

	INTERNATIONAL TELECOMMUNICATION UNION	
	<b>IMPROVING IP CONNECTIVITY IN THE LEAST DEVELOPED COUNTRIES</b>	
	GENEVA - ITU NEW INITIATIVES PROGRAMME – 11-12 APRIL 2002	

## CHAIR'S REPORT

by **Claire Milne\***

The study on Improving IP connectivity in LDCs, realized in the framework of the ITU New Initiatives Programme,<sup>1</sup> shows that, while the divide between developed and developing countries is narrowing, the least developed countries (LDCs), which are often excluded from technological development, are failing to catch up. The number of Internet users is growing at a rate that will not allow them to catch up with other countries.

A critical barrier seems to be international IP (Internet Protocol) connectivity, which is fundamental to any consideration of the issue, as it precedes access to and use of the Internet. International bandwidth is particularly limited and expensive in LDCs, and they seem in need of special assistance from the international community, considered they are still at a very early stage of Internet development and present severe shortcomings in infrastructures.

In particular, it seems that the high prices of internet bandwidth greatly influence the demand for the service and therefore the size of the market, thereby affecting investment, infrastructure development and also the functioning of market mechanisms (such as economies of scale and bargaining power vis-à-vis satellite service providers) from which more developed countries are already benefiting.

As a contribution to the work of the Digital Opportunities Task Force and UN ICT Task Force, the ITU, particularly well placed in its role of UN specialized agency for telecommunications, is launching an initiative to improve IP connectivity in the least developed countries. The workshop brought together a range of interested parties with the aim of moving this initiative forward.

Main themes of discussion were:

- Choice of countries for assistance.
- Approaches to improving IP connectivity in LDCs.
- Identifying the right partners in the chosen LDCs, and the best ways to work with them to achieve maximum effect.
- Identifying partners in the international community interested in participating in the initiative, or that have already activities, planned or progressing, with which coordination or cooperation should be worthwhile.

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\* Since 1992, Claire Milne has been an independent telecoms policy consultant working with regulators, telecommunication companies and consumer groups in both developing and developed countries. Her previous career was with British Telecom. In recent years she has worked in a number of developing and least developed countries. Special interests include telecoms and Internet development, consumer affairs and telecoms numbering. Recent clients include CTO, Ofel, the UK Department for International Development, and the ITU.

<sup>1</sup> Improving IP Connectivity in the Least Developed Countries: Background Paper. Online: [www.itu.int/ipdc](http://www.itu.int/ipdc).

## **1 COUNTRIES FOR ASSISTANCE**

As is explained above, the LDCs appear to be prime candidates for assistance. During the workshop it also emerged that:

- Not all the LDCs could or need to be assisted: it will be necessary to carefully target the beneficiaries, taking into consideration latent demand in the country, policy and regulatory environment, possible market clout, and the capacity of the country to develop ICT capabilities without external help.
- Not only LDCs, but also some emerging economies, and especially their rural areas, may be equally good candidates for assistance.
- Traffic aggregation may make an important contribution to lowering costs. Countries therefore need to be considered in their regional context, not in isolation.
- Some LDCs may be able to connect into optical fibre cables, especially if these are passing their coastline.
- Liberalization of international data transport, and particularly of VSAT service, is essential to progress.
- Improving IP connectivity will have less impact on end users in countries where Internet Service Provider (ISP) costs are a lower proportion of the total cost to end users of internet access (i.e., normally, where telecom companies call charges for internet access are high).

## **2 IMPROVING IP CONNECTIVITY**

The idea put forward in the ITU background paper was to provide cheap IP connectivity to ISPs using VSAT technology, achieving economies through bulk buying and allowing the provision of Internet services to end-users at a lower price. Additional ideas include:

- Reducing the need for intercontinental bandwidth, and enhancing competition for interconnecting with developing countries' internet traffic, by establishing national and regional internet exchanges
- Local cacheing of frequently accessed content, and also "content peering", to reduce demands on international connectivity
- Greater transparency to ISPs of connectivity offerings, in particular clarifying the separate components of price attributable to:
  - Getting traffic to an Internet hub (traditionally a monopoly market which still accounts for the greater part of costs), and
  - Global Internet interconnection / transit (a broadly competitive market).
- Technical assistance to smaller ISPs to ensure they get the best available buy.
- Sharing costs across a range of service offerings (of which basic Internet access would be only one) by setting up multifunctional Points of Presence.
- Short-term exploitation of currently unused international capacity.
- Stimulating bandwidth demand in LDCs through active transmission of web authoring and design know-how.
- Getting more benefit from limited Internet access through using complementary technologies, including (possibly clockwork) radio to broadcast locally relevant Internet content, and postal delivery of printed-out e-mail. Internet access through cheap mobile terminals was also likely to become significant.

## **3 WORKING WITH PARTNERS IN LDCS**

The starting point for discussion was direct assistance to ISPs in LDCs, awarded in kind (i.e. as low-cost bandwidth) using a reverse-auction type tendering procedure to identify good projects requiring little subsidy. Additional ideas and points included:

- Money awards (whether grant, equity share or loan) should also be considered, as in other small-enterprise support programmes.
- Direct assistance to substantial end-users need not be excluded; in some cases it could be hard to draw a line (e.g. a university providing internet access to departments could be seen as an end user or as a non-profit closed user group ISP).
- It would be particularly desirable to work with ISP associations, although these are not always well-organized or effective in the countries in question. The new Pan-African AFRISPA deserved special mention. Regional IP operators also had a role to play.
- Assisting only some ISPs in a country could lead to accusations of unfairness. It is necessary to accept that no intervention will be neutral. Interventions should be designed to boost market forces, creating a continuing dynamic process.
- Assisted bandwidth should where possible be made available via public access points, to achieve affordability to the many potential users who could never think in terms of dedicated access, however cost-effectively provided.
- It would be possible to coordinate this project with other initiatives, in particular those aiming at a more efficient use of international Internet bandwidth through the establishment of national and regional IXPs, where it could help these last in the setting up of VSAT-based Internet services
- It would be worthwhile to approach any regional associations of regulators (the Telecoms Regulators' Association of Southern Africa, TRASA, being the best-known example).

#### **4 RELATED ACTIVITIES**

Notable related activities include:

- The Half-Way project, aiming at establishing national and regional IXPs in Africa and the related Pan-African Virtual Internet Exchange (PAVIX) project.
- The Global VSAT Forum's work around the world in support of VSAT liberalization, and the growing capabilities of its website as a purchasing aid.
- Intelsat's new ability (since privatization in July 2001) to offer end-to-end services, and its special Lifeline Connectivity Obligation to around 80 of the world's poorest countries.
- The continuing development of VSAT technology, leading to costs of under \$200 per site per month for a network of over 500 sites each with 128 kbps downward capacity.
- Continuing efforts to sensitize LDC governments to the benefits of wide and accelerated liberalization of the telecommunication industry.

Possible partnerships and collaborations at this point may include World Bank – InfoDev, UN ICT Task Force and DOT Force and the Swedish International Development Cooperation Agency.

#### **5 CONCLUSIONS**

The aim of improving IP connectivity to LDCs was a valid one and many valuable ideas had been contributed. More analysis and wider consultation were needed to shape a new project or projects to be effective in conjunction with other parallel initiatives.

*For more information about the workshop and the project, please contact Tim Kelly ([tim.kelly@itu.int](mailto:tim.kelly@itu.int)) or Claudia Sarrocco ([claudia.sarrocco@itu.int](mailto:claudia.sarrocco@itu.int)).*