity for development oriented community telecentres in regions with tourism potential. Most rural telecentre initiatives in developing countries are overly technology-oriented, starting with a conviction that ICTs can induce development, but with few concrete proposals for making development occur. E-tourism offers a reason, or a pump-primer, to equip communities with ICTs, so that they can make the most of their tourism assets in a way that protects and conserves them and then go on to further utilise the technology to obtain benefits in other areas.

12. Proposal Information

A. Overall Goal of the Project

To increase the incomes of the indigenous people of the Kelabit Highlands of Sarawak, Malaysia through the promotion of community-based pro-poor tourism using electronic commerce, as a pilot for e-tourism in other rural and remote communities in developing countries.

B. Objectives

1. Identify, document and implement best practices that are locally appropriate for community-based pro-poor tourism among the indigenous people of the Kelabit Highlands in Sarawak.
2. Develop and deploy software for e-commerce for promoting tourism in the Kelabit Highlands and for managing financial transactions.
3. Empower the communities of the Kelabit Highlands, through the Bario telecentre, with the capability to manage their own e-tourism in a sustainable manner.
4. As a demonstrator project, and arising from the experiences in the Kelabit Highlands, develop and document a replicable model for e-tourism for propagating among indigenous rural and remote communities in developing countries consisting of transferable organisational and logistical knowledge relating to the management of tourism and to the implementation and operation of e-commerce technologies capable of supporting e-tourism.
5. Create a research, information and knowledge facility in the City University of Hong Kong capable of promoting and supporting e-tourism initiatives for development in developing countries in the Asia-Pacific region.

C. Poverty Reduction Impact

Tourism, Development and the Internet

Tourism is the world's largest industry and the biggest single e-commerce industry. In 1999, over 38% of the US\$64 billion transacted on the Internet was related to travel. Over the last two decades of the twentieth century, tourism in the top 60 tourism-earning countries grew at an average of 9.6% per annum. They earned US\$412 billion from tourists in 1996, and tourism demand by 2010 is predicted to top US\$8,972 billion.

Moreover, there is a general shift of tourism arrivals towards developing countries. Growth rates of international tourism receipts were, on average, 50% higher in the major developing country

¹² Richard Curtain, Promoting Youth Employment through Information and Communication Technologies (ICT): Best Practice Examples in Asia and the Pacific. ILO/Japan Tripartite Regional Meeting on Youth Employment in Asia and the Pacific Bangkok, 27 February - 1 March 2002, <http://hub.col.org/tvet-pacific/0061.html>

destinations than in comparison with the major developed country destinations. In 1996, developing countries managed to capture 15% of international tourism receipts, or US\$63 billion.

The Internet substantially alters the patterns of the tourism sector and potentially brings all participants to the market. Both its present income and future growth potential make tourism critical to an understanding of the likely impact of electronic commerce on the economies of developing countries. In addition, a significant number of developing countries have built comparative advantages in the tourism sector over recent years, and tourism has remained a traditional service activity in which, until recently, buyers, sellers and intermediaries were well-defined. Consequently, understanding the relationship between tourism and e-commerce will help in addressing at least three fundamental and broader questions related to the global diffusion of e-commerce;

- how do new ICTs, especially the Internet, affect the trade competitiveness of developing countries,
- how does the old economy (represented by tourism) combine with the new economy (e-commerce) in developing countries, and,
- how much of a margin of manoeuvre will the combination of existing practices and emerging opportunities leave to developing country stakeholders to create comparative advantages in global markets?

Tourism is an information-intensive industry. At the point of sale, tourism is little more than an information product. Travellers pay up front for travel services and in exchange for cash, they receive yet more information; reservations, tickets, etc. Tourism is also a “confidence good”. While price and customer service during the booking procedure are increasingly competitive factors, tourism producers and intermediaries are increasingly competing on the confidence inspired in the customer directly through the quality of the information they provide. The Internet can satisfy this need for quality information far better than any other technology. More than any other medium, the Internet and its inherent interactivity empower people to find information quickly and precisely on any destination or recreation that captures their interest. Customers expect instant information and increasingly, the possibility to design or customise a tourism product they are seeking and to pay for it online.

Pro-Poor Tourism

In most counties with high levels of poverty, tourism is significant or growing. A reduction in world poverty is an internationally agreed priority and targets have been set to halve poverty by 2015. Governments and aid agencies acknowledge that whilst economic growth is essential for poverty reduction, of itself, it is insufficient to ensure a significant reduction. Growth that is specifically pro-poor is a pre-requisite for significant progress towards agreed targets for poverty reduction. Tourism has many characteristics that make it potentially pro-poor;

- it is a diverse industry, which increases the scope for wide participation,
- the customer comes to the product, providing important opportunities for linkages (e.g., souvenir sales),
- it is highly dependent on natural capital (wildlife, scenery) and culture, assets that some of the poor have in abundance, even if they have few financial resources,
- tourism can be more labour intensive than manufacturing,
- a higher proportion of benefits (jobs, trade opportunities) go to women.

Pro-poor tourism is defined as tourism that generates net benefits for the poor. It maximises the potential for eradicating poverty by developing appropriate strategies in co-operation with all major groups, indigenous and local communities. Benefits may be economic, but they may also be social, environmental or cultural. Pro-poor tourism is not a specific product or sector of tourism, but an approach to the tourism industry. The core activity is to increase access of the poor to economic benefits.

Community based tourism

Concern about the environment has fostered recent trends towards sustainable tourism within which it has been recognised that local communities must benefit for tourism to be viable in the long run. Whilst sustainable tourism targets environment protection, pro-poor tourism more directly targets net benefits for the poor, to which environmental protection would contribute. Community based tourism expands tourism enterprises run by local communities or individuals, which are important but which are not the sole components of pro-poor tourism. Community tourism is often a strong element in conservation programmes and eco-tourism, and hence occurs mainly in rural areas. In fact, a focus on protected areas and biodiversity inevitably leads to a rural focus.

Community-based tourism is a viable option for generating local economic opportunities, fostering environmental conservation and keeping alive traditional cultures and customs in rural or isolated areas. The direct involvement and participation of local indigenous communities in the development and management of small tourism enterprises is a decisive factor in their success and their contribution to the sustainable development of such communities.

Governments of developing countries and international aid agencies are becoming increasingly enthusiastic about the opportunities for applying ICTs to the problems of development, especially those relating to the ultra-poor, living on less than US\$1 a day. Experiments in rural and remote parts of developing countries based on shared access to ICTs organised in community based telecentres have indicated that under the right circumstances, poor people can derive benefit from access to ICTs. Communities have been able to obtain health care, gain access to markets, obtain better prices for their products, engage in distance education programmes, develop small-scale enterprises and learn about employment opportunities. Experience has shown that the more remote communities value such benefits more highly and are willing to spend a higher proportion of their income on the facilities that provide them.

Domestic/regional tourism and independent travel can create proportionally more local economic opportunities than packaged tourism. Small and remote destinations and products with well-developed and innovative web sites can now have equal access to international markets. Remote communities in developing countries that can be provided with Internet access via a shared community based telecentre have the opportunity to exploit their natural assets by developing pro-poor tourism products that they can directly promote in international markets. The little experience with pro-poor tourism that so far exists suggests that the following types of tourism interventions will yield the most significant returns;

- projects that are focused on a single component or geographical area
- where there is a specific focus on SMEs
- where there is sufficient attention to training, marketing and enterprise viability
- where there is meaningful local community involvement and participation
- where there is demonstrated tourism potential within the local context, a “destination focus”
- when the tourism sector is growing
- where there is sufficient attention on socio-cultural issues.

Main Components of the Project

The proposed project for Electronic Commerce for Community-Based Pro-Poor Tourism has the following components:

- Social mobilisation in the communities of the Kelabit Highlands towards the development of consistently high quality tourism products that are sensitive and complementary to the local environment and culture.
- Construction and deployment of e-commerce technologies capable of marketing the Kelabit Highlands as a tourism destination for appropriate tourists and for transacting payments for such products.
- Empowerment of the Bario telecentre with the means to operate and manage the e-commerce facilities in support of local tourism.

- Construction of a workable modality for community-based pro-poor e-tourism that can be adopted by other communities in the developing world.
- Monitoring and evaluation of the activities in the Kelabit Highlands to provide feedback on performance and outcomes.
- Dissemination of the experiences and knowledge gained to the wider development community.

Social Mobilisation

It has been pointed out that social mobilisation with communities through community-based organisations is an excellent (perhaps essential) entry point to prepare community level stakeholders for development of tourism. It has been demonstrated that the poor possess huge untapped potential for economic activities but are hindered from doing so through the lack of organisation.¹³ Social mobilisation helps communities to;

- become organised, for pooling resources, reducing overheads, and achieving economies of scale
- identify leaders from among themselves
- identify and prioritise actions that people are willing to undertake
- assess the feasibility of identified opportunities in terms of peoples' capacity, willingness, equity, sustainability, and resource demands
- arrange, secure and facilitate the flow of required resources to the community,
- monitor, lobby and establish linkages between themselves and other agencies.¹⁴

Social mobilisation promotes poverty alleviation and community empowerment from three perspectives,¹⁵

- Social empowerment, embracing,
 - Promoting the feeling of collectivism and group solidarity
 - Increasing involvement in decision making on issues of common interest
 - Enhancing management skills
 - Increasing participation of derived persons or groups in social activities.
- Financial empowerment, embracing,
 - Raising economic activities to scale
 - Enhancing access to information, technology and external resources
 - Strengthening capacity to withstand market forces
 - Reducing dependence on money-lenders and elites.
- Political empowerment, embracing,
 - Increasing leadership skills
 - Increase in voice due to the weight of numbers
 - Enhancing the capacity to resist exploitation
 - Increasing ability to enter into existing political structures.

Moreover, experience with implementing ICTs in rural developing country settings indicates that:¹⁶

- Alone, ICTs are insufficient for significant benefits to emerge.
- ICTs are best deployed to improve processes that are already working reasonably well.
- ICTs will not turn bad development into good development, but they can make good development better.
- Effective applications of ICTs comprise both a technological infrastructure and an information infrastructure.

¹³ South Asia Poverty Alleviation Programme, Regional Progress Report 2000, United Nations Development Programme.

¹⁴ Jaysingh Sah, Social Mobilisation Manual, Based on Syangja Experience. Social Mobilisation Learning Centre, Institute of Animal and Agriculture Sciences, Tribhuvan University, Ranpur Campus, Nepal.

¹⁵ Jaysingh Sah, op. cit.

¹⁶ Harris R.W., Understanding and Making use of the Relationship between ICTs and Development, <http://rogharris.org/understandingtherelationship.pdf>

- In rural settings in developing countries, (where the vast majority of poor people live) the technological infrastructure is always a challenge to install, but that task is relatively simple compared to establishing the information infrastructure.
- The application of ICTs in the absence of a development strategy that makes effective use of them will inevitably result in sub-optimal outcomes.
- Whilst ICTs provide opportunities for development, desirable outcomes always arise from the actions of people.

Accordingly, a process of social mobilisation will be instigated within the Bario community in the Kelabit Highlands in order to ensure that appropriate arrangements for a successful local tourism industry that is pro-poor and supported by ICTs are in place. This will consist of the following community-based organisations:

- Accommodation Providers Association
- Trekking Guides Association
- Catering Providers Association
- Foodstuff Producers Association
- Transport Providers Association
- Handicraft Manufacturers Association
- Entertainment and Activity Providers Association
- Penan Tourism Association

The role of the associations will be as follows:

- To define the tourism products they will offer.
- To determine minimum product standards and levels of service provision.
- To promote the Association and recruit members.
- To certify members according to their ability to meet or exceed the minimum product standards and levels of service provision.
- To monitor members' delivery of product standards and levels of service provision.
- To establish a development fund from member contributions.
- To arrange training for the members.
- To develop and promote new products.

The CBO associations will be organised under the existing Bureau for Tourism, which is a local body that reports directly to the local governing council of the area, the Bario Village Development Security and Health Council (known as the JKKK), which is headed by the paramount Chief of the Kelabits. It is anticipated that training inputs will be required to activate these Associations. The project will deploy the principles of social mobilisation in creating the Associations. Once established, they will be empowered to manage the tourism industry in the area in a way that favours community objectives and desires. The integration of the Associations within the existing governance structure will cultivate wide participation and stakeholder inclusion in the local tourism industry.

The Bario community has already expressed its desires with regard to the style of tourism that they would wish to develop in the Highlands, which, in general, is along the lines of the tourism that already exists there. The location favours the independent tourist with a concern for and interest in environmental protection and the culture and life-styles of indigenous peoples. Sometimes known as "homestay", the tourist blends unobtrusively into the local environment without inflicting any harm on the natural assets that make the location appealing. The major attraction in the Kelabit Highlands is offered by a unique combination of two experiences:

- Trekking in the surrounding rainforests, which, due to their elevated tropical situation, offer an comfortable year round climate, and,
- Cultural encounters with the local indigenous ethnic communities, who value their traditional lifestyles, which they still follow to a large extent. This includes living in communal longhouses in which visitors can find accommodation and experience first-hand the lifestyle of the residents.

Construction and Deployment of E-Commerce Technologies

Once the local organisation is in place, the community will be ready to accept larger numbers of tourists and to handle them in a co-ordinated, organised manner. At that stage, the tourism industry in the Kelabit Highlands will be ready for engaging with the global market and it will do this on the Internet. Software developed by the Department of Information Systems at City University of Hong Kong will be deployed as a marketing and transactional tool for e-tourism in the Kelabit Highlands. The initiative will form part of the Faculty of Business' Area of Excellence in e-Business, which it is currently forming, with an initial emphasis on small and medium sized enterprises in the tourism industry.

The software will perform the following functions:

- Market the Kelabit Highlands as a tourism location that will appeal to a specific segment of the tourism market.
- Enable interaction directly between clients and tourism product providers for information exchange and bookings.
- Provide learning materials relating to the geography, flora, fauna, history and culture of the area and of its indigenous peoples.
- Facilitate financial transactions between the tourist and the product provider.
- Promote value added activities such as trekking, entertainment, handicraft sales, etc.
- Enable tourism providers to manage and update information resources on their products.

The software will focus on tourism in the Highlands, but from experience with its use, the developers will build a generic package, or shell, for community-based pro-poor tourism that will enable other communities to promote their locales as tourist destinations. The software shell will enable communities to populate its database with its own material, given suitable training, and it will be packaged with a manual for the social mobilisation that will be necessary to ensure the community is ready to manage a viable tourism industry that spreads its benefits as widely as possible and to the poorest sections of its people.

Empowerment of the Bario Telecentre

The telecentre in Bario, known as *Gatuman@Bario* (*gatuman* is the Kelabit word for communication) had its official opening on 2nd September 2002.¹⁷ It is part of an action research project known as e-Bario, which intends to define the extent to which contemporary ICTs can deliver sustainable human development to remote rural communities in Sarawak. It aims to identify needs and opportunities within such communities that can be satisfied by the innovative use of ICTs, and, through action-oriented measures, to demonstrate how significant and sustainable development can be achieved by remote communities through such implementations. E-Bario has been implemented by the Universiti Malaysia Sarawak, with funding from IDRC and the Government of Malaysia.¹⁸ Dr. R.W. Harris, one of the promoters of this proposal, initiated the project and led it for its first two years. The project has won two international awards.

The e-Bario initiative successfully established a computer laboratory in the school in Bario as well as the community telecentre. During interactions with representatives of the Kelabit community in Sarawak, it was suggested that the telecentre might be used as a means to promote tourism in and around Bario. This proposal therefore, constitutes a follow-on project from the e-Bario initiative that is not concerned with setting up the telecentre but which focuses on how the community can make good use of it towards achieving its own development agenda. Additionally, this proposal incorporates a pro-poor element by targeting the Penan people of the Kelabit Highlands as direct beneficiaries as they have not yet been targeted by any ICT activities.

The telecentre will provide the local community with access to ICTs for the purpose of managing their e-tourism enterprises. Tourism providers in the Bario area will be able to communicate directly with their clients. Ultimately, the local tourism business will be disintermediated so that

¹⁷ <http://www.unimas.my/ebario/>

¹⁸ See the IDRC project implementation report at http://www.bellonet.org/leap/docs/Bario_final_report.doc?ois=yes%26template=blank.htm

tourism product providers will receive the lion's share of the income derived from the tourist. They will also be able to use the telecentre to communicate with the software developers and other project support resources. Currently, the telecentre is establishing its mode of operation. The e-tourism initiative will render important experience for the telecentre management in supporting local entrepreneurs in the tourism industry that will be useful in supporting other business endeavours. Significantly, it will expose the importance of combining rural ICT implementations with sound development planning in the achievement of substantial poverty alleviating outcomes within rural communities. Whilst not being responsible for implementing e-tourism in Bario, the telecentre will be a critical resource for bringing it about.

Construction of a Workable Modality for Community-Based Pro-Poor E-Tourism

The combined experience of mobilising the Bario community towards community-based pro-poor tourism and developing corresponding facilities for supporting it with technologies for e-commerce potentially constitutes a powerful and replicable development tool capable of being deployed in other communities in developing countries with similar potential for tourism. Such a tool would consist of three components:

- A generic e-commerce software package capable of being customised to the tourism products and strategies of a particular location.
- A methodology for socially mobilising communities towards e-tourism.
- A knowledge centre and information exchange for promotion, consultation, implementation assistance and technical backstopping for participating communities. This would be based in City University of Hong Kong but it would become a networked virtual centre as new communities became empowered to manage their own e-tourism initiatives and are able to advise each other.

The proposal for such a replicable development tool is inspired by the PEOPLink initiative. PEOPLink is a non-profit organization equipping and training grass-roots artisan organizations all over the world to use digital cameras and the Internet to market their wares while showcasing their cultural richness¹⁹. Between 1996 and 2000, PEOPLink developed training modules and used them as the basis for on-site workshops and on-line support for web catalogue development by 55 trading partners serving more than 100,000 artisans in 22 countries. This proposal extends the PEOPLink concept into e-tourism.

PEOPLink offers a tool-kit to communities that enables them to create a digital catalogue of their handicrafts for posting onto a web site. It also provides additional services such as on-line trend reports, product development and feedback tools as well as providing logistical support and services such as payment collection, distribution, and handling of returns. One client, *Mahaguthi Crafts with a Conscience*, in Kathmandu Nepal, achieved sales of \$450,000 for 2000. Many new jobs were created for hundreds of poor artisans in isolated Nepalese villages. The Rockefeller Foundation commissioned a strategic plan for PEOPLink. It found that "Internet commerce is essential for third world artisan and SME development and PEOPLink can be a leader."

Monitoring, Evaluation and Dissemination

These components are discussed in section J.

Poverty Reduction

The application of ICTs will reduce poverty and improve the lives of the intended beneficiaries in the following way:

- By creating opportunities for income from the development of micro-enterprises capable of delivering tourism products.
- By providing income generating opportunities for women and ethnic minorities.
- By increasing the income of local people obtainable from tourism by encouraging more tourists to visit the area.
- By increasing the income of local people obtainable from tourism by fostering opportunities for ancillary activities such as catering, entertainment and sales of handicrafts and souvenirs.

¹⁹ <http://www.peoplink.org/wto>

In the Bario area, there are 15 smaller identifiable communities or hamlets, some of which are centred on a longhouse. The original Bario longhouse, called *Bario Asal*, contains 20 units, of which 3 are currently unoccupied. A typical unit contains 3 or 4 private bedrooms and is adjoined to two community spaces, each running the length of the longhouse. One of these is for informal living and gatherings and contains a kitchen for each unit. The other is used for formal gatherings.

Many residents have left the longhouses to construct their own individual residences. Some have opened their houses as guest lodges. Presently, tourists usually put up in one of the lodges in Bario, and stay in the surrounding longhouses when they go trekking into the forest. Some establish their own camps in the forest. Some of the local residents hire out their services as trekking guides and porters. Until now, visitors have not been able to pre-arrange accommodation or trekking activities before arriving in Bario. Even the travel agents in the nearest town (Miri, which is an hour's flight away) who promote Bario as a destination have not been able to make these kinds of pre-arrangements. Local organisation of tourist facilities is therefore haphazard, and the visitor is subject to a hit-or-miss experience when trying to make travel and accommodation arrangements. Being hard to reach, visitors can be disappointed if they are not able to enjoy the experience that they came for. Nevertheless, although the residents have earned a steady trickle of an income from tourists, tourism in the Kelabit Highlands is generally uncoordinated and the potential is underdeveloped, even for the low-impact, environmentally and culturally friendly type of tourism that the residents prefer.

There is local capacity to increase the number of visitors that are received and to increase the yield per visitor. Accommodation in the longhouses offers a comfortable and stimulating close encounter with the local culture. There are many short walks and longer treks in the area that showcase the natural environment, ranging from short excursions of two hours to longer expeditions of two weeks or more. Having no roads, the area is criss-crossed with trails and walkers spend nights in the more remote longhouses or they camp out in the forest, and learn jungle survival skills. Tourists bring cash that is spent on services that are currently available within the local communities; accommodation, guiding, food and handicrafts. Tourism is known to favour women as it provides incomes for jobs that are traditionally occupied by them.

Bario is also one of the centres in the Kelabit Highlands that is regularly visited by members of the Penan ethnic group. They visit in order to receive medical attention from the clinic and to trade the produce they have gathered in the forest for items such as sugar and cigarettes. These nomadic and semi-nomadic people are much less well off than their Kelabit neighbours. They are scattered throughout central and northern Sarawak and in 1990 they numbered about 10,000 people.²⁰ They are the only ethnic group in Sarawak who continue the tradition of hunting and gathering as their principal resource use strategy, although estimates indicate that only about 400 Penan are still fully nomadic. The semi-settled Penan mostly cultivate small plots of hill rice and tapioca, supplemented by the collection of wild sago from the forest. The permanently settled Penan cultivate larger plots of hill rice, and a few settled Penan cultivate irrigated rice, having learnt this from their Kelabit neighbours.

Many of the Penan live on the fringe of the cash economy. However, even for those who have adopted a sedentary lifestyle, this does not mean that they no longer depend on the forest for their domestic needs. The forest remains an important source of building materials, vegetables, rattan, and other trade items, so that whilst the Penan may have changed their lifestyles, the forest remains important to them.²¹ Consequently, most Penan develop an intimate knowledge of the forest from an early age. They are aware of food sources and other useful plant attributes as well as the habits of birds and animals. Their knowledge represents a valuable resource for outside visitors who come with an interest in the environment. Very few Penan who live in the Highlands

²⁰ Jayl Langub, Penan Response to Change and Development, in Christine Padoch and Nancy Lee Peluso, *Borneo in Transition: People, Forests, Conservation and Development*, Oxford University Press, 1996.

²¹ Jayl Langub. *Op. cit.*

enjoy any form of earned income. The occasional trade in forest products enables them to purchase foodstuffs that they can't grow and to buy sugar and tobacco. Any additional cash income would have significant impact on their livelihood.

The Projected Development Impact

The projected development impact is expected to occur as a result of increased revenues accruing to local residents from their tourism activities. The increase in earned revenue will have three dimensions:

- An increase in the number of tourists visiting the Kelabit Highlands.
- An increase in the amount spent in the Highlands by each tourist, and the amount of money spent by each.
- An increase in the number of tourism operators and employees.

Currently, around 1,000 tourists arrive in Bario each year. The number is severely limited by the number of flights that arrive. Currently, the Malaysian Airline System (MAS) Rural Air Service operates eight flights per week, and a new airline, Vision Air, has begun operations with two flights per week. The combined passenger capacity amounts to 200 seats per week. The majority of these are taken up by residents and their families. The average number of tourist arrivals is around 20 per week. Community representatives are lobbying both airlines to operate more flights in order to increase seat availability for tourists. It is believed that the airlines will respond favourably when they see evidence of increased demand. This proposal will stimulate demand for seats to Bario and it is expected that the airlines will respond accordingly by providing more flights. It is estimated that the number of visitors will increase by three times as a result of implementing this proposal, to an average of around 3,000 per year, or 60 per week. In 2000, there were 1.5 million foreign arrivals in Sarawak.

Visitors to Bario stay for an average of 4-5 days. Those that stay longer engage in trekking activities that take them to the longhouse communities in the surrounding forests. The project will promote the attractions of the longer treks and make it easier to arrange them in order to get visitors to stay longer. The target will be to increase the average length of stay to eight days. In order to accomplish this, the project will market the longer trekking routes and work with the longhouse communities that occupy key locations along these routes in order to ensure suitable facilities exist for the increased number of visitors.

Currently, trekkers pay RM80 (US\$21) per day for guiding services and around RM35 (US\$9) for lodging on a full board basis. It is envisaged that the charges for these services can be increased substantially whilst still offering value for money for the type of tourist being targeted. Trekking fees could be increased to RM120 per day (US\$32) and lodging to RM70 (US\$18) per day. Additionally, with more trekkers being encouraged to take longer treks, they will require additional porters to carry their packs, a service not always utilised at present as most treks are for shorter distances. It is expected that porter services can be sold for RM80 per day (US\$21). With suitable marketing, quality assurance and logistics, sales of local handicrafts for souvenirs will increase, and new services for entertainment, such as wildlife and historical lectures, can be introduced for added revenue-earning opportunities. Overall, it is anticipated that the average yield per tourist can be increased from the US\$113 to US\$542, as follows:

Projected Yield per Tourist								
	Present				Target			
		RM each	Total RM	US\$		RM each	Total RM	US\$
Average number of days	4				8			
Lodging with food per day		35	140	37		70	560	147
Trekking guide days	3	80	240	63	6	120	720	189
Trekking porter days	0	0	0	0	6	80	480	126
Souvenir sales		50	50	13		200	200	53
Entertainment	0	0	0	0		100	100	26
Yield per tourist			430	113			2060	542
RM= Malaysian Ringgit @ 3.8 to the US\$								

Total revenue from tourism is projected to increase as follows:

Total Tourism Revenue		
	Present	Target
Annual visitors	1000	3000
Yield per tourist (US\$)	113	542
Total annual income (US\$)	\$113,158	\$1,626,316

D. Ultimate Beneficiaries of the Project

Project beneficiaries for the project activities in the Kelabit Highlands include the following:

- Accommodation providers and ancillary workers in the existing lodges.
- Accommodation providers and ancillary workers in the longhouses that participate in the tourism initiative.
- Café and tea shop operators in Bario.
- Trekking guides and porters.
- Handicraft producers and sellers.
- Local experts in wildlife, history and the environment; as lecturers.
- Farmers and foodstuff providers.

This list of beneficiaries includes almost the entire population of the Highlands. Community-based tourism is known to benefit a wide spectrum of the population where it takes place. In particular, women are favoured as they occupy the jobs that increase in numbers as tourist arrivals increase. This applies to the farming activities as well as to those related to catering and lodging. The unemployed youth of the area will find opportunities as guides and porters. As they already know the routes and are familiar with the surroundings, training will be limited to the skills they will need to handle the trekkers. The old people will find opportunities as lecturers to impart their intimate knowledge of the history, flora and fauna during lecture sessions in the evenings. Importantly, the Penan people will be offered opportunities as guides and as forest experts as well as accommodation providers in the Penan longhouses. In addition to the people of Bario, the affected communities are expected to be those longhouses that sit along the main trekking routes in the Highlands. These include; Bario Asal, Pa' Ukat, Pa' Umor, Pa' Lungan, Long Dano, Remadu, Pa' Dalih, Long Beruang (Penan), Long Banga, Pa'Tik (Penan), Long Semado, Pa' Rupai, Long Rapung, Pa'Berang (Penan).

Key Social and Economic Characteristics

During the e-Bario project, the following was discovered about the Kelabit community in and around Bario in the highlands of central northern Sarawak.²² The total population centred on

²² Harris, R.W., Bala, P., Songan, P., Khoo E., Challenges And Opportunities In Introducing Information and Communication Technologies To The Kelabit Community of North Central Borneo, *New Media and Society*, Vol. 3, No. 3, September 2001

Bario is about 1,000 people. This figure has halved in the 1990s as people have moved away from the area in search of employment in the towns and cities of Sarawak and beyond. The community is predominantly of the Kelabit ethnic group, of which there about 5,000 individuals and who have their own language. Out of 140 heads of households in Bario, it was found that 81% had heard about computers and 74% had seen a computer. However, 91% had not used a computer and 99% of the respondents had never heard of the Internet. Of the respondents, 67% were farmers, 19% government servants, and 11% small businessman. The study also examined the economic background of the community. Most of the Kelabit in Bario are rice cultivators, planting both dry and wet rice. 71% of households earned less than RM500 (US\$130) monthly. 11% earned more than RM1,000 (US\$260). 19% earned between RM501-RM1,000. The monthly household income of the respondents ranged from RM50 – RM9000 per month, and the mean monthly household income of the respondents was RM597 (US\$157).

Women make up 50.3% of the beneficiary population and 95% are of the Kelabit indigenous ethnic group. 66% of the population are between 21-50 years old. About 16% are children below 10, 8.5% between 11-20, and 10% are adult above 50 years of age. Less than one third (30.7%) of the population has completed upper secondary education, 20.7% completed lower secondary school, 19% received primary school education, 0.7% received tertiary education, while the remaining (28.6%) never went to school. Almost everyone speaks Kelabit and Malay, and around 37% speak English. Other languages spoken and written are Iban, Penan, Murut and Bidayuh.²³

How Will this Project Affect the Social and Economic Situation of the Beneficiaries?

The project will create added employment opportunities for the residents of the Kelabit Highlands, generating additional sources of cash income. All adult members of the beneficiary population stand to gain by becoming involved in the tourism initiative. There are several ways that any individual can participate because tourism provides a wide spectrum of economic opportunities, as noted above.

There are currently three lodges providing accommodation in Bario that are known to outsiders. Two of them are featured in the Lonely Planet Guide to Malaysia²⁴. Standards of service vary, between lodges and from day to day, and they are set by each operator. Many tourists arrive in Bario with only a vague idea of where they might stay. Transportation is also a haphazard affair. There are around five vehicles in Bario (apart from motorcycles) and two or three of them may be available on any given day to transport arriving tourists to their accommodation. Often, this is not paid for as the service is offered as a favour. Return transfers to the airport similarly are often uncharged. There are revenue-generating opportunities for transport providers. Transport is expensive as motor vehicles and fuel are all flown in.

Each lodge arranges trekking guides and porters, but this can only be done once the tourist arrives in Bario. If no guides are available, then the tourist is out of luck, as it is impossible (and dangerous) to find one's way without prior knowledge of the trails. The lodges tend not to share guides as this might jeopardise their own service. The project will pool guiding resources so that all tourists can be taken care of. The Penan guides will be included in this arrangement, providing for them possibly the first opportunity for earning an income that they have encountered.

Very little written information is available to the visitor to help them decide on a destination, or to explain what to expect during a trekking experience. Such information can be provided in publications that tourists will be willing to buy. Arising from their natural sense of hospitality, accommodation providers in the longhouses are often reluctant to accept payment for their services, usually consisting of two meals, dinner and breakfast, and a room for the night. Whilst

²³ Bala, P., Khoo E., Songan, P., Harris, R.W., Potential Users Profile and Existing Communication Pattern among the Rural Community of Bario: A Needs Analysis for the Development of a Telecentre, Sixth Biennial Borneo Research Conference 2000, 10-14 July 2000, Kuching, Sarawak, Malaysia

²⁴ Chris Rowthorn, Russell Kerr, Christine Niven, Lonely Planet Guide: Malaysia, Singapore & Brunei, 8th Edition, March 2001

http://shop.lonelyplanet.com/product_detail.cfm?productID=1681&searchfor=malaysia,%20singapore

some visitors are happy to offer some recompense, others may feel it might be inappropriate to do so, in the face of the welcome they have received and the apparent generosity of the host. By cooperating with the guides and with each other, the longhouse communities can implement a mechanism that will generate revenue for themselves without contravening their customs.

Increased arrivals will generate increased demand for food. Farmers will be mobilised to ensure that supplies are available. Currently, some fields are not being cultivated as their owners have gone to the town to earn a living. As local demand for local produce increases, it is expected that this trend can be reversed. Demand for local guides and porters will also increase. For many youths and young men, the Highlands offer limited opportunity for paid employment, but guiding and portering offers opportunities to utilise the skills they already have.

Handicrafts are a particular aspect of the local culture, featuring elaborate beadwork, blowpipes, parangs, headdresses, baby-carriers and clothing. Local prices charged by the producers are currently a fraction of those charged by the dealers in the towns and opportunities exist for greater numbers of producers to sell their wares at the point of manufacture, either in Bario or at the longhouses.

Finally, the area being rich in wildlife and pristine forest, a great deal of natural history knowledge is held by the local residents, especially the older people. They also possess valuable historical knowledge, which often dates back to the first half of the 20th century, before the Highlands were exposed to outside influences. Tourists can be provided with lectures and talks from which local experts can derive an income.

How Will this Project Increase the Competitiveness and Productivity of the Businesses of the Beneficiaries?

There are two aspects of the proposal that will increase the competitiveness and productivity of local businesses;

- Organisation, achieved through the process of social mobilisation,
- ICTs in the shape of the e-commerce on the Internet and the Bario telecentre.

By organising the local tourism industry into a community-based, pro-poor initiative, local businesses will achieve greater competitiveness as a result of pooling their experiences and resources and establishing minimum standards for service delivery. Outside help, in the form of training and facilitation, will raise the awareness of local businesses of what the typical tourist requires in their particular niche market. The application of e-commerce will expand the volume of tourism business in the area through focussed marketing and financial transaction processing, allowing the community to engage with a global marketplace, but on their own terms.

E. Activities and Deliverables

Summary – Deliverables, Activities, Inputs, Milestones.			
Deliverable	Activities	Inputs	Milestone
1. Awareness and agreements	1.1 Run awareness dialogues and recruit participation at the Bario council (JKKK) level and with the Bario Bureau of Tourism	Awareness, negotiation	Agreement charter from JKKK.
The proposed programme for tourism will be described in detail to the community. As a community-based initiative, it is critical that all sections of the community, all stakeholders and all potential beneficiaries are provided with an opportunity to contribute to decision-making in connection with the programme and to be aware of the potential commitment that they might be required to make. Although general agreement to the project has already been received from community leaders, a wider level of buy-in will be essential for success and full community-wide cooperation. An important component of this process will be to make the community aware of the aims of the project especially in terms of its pro-poor bias. Measures that favour poorer sections of the community will be identified and agreed at this stage. It may be beneficial to establish a formal agreement in the form of a charter between the project proponents and the community that clearly lays out the intention of the initiative and the respective commitments and responsibilities.			

2. Tourism Associations	2.1 Social mobilisation of the Bario community: Formation of tourism associations for; Accommodation Providers Trekking Guides Catering Providers Foodstuff Producers Transport Providers Handicraft Manufacturers Entertainment and Activity Providers Penan Tourism 2.1.1 Have associations form their own leadership and administration structure, chairperson and secretary. 2.1.2 Provide training on conducting meetings.	Facilitated meetings, coordination. Training	Charter document for all associations
	2.2 Certification Define standards and grades and certification requirements for association membership for each association.	Facilitation	Defined certification schemes for all associations
	2.3 Membership drive Recruit members for the associations and assign certificates.	Awareness raising, publicity, facilitation	Sufficient members for all associations
<p>The main component of the social mobilisation that will be required is in the form of the tourism associations. This is where the community-based component of the project comes into play. The community will be mobilised to form the associations and made aware of the fact that most of what they need to reap the rewards of a more vigorous tourism industry is already in their midst and that all that is required is suitable organisation and coordination in order to make it happen. Each association will be facilitated to form their own management arrangements, based around a chairperson and secretary. They will develop minimum standards for the products that they represent and, where appropriate, a grading system to recognise differences in standards. For example, the guides may be designated, senior, associate, apprentice, according to their level of ability. A senior guide may be capable of demonstrating jungle survival skills and able to take groups into the more remote areas of the forest. An associate may still be learning such skills but is capable of escorting groups between longhouses. An apprentice may be a new recruit, not yet adept at guiding and is learning by accompanying the others. The associations will recruit members and assign certificates to those it believes are worthy, and at the same time implement training for prospective members who wish to participate but whose product is not yet up to the minimum standard.</p>			
3. Tourism Information	3.1 Gather information for publications for tourists: accommodation, trekking routes, local attractions, culture, and history.	Surveys, data collection.	Sufficient number of and adequate publications
	3.2 Publish information in a book, brochures, web site, posters.	Writing, publication, printing	
<p>There is a dearth of reliable written or printed information concerning the attractions of the Kelabit Highlands. Previous attempts to develop such material have shown promise but have not yet been able to produce high quality materials that are worthy of the product or capable of attracting visitors. More material of a professional standard is required. It should be made available to visitors and to prospective visitors in order to encourage them to come to the Highlands and stay longer when they arrive. The Sarawak Tourism Board is a likely source of assistance in this activity, but responsibility for a complete and robust solution should remain in the community, so that they have a direct say in what is published about their area and people and how they want it marketed.</p>			

4. Refurbished accommodation	4.1 Inventory accommodation providers.	Building materials	Suitably refurbished accommodation
	4.2 Identify refurbishment requirements.	Construction skills	
	4.3 Assign refurbishment tasks to local workmen (wherever possible)	Construction	
	4.4 Certify refurbished accommodation.	Certification	
<p>Much of the available accommodation is not quiet to an acceptable standard for international visitors. It is not intended to create 5 star resort facilities. The preferred style is sometimes referred to as “homestay”, in which the visitor blends into the living environment of the host community. On the whole the standard of accommodation is acceptable, except for the aspect of sanitation. Without a mains system of running water, toilets and bathrooms are provided water via gravity fed pipe feed arrangements, which for the most part work perfectly adequately. However, the facilities themselves leave something to be desired when entertaining overseas visitors, and many would need to be upgraded in order to avoid criticism. This is less of a problem for the newer houses, more for the older longhouses, although some have already undergone such upgrading, and it has been tastefully achieved within the bounds of the traditional architecture. Upgrading toilet and bathroom facilities not only creates acceptable conditions for visitors from overseas, it also serves to maintain and preserve the traditional longhouse buildings and the way of life that they support. Once the association of accommodation providers sets the minimum standard, those accommodation owners who wish to participate in the tourism venture can be assisted to upgrade their facilities where this is necessary. The upgrading work will provide employment opportunities for local construction businesses and workers.</p>			
5. Training	5.1 Train accommodation providers	Training	Trained personnel in all associations
	5.2 Train trekking guides	Training	
	5.3 Train catering providers	Training	
	5.4 Train foodstuff producers	Training	
	5.5 Train transport providers	Training	
	5.6 Train handicraft manufacturers	Training	
	5.7 Train entertainment and activity providers	Training	
	5.8 Train Penan participants	Training	
<p>Training is an important aspect of the proposal. Generally, rural folks do not understand what foreign tourists require or expect. People who pursue adventure tourism that is sensitive to nature and culture do not expect or welcome 5 star facilities or artificially constructed facilities that have the appearance of being specially created for a tourist. The market segment that the proposal will target consists of tourists that want to encounter a culture and environment that is not yet “polluted” by outside influences, of which, paradoxically, the most invasive is tourism itself. The Highland community needs to understand and to be capable of manifesting that understanding in its dealing with the tourists that it entertains. Notwithstanding the foregoing, it is possible to stay in the area and enjoy clean and comfortable accommodation, excellent fresh food and stimulating encounters with the residents. The purpose of the training is to empower local tourism providers to preserve their natural assets and at the same time help tourists appreciate them, without destroying them in the process. An important component of this is to ensure minimum acceptable standards that are commensurate with what is already possible within the resources available locally.</p>			
6. E-commerce site	6.1 Analyse needs and design functions	System analysis	Implemented fully operational e-commerce system
	6.2 Software acquisition and development	System design, programming	
	6.3 Software testing	System operation	
	6.4 System training	Training	
	6.5 System implementation	Training, operation	
	6.6 E-commerce system operation	Operation	
	6.7 System refinement	Programming	

Once the community becomes mobilised towards community-based pro-poor tourism, they will be ready to embrace e-commerce as a means of marketing it. This will require professional software system skills; requirements analysis, system design, software engineering, package acquisition, programming and documentation. This will be performed at the Department of Information Systems, City University of Hong Kong, which has a specialist facility for e-commerce applications and is researching the needs of e-commerce for small and medium-sized enterprises in the tourism industry. The Department will develop a system suitable for marketing tourism in the Kelabit Highlands, in the form that the community has agreed upon. The Bario telecentre will provide the point of contact between the community and the Department and the global market it intends to address. System operators in Bario will be trained to operate the system. Technical backstopping and support will be provided from City University, who will also administer on-line financial transactions and arrange transfers for the benefit of the tourism providers in Bario. There is no bank in Bario, so the community requires assistance in this regard, and intermediary banks will have to be used.

7. Marketing programme	7.1 Advertising, conferences and conventions, on-line promotion, newspaper and magazine articles.	Publicity, writing, advocacy	Marketing programme implemented
8. Packaged Programme	8.1 Package Community mobilisation process	Process documentation, programme development	Package for e-commerce for community-based pro-poor tourism
	8.2 Package e-commerce system for generic operation	System design, documentation	

Once the combined system of social mobilisation and e-commerce has been implemented successfully in Bario, it can be packed for a wider audience, consisting of other similar communities where there is tourism potential. This will entail detailed documentation and software packaging. Experience of implementation will empower the implementation team, both in Hong Kong and in Bario, to provide assistance to new participating communities.

9. Evaluation	9.1 Continuous data and narrative collection	Surveys	Periodic and closing evaluation reports
	9.2 Feedback reporting to Bario Tourism Bureau	Analysis	
	9.3 Project evaluation study	Analysis	
	9.4 Programme modifications in light of evaluation	Programme development	

Effective evaluation for projects of this nature is both continuous and periodic. Regular surveys of tourists as well as the providers of tourism products will be analysed as feedback for decision-making in the development of the project. Key performance factors will be identified and tracked by regular surveys. These include input measures such as customer satisfaction, as well as output measures of the incomes of the local participating residents. An independent study will be commissioned to assess the overall impact of the project before an attempt is made to package it for wider application within other communities.

10. Dissemination	10.1 Publish papers in academic journals	Research	Papers, articles, presentations.
	10.2 Write articles for newspapers and magazines	Research, publicity	
	10.3 Present papers at conferences	Research	

Dissemination will begin as soon as the project commences, which will draw international attention and promote the tourism business. Newspapers and magazines will be targeted for specific articles, presentations will be made to appropriate development-related conferences and research papers prepared for suitable outlets in the academic literature.

F. Staffing

The staff identified below will be required. The services of City University staff are assured as the project proponents. Recruitment of local staff in Bario will not be problematic. Most of the

work will take place in the Kelabit Highlands. Software development will be conducted in Hong Kong.

Position	Role		M/F	Country of Origin
Programme Director	Project direction	Professor Doug Vogel Chair Professor Department of Information Systems City University of Hong Kong	M	USA
Project Leader	Project supervision	Dr. Roger Harris Research Affiliate Department of Information Systems City University of Hong Kong	M	UK
Project administrator	Financial accounting, administration	To be named, from City University staff.		
Local steering committee chairperson	Local project direction	Mr. John Tarawe Head of the Tourism Bureau, Board of Committees, Bario Village Development, Security and Health Council.	M	Malaysia
Project Assistant	Local assistance with logistics and co-ordination	To be named, recruited from within the Bario community	TBA	Malaysia
Tourism trainer	Local training	To be named, recruited through the Sarawak Tourism Board	TBA	Malaysia
Social mobiliser	Social mobilisation	Dr. Roger Harris	M	UK
Tourism adviser	Advise	To be named, recruited through the Sarawak Tourism Board	TBA	Malaysia
Enumerators	Groundwork, data collection	To be named, recruited from within the Bario community	M and F	Malaysia
Refurbishment construction workers; wood workers, tillers, plumbers, builders.	Construction, refurbishment	To be named, recruited from within the Bario community	Mostly M	Malaysia
Writer	Writing	To be named, recruited from within the Bario community	TBA	Malaysia
Photographer	Photography	To be named, recruited from within the Bario community	TBA	Malaysia
Web site builder	Web site development	City University staff	TBA	Hong Kong
Software engineer	Software engineering	City University staff	TBA	Hong Kong
Programmer	Programming	City University staff	TBA	Hong Kong
Process documentation specialist	Documentation	City University staff	TBA	Hong Kong

G. Administration

Accounting and Financial Management

Accounting and financial management falls under the existing managerial functions of the City University. Research activities are audited by internal accountants and are subject to scrutiny by external auditors. Accounting records will be maintained within the University's regular accounting system and maintained by the project administrator who is a full-time employee of the University.

Logistics Management

The project assistant, under the supervision of the local steering committee chairperson, will manage logistics locally, in Barrio.

Organisation Strategies

The project director and project leader will oversee matters relating to organisation. The overall project falls under the administration of the Department of Information Systems, within the Business Faculty of the City University of Hong Kong.

Competitive Processes

Assurance of open and transparent, merit-based selection of contractors, sub-grantees, or participants in conferences will be the responsibility of the project director, working in collaboration with the local steering committee chairperson.

Monitoring

Progress and performance will be subject to scrutiny by the existing University governance structure, administered for this project by the project director under the head of the Department of Information Systems and the Dean of the Business Faculty.

Communications

The project leader, under the project director, will be responsible for documentation of the lessons learned, submission of quarterly and final project reports and for providing copies of all project related publications.

Product Maintenance

Maintenance of public products of the project will pass to the Bureau of Tourism in Barrio. City University of Hong Kong will retain responsibility for maintaining the packaged e-commerce software and related social mobilisation materials.

H. Budget

The table summary summarises the budget. A detailed budget is provided in the attached Excel spreadsheet, E-Tourism.xls.

E-Tourism Budget Summary					
Deliverable/Activity	Total US\$	% of Total	infoDev Funding US\$	Other Funding US\$	Proponent Funding US\$
1. Awareness and agreements	11,232	4.8%	2,707		8,526
2. Tourism associations	8,472	3.6%	3,343		5,128
3. Tourism information	25,725	10.9%	20,597		5,128
4. Refurbish accommodation	32,895	13.9%	27,895	5,000	
5. Training	8,789	3.7%		8,789	
6. E-commerce site	55,897	23.7%	2,692		53,205
7. Marketing programme	7,895	3.3%	7,895		
8. Packaged Programme	13,462	5.7%			13,462
9. Evaluation	27,699	11.7%	3,661		24,038
10. Dissemination	14,706	6.2%	6,053		8,654
11. Audit	5,000	2.1%	5,000		

12. Overhead	24,548	10.4%	12,368		12,179
TOTAL	236,321		92,211	13,789	130,321

The following table serves to justify each main line of the budget with an explanatory note.

E-Tourism Budget Summary					
Deliverable/Activity			Explanatory note.		
1. Awareness and agreements			Allow the senior members of the project team to visit Bario and meet with the local stakeholders and participants in order to explain the purpose of the project to them and to win their buy-in. It is most important to achieve full and wide understanding of the proposal within the community for all participants to be able to perform their part successfully.		
Total	infoDev	CityU			
\$11,232	\$2,707	\$8,526			
	24%	76%			
2. Tourism Associations			Provides for detailed interactions necessary to establish the 8 tourism associations necessary to establish a coordinated tourism industry in the Kelabit Highlands. Involves negotiating product and service standards, recruiting participants designing appropriate grading standards and assigning certifications. Achievement of the project goals depends on effective operation of the organisation of these associations.		
Total	infoDev	CityU			
\$8,472	\$3,343	\$5,128			
	39%	61%			
3. Tourism Information			Allows for the collection and organisation of vital tourism information concerning the area. Includes the drawing of maps, collecting information on accommodation and attractions along the trails, as well as documenting and recording the encounters the tourist is likely to experience. The results will be published in various forms, including a guidebook, to be used as the definitive resource for visitors to the area.		
Total	infoDev	CityU			
\$25,725	\$20,597	\$5,128			
	80%	20%			
4. Refurbished accommodation			Provides necessary resources to upgrade the lodgings, especially the longhouses, which are required to meet minimum, basic, sanitation requirements for international visitors.		
Total	infoDev	Other			
\$32,895	\$27,895	\$5,000			
	84%	16%			
5. Training			The local participants need to be made aware of what the international visitor requires, expects and appreciates. Formal training will achieve this.		
Total	infoDev	Other			
\$8,789		\$8,789			
		100%			
6. E-commerce site			This provides for development of the web-based software that will make e-commerce possible for tourism in the Kelabit Highlands. It is expected that a mix of purchased software with some customisation will achieve the purpose.		
Total	infoDev	CityU			
\$55,897	\$2,692	\$53,205			
	5%	95%			
7. Marketing programme			Once the community is organised for tourism and the e-commerce software is functioning, it will be necessary to mount a marketing campaign to make potential clients aware of the product.		
Total	infoDev	CityU			
\$7,895	\$7,895				
	100%				
8. Packaged programme			When the community is successfully operating tourism in the manner envisaged by the project, the e-commerce and social mobilisation resources and methods can be documented and packaged so that they can be readily implemented in other communities.		
Total	infoDev	CityU			
13,462		13,462			
		100%			
9. Evaluation					

Total	infoDev	CityU	Regular and constant evaluation is required to maintain an acceptable standard of service and product delivery. All tourists will be asked to provide feedback on their experience.
\$27,699	\$3,661	\$24,038	
	13%	87%	
10. Dissemination			The researchers and members of the community will prepare reports, papers and will visit conferences to describe their experiences.
Total	infoDev	CityU	
\$14,706	\$6,053	\$8,654	
	41%	59%	
11. Audit			As required by <i>InfoDev</i> .
Total	infoDev	CityU	
\$5,000	\$5,000		
	100%		
12. Overhead			To cover project supervision and incidentals.
Total	infoDev	CityU	
\$24,548	\$12,368	\$12,179	
	50%	50%	

Program Options for Different Funding Scenarios							
		Revised Budget US\$					
		Saving US\$	Saving %	Total US\$	InfoDev US\$	Other US\$	CityU US\$
	Proposal			236,321	92,211	13,789	130,321
Option 1	Reduce refurbishment of the longhouse accommodation by half	16,448	7.0%	219,874	78,264	11,289	130,321
Option 2	Option 1 plus reduce tourist information publishing by half	29,310	13.3%	207,011	67,965	11,289	127,757
Option 3	Options 1 and 2 plus reduce overhead by half	41,584	20.1%	194,737	61,781	11,289	121,668

Potential accomplishments at different funding levels.		
Option 1	Reduce refurbishment of the longhouse accommodation by half	Whilst the availability of suitable facilities for tourists would be restricted, the concept of e-commerce for community-based pro-poor tourism can still be demonstrated. Possible impact on outcomes if tourists are disappointed by lower quality facilities.
Option 2	Option 1 plus reduce tourist information publishing by half	As above but with limited marketing and publicity materials. Possible impacts on outcomes if marketing quality is compromised.
Option 3	Options 1 and 2 plus reduce overhead by half	As above but with looser supervision and stricter control on incidentals, which may risk programme drift and short cuts in critical areas.

I. Sustainability plan

The project will be self-sustainable. Each tourism association will create a development fund into which each member will contribute 2% of their tourism income. The pooled resource will be used to maintain facilities and standards and to continue training of new members and development of new products and services. At the projected rate of income, the total

development fund will amount to around US\$32,000 annually, after two years operation of the scheme.

J. Evaluation Plan

Project evaluation will address the following research questions, with indicators, measurement method and purpose of the findings as follows:

Research Question	Indicators	Measurement	Purpose of Findings
1. How effective is social mobilization in organizing communities towards creating a community-based pro-poor tourism enterprise?	Effectiveness of social mobilisation	Interviews, focus groups	To advise the Barrio Bureau of Tourism concerning effectiveness of the organisation of the tourism associations.
2. What form of training is best suited to the needs of rural people in helping them understand and deliver the needs of trekking tourists?	Effectiveness of training	Questionnaires	To advise the planning of training
3. What forms of interaction on the Internet can be used to promote community-based pro-poor tourism in rural and remote areas of developing countries?	Effectiveness of marketing	Questionnaire surveys, interviews, focus groups	Assess the effectiveness of the e-commerce facilities to ensure maximum product exposure and yield.
4. To what extent are tourists who visit the Kelabit Highlands satisfied with their experiences and what would they like to see to make improvements?	Satisfaction of tourists	Questionnaire surveys, interviews, focus groups	For quality assurance of the tourism products.
5. How are the incomes of local people affected by tourists visiting their area (disaggregated by ethnicity, gender, age)?	Monthly income data.	Questionnaires	Overall effectiveness of the project.
6. How has the project affected the use of ICTs at the Barrio telecentre?	Use of ICTs	Transaction logging at the telecentre	To assess the level of appropriation of ICTs by the community.
7. What forms of e-commerce are best at fostering community-based pro-poor tourism?	Web site effectiveness	Questionnaires, transaction logging, expert assessments	Advise the development of a generic e-tourism package for distribution.
8. How is the revenue from tourism affected by the activities of the project; improvements in accommodation, guiding, information provision, on-line booking capability, catering, souvenir sales, other entertainment?	Perceptions of relative impact. Income data.	Questionnaires, income data analysis.	Impacts of the project components disaggregated to assess their relative potency in income generation.

The evaluation budget is as follows:

	Research Question								
	Total	1	2	3	4	5	6	7	8
Project Director days	10	1	1	1	1	1	1	2	2
Cost US\$	7,051	705	705	705	705	705	705	1410	1410
Project Leader days	20	2	2	2	2	2	2	4	4
Cost US\$	10,256	1026	1026	1026	1026	1026	1026	2051	2051
Enumerator days	30	3	3	3	3	3	3	6	6
Cost US\$	1,184	118	118	118	118	118	118	237	237
Project Assistant days	30	3	3	3	3	3	3	6	6
Cost US\$	1,579	158	158	158	158	158	158	316	316
Software engineer days	5			2				3	
Cost US\$	1,603	0	0	641	0	0	0	962	0
Programmer days	10			4				6	
Cost US\$	2,564	0	0	1026	0	0	0	1538	0
Documentation specialist	10	1	1	1	1	1	1	2	2
Cost US\$	2,564	256	256	256	256	256	256	513	513
Travel	897								
Total	27,699	2,263	2,263	3,930	2,263	2,263	2,263	7,027	4,527

The timeline for evaluation is as follows:

Research Question	Timing							
	Year 1				Year 1			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. How effective is social mobilization in organizing communities towards creating a community-based pro-poor tourism enterprise?			X					
2. What form of training is best suited to the needs of rural people in helping them understand and deliver the needs of trekking tourists?					X			
3. What forms of interaction on the Internet can be used to promote community-based pro-poor tourism in rural and remote areas of developing countries?					X			
4. To what extent are tourists who visit the Kelabit Highlands satisfied with their experiences and what would they like to see to make improvements?	X	X	X	X	X	X	X	X
5. How are the incomes of local people affected by tourists visiting their area (disaggregated by ethnicity, gender, age)?	X	X	X	X	X	X	X	X
6. How has the project affected the use of ICTs at the Bario telecentre?					X	X	X	X
7. What forms of e-commerce are best at fostering community-based pro-poor tourism?						X	X	X

8. How is the revenue from tourism affected by the activities of the project; improvements in accommodation, guiding, information provision, on-line booking capability, catering, souvenir sales, other entertainment?					X	X	X	X
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Monitoring and evaluation will be both continuous and periodic. Tourist satisfaction and income generation will be constantly monitored by collecting data through the tourist association members. This will be used to guide the programme as well to indicate overall achievement. The key success indicator for programme effectiveness is the income earned by tourism providers. The primary contributory indicator is the impact of e-commerce in income levels in conjunction with the social mobilisation for organising and coordinating the tourism industry in the Highlands. Incomes of tourism providers will be tracked constantly and related to their delivery of tourist products. Subsidiary indicators relate to the effectiveness of training, the publicity material and the web site. The milestones relating to each deliverable form indicators of the progress of programme implementation. Lessons learned will used to derive generic services that can be implemented in other similar communities.

K. Time Line

Deliverable	Activities	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Awareness and agreements	1.1 Awareness dialogues	===							
2. Tourism Associations	2.1 Social mobilisation, formation of tourism associations 2.2 Certification, define standards 2.3 Membership drive, recruit members	===	==						
3. Tourism Information	3.1 Gather information for publications 3.2 Publish information	===	===	===					
4. Refurbished accommodation	4.1 Inventory accommodation providers. 4.2 Identify refurbishment requirements. 4.3 Assign and conduct refurbishment tasks 4.4 Certify refurbished accommodation.			===					
5. Training	5.1 Train accommodation providers 5.2 Train trekking guides 5.3 Train catering providers 5.4 Train foodstuff producers 5.5 Train transport providers 5.6 Train handicraft manufacturers 5.7 Train entertainment and activity providers 5.8 Train Penan participants			==					
6. E-commerce site	6.1 Analyse needs and design functions 6.2 Software acquisition and development 6.3 Software testing 6.4 System training 6.5 System implementation 6.6 E-commerce system operation 6.7 System refinement			===					

L. Appendices

- Budget
- Letter from Bario community
- Bario Telecentre information
- Resume of Professor Doug Vogel
- Resume of Dr. Roger Harris

M. Proponent Capability Statement

The proponent Institution is the Department of Information Systems in the City University of Hong Kong. The Department specialises in research and development into information system design theory, applying a socio-technical action research strategy that jointly optimises human and technical processes. Research emphasises the links between theory and practice and the practical application of innovative information systems theories, methods and techniques within an Asia-Pacific context. During the past three years, the Department published over 250 papers. The department has over 20 full-time teaching members of staff; many of those have an international reputation. Currently, over 400 students pursuing undergraduate and advanced degree programmes in Information Systems up to PhD level.

The Department includes the Asia Centre for Electronic business (*ACEbiz*), which aims at advancing knowledge in electronic business and enhancing the applicability of this knowledge to Asia. Based on its strengths in e-commerce research, the Department is participating in the formation of the Faculty of Business' Area of Excellence in e-Business called the Socio-Technical Action Research and Theorizing on Electronic Business (*START e-BIZ*) in collaboration with the School of Hotel and Tourism Management in the Hong Kong Polytechnic University. The School is one of the largest such schools in the world and currently has over 40 academic staff with a wide range of expertise in all aspects of hotel, foodservice and tourism management.

Additional expertise in e-commerce and project management is evident from the following:

- ICEC— <http://www.is.cityu.edu.hk/icec2002/>; CityU's IS Department is hosting the 4th International Conference on Electronic Commerce on 23-35 October 2002. Over 110 papers (85% from overseas) have been submitted; 300 participants (200 overseas) are expected to attend.
- The study on "Organizational Adoption of Internet-based Electronic Commerce: A Hong Kong Study demonstrates experience of and capacity for SME e-commerce adoption studies.

The proposed project leader, Dr. R.W. Harris is a Research Affiliate with the Area of Excellence. In 1998, with the Universiti Malaysia Sarawak, he initiated research in Bario under a grant from the IDRC to establish the telecentre there. He has published a number of papers on the experiences and has visited the community 10 times since then. The project attracted further funding from the Government of Malaysia, and was implemented in partnership with Telekom Malaysia and other local organisations. The project has won two international awards for its innovative use of technology in bringing connectivity to the remote community of the Kelabit Highlands. Research into other aspects of the use of ICTs in Bario is continuing, for example to introduce health information systems and on-line educational facilities.

M. Previous infoDev Grant

Neither the proponent institution or the key personnel have received or applied for previous grant from infoDev.

13. Intellectual Property

All intellectual property rights arising from the project will be assigned to *InfoDev*.