A Forward Strategy for the United Nations Development Programme's Sustainable Development Networking Programme: 1998 - 2000

The report of an External Evaluation Team commissioned to assess SDNP and advise the Administrator on its future

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Letter of Transmittal

Date: 12 December 1997

To: Mr. Anders Wijkman

Director, BDP

From: Kate Wild, Team Leader

External Evaluation Mission - SDNP

Re: **SDNP Evaluation Mission Report**

I attach a copy of the report the External Evaluation Team on the Global SDNP Programme: its current status and forward strategy.

Our team visited 14 countries and found the country SDNP programmes to be active and enthusiastic. The SDN Programme is unique, covers a significant number of countries in different regions and at different levels of development and has had a high impact in areas of concern to UNDP. The programme is worth supporting and expanding to enable the

promotion of transparent networking in an increased number of countries.

Internet technology does not by itself lead to an easy resolution of the development issues of concern to UNDP. It is, however, a great enabler. UNDP is fortunate to have a growing body of experience on the application of electronic networking to development from the global SDNP programme and its national projects. UNDP must draw on

this body of knowledge and understanding as it explores the information technology and development terrain in the future.

Many thanks are due to the Director, SDNP all his staff, and many other UNDP staff members who shared their views with the team during our visit. Particular thanks must go to the national SDNP

coordinators and UNDP field office staff who organised and hosted our visits.

With my best regards.

Yours sincerely,

Executive Summary

I. Introduction

1. The Third External Evaluation of UNDP's Sustainable Development Networking Programme (SDNP), carried out in November-December 1997, reviewed official and internal documentation, met with key UNDP officials and the entire project core team in New York, and visited 14 of the 35 country projects. During the site visits, members of the evaluation team held extensive discussions about the evaluation, impact and perspectives of SDNP with partners, users, Steering Committees and managements of the national projects, and with UNDP Resident Representatives and their colleagues. The team also met with senior government officials, including Ministers, with the leadership of National Commissions for Sustainable Development, with NGOs and the private sector, with the leadership of the Earth Council, and with one regional secretariat for sustainable development (Central America).

2. Highlights of the major findings and recommendations are summarized in this Executive Summary, with detailed analysis and the fourteen country summaries provided in the report and its annexes.

I. Evolution and Focus of SDNP

1. Agenda 21 and the Rio Declaration adopted by the Earth Summit in June 1992 recognize the importance of easy and affordable access by all to information for decision-making in support of sustainable development and that Information and Communication Technology (ICT) is a major tool to foster decentralized, informed, participatory effective governance at all levels of society. UNDP, committed to vigorous support for implementation of Agenda 21 and the Rio Declaration, launched in 1992, two innovative and country-demand driven

initiatives: Capacity 21 and SDNP, at a time when many developing countries were hardly aware of the Internet, e-mail, and the information technology revolution that was taking place in the developed countries. A number of developing countries received their first exposure to ICTs through SDNP.

2. In 1997, 35 countries have SDNP projects, with another 44 requesting such projects. In addition, SIDSnets is being launched in 41 small island states world-wide and a Report of the Future of ICT in the Americas commissioned by SDNP will be presented at the April 1998 Summit of the Americas in Santiago, Chile.

3. With limited core funding - $4.6 million for the first five years (1992-1996) and $4.4 million for 1997-98- the total value of on-going SDNP projects, including country-leveraged funds and in-kind contributions is now estimated to be $ 14.5 million. However, to meet the demand from additional 50-60 countries, at least $4-5 million per year would be required through 2000.

4. As the programme has evolved and substantive, management and administrative experience has been accumulated and analyzed, adjustments are required to enhance its effectiveness and impact. These are outlined in detail in the report and in the conclusions.

I. Framework for the Future

1. SDNP has established a solid foundation on which to build a future that enables countries to transform themselves into "Information Societies" with affordable information and communication technology and networks available to all. SDNP is thus contributing modestly but efficiently to decentralized, participatory, transparent and informed governance at all levels of society, and effective participation in the Global Information Society within a framework that can benefit the poor, and farmers, women's groups, community-based organizations, and small and medium size businesses. UNDP's corporate mission and specific country programme strategies also benefit from the attainments to date by the SDNP project.

2. These and other benefits can be further enhanced by implementing the recommendations of the External Evaluation. Highlights of the recommendations are summarized below:

- Promotion of expanded partnerships and strategic alliances with donors and programmes globally, and especially locally, in order to extend the reach of its networks and diversify their membership
- Promote rationalization and collaborative partnership among environmental and sustainable development networks at the regional levels in alliance with the Earth Council and others.
- Integrate SDNP, and ICT more generally, into UNDP's overall programmes to create synergies and complementarities with other relevant programmes.

- From the outset, governance of SDNP projects should be participatory, and effectively administered, reflecting the full range of users, and facilitating their transformation into autonomous and financially sustainable enterprises.
- The SDNP Core Team in New York should focus its activities on both substantive and technical issues: guidance on new appropriate technologies, training, technical coordination, assistance on business plans, equipment specifications and testing and software systems. Current functions of the technical staff should be rationalized to ensure a balance between time devoted to purely technical issues worldwide and time dedicated to project preparation, monitoring and evaluation within their geographical responsibilities.
- Delegate management and administrative responsibilities to country offices, keeping headquarters informed of actions taken.

- Consideration should also be given to merging SDNP with one of the BPD appropriate units to create a single global program that would focus on the provision of policy guidelines, piloting technologies, mechanisms and applications and exploring the development potential of cutting edge information and communication technologies. It is essential to ensure that ICT would be dealt with at the UNDP corporate level with sufficient critical mass.

- Provide predictable and sustainable funding through 2000 at a level of 4-5 million per year, to be complemented by vigorous mobilization of funding from external sources.

01. Introduction

1. This report has a dual purpose:

- to review and evaluate the performance of the SDNP and its component projects since the last external evaluation was undertaken in 1994; and

- to make recommendations concerning an appropriate mechanism to enable UNDP to provide effective support to sustainable development networking over the next three to five year period.

01.01 Methodology

2. The Terms of Reference for this Third External Evaluation of SDNP are attached in Annex 1. Annex 2 identifies members of the evaluation team.

3. The evaluation encompassed a review of documentation, meetings with key UNDP officials. Fourteen SDNP sites in all regions were visited. A list of countries visited and summaries of the findings are in Annex 3. During the site visits it was made clear that the team members were seeking inputs to the evaluation of the SDNP programme and were not, in the short time available to them in the countries, attempting to evaluate the individual projects.

4. A questionnaire, distributed electronically to all sites, was completed by 10 SDNP National Coordinators. The questionnaire is in Annex 4.

5. Three members of the evaluation team met in New York during the week of November 17 and again during the week of December 8. The fourth member was consulted by electronic mail and telephone.

01.02 The SDNP vision

6. The overall objectives of SDNP have remained constant since its inception in 1992:

- to facilitate access to information for decision-making in support of sustainable development; and
- to encourage broad participation in planning and implementing sustainable development strategies.

7. This broad framework has allowed a number of different SDNP models to emerge responding to some mix of the following more specific objectives:

- increasing and extending access to information in support of sustainable (human) development;
- the creation of a network - human, institutional and technological - to facilitate and increase information flows;
- building capacities through the use of local consultants and the empowerment of local institutions;
- governance by a steering committee representing all sectors (governmental, civil society, private sector, international organisations) involved in sustainable development;
- promotion of the principle of collective, participatory governance of the network;
- implementation of Internet connectivity in combination with local network infrastructure;

- demonstration of the ability of new Internet-based technologies to reinforce capacities to manage locally-produced information and facilitate information sharing; and

- identification and implementation of strategies to create revenue streams and ensure sustainability.

8. The particular mix of objectives (and of the project activities required to achieve them - which have been categorised as activities to promote connectivity, content and capacity building) has shifted over the relatively short life span of the program. Two external factors have been instrumental.

9. In the first place the Internet has spread much more quickly than anticipated into developing countries. The challenge now is to extend it to organisations with limited capacity to pay and to smaller urban and rural areas; a number of countries have put policies in place to encourage this - for example providing a national local-cost access number for Internet throughout the country - and private sector Internet Service Providers (ISPs) are increasingly exploring markets outside the main cities. There has therefore been less need for SDNP to address technical connectivity issues and more opportunity to develop strategies to nurture the growing institutional and human networks with information content and services.

10. In the second place there has been a proliferation of international programs supporting access to - and the creation of information resources and applications for - the Internet. These programs all have their own perspective: the United States Agency for International Development's Leland Initiative provides Internet connectivity to 20 countries in Africa; UNDP's own IT (Information Technology) for Development focuses on downstream applications in the education and health sectors and is increasingly interested in community access; the World Bank's WorldLink focuses on education and school applications; the Canadian International Development Research Centre's (IDRC) Acacia addresses community access issues and its Pan Asian Network is exploring the role of the private sector in development connectivity. SDNP needs to ensure complementarity and not competition with an increasing number of programs in any given country.

11. But a more determining factor in the program mix has been the political, economic, social and cultural context in each country. The strength of a global program cannot be in defining one model but in providing a menu and a set of operating principles within which each country project must be designed. One result of this evaluation exercise should be a clearer consensus as to the definition of a 'bottom line' SDNP (the essential elements that must be present) and understanding of the need for a flexible approach to the introduction of measures to increase, in a sustainable fashion, the availability of reliable information in support of sustainable development.

01.02 The SDNP challenge

12. The SDNP approach has presented a number of challenges to its constituent projects which make them innovative - and therefore not always easy to manage - within the UNDP environment:

- they promote a participative approach through management by a steering committee whose members are drawn from civil society as well as government;
- the coordinating unit may be located outside government or may call for a hosting rather than an ownership role from government;
- project 'management' involves a number of players UNOPS (United Nations Office for Project Services), SDNP/NY, the country office, the national executing agency (in a few cases), the steering committee) and therefore needs careful definition;
- projects require the development of business plans and revenue generation strategies which are not necessarily the common coin of bureaucrats;
- with respect to both information use and participative, transparent governance, SDNP projects may challenge local cultures and approaches to 'doing business'.

13. This report will attempt, in its conclusions and recommendations, to define an appropriate strategy and mechanism to deal with the complexities and challenges inherent in SDNP projects.

02. The evolution of SDNP

02.01 SDNP projects

14. In 1994 there were eleven national or regional SDNPs either in operation or under discussion. Today there are 91 projects at some stage of development or operation between the prefeasibility phase and project completion (see Annex 5 - Country Status Report). The Association of Small Island Developing States (AOSIS) has called for a global SDNP (SIDSnet) to overcome the isolation of small countries and link their development efforts. The Summit of the Americas has requested UNDP to consider support for a Hemispheric Sustainable Development Network; the Bureau for Asia and the Pacific is initiating an Asia-Pacific Development Information Programme and the Regional Bureau for Africa, an Internet Initiative for Africa. These regional information and communication programs within UNDP cannot be attributed directly to SDNP but it is unlikely that they would have emerged if SDNP had not prepared the ground within the organisation by demonstrating the case for the integration of information and communication technologies into development

programming. SDNP staff were certainly called on to advise the regional bureaux on the design of their programs.

15. SIDSnet provides a good example of SDNP strategy. The SDNP office in New York was called upon in 1994 to help UNDP/Barbados prepare for the Global Conference on the Sustainable Development of Small Island Developing States held in June of that year. Every chapter of the resulting Programme of Action recognised the importance of information and the need for information sharing among island countries. SDNP responded with a study to assess the feasibility and the economic and technical viability of a SIDSnet. The study involved seventeen consultants most of them associated with operational or planned SDNP projects. This study itself did not lead to action (it had a very high price tag and reflected in country consultation with only 17 of the 42 members) and a follow up study was requested by the Association of Small Island States in 1996. SDNP is now implementing a pilot project which aims at connectivity, access to Internet information, local content development, promotion of information sharing, and the establishment of editorial mechanisms to ensure the quality and reliability of information. SDNP has hired a staff member to lead the SIDS effort. Costs are shared equally with TCDC (Technical Cooperation among Developing Countries). AOSIS has agreed to seek additional funding for the next phase. The project will create local, representative steering committees and add over 30 countries to the SDNP fold (some countries had independently sought SDNP assistance outside the SIDSnet framework). As a by-product of SIDS, plans are in place to connect the last two countries in Africa (Comores and Cape Verde) which had not previously initiated steps towards Internet implementation.

16. Another example is the Regional Environment Information Management Programme (REIMP), a World Bank administered project under the Global Environment Facility (GEF). Here SDNP has helped to pioneer electronic networking in the six countries of the Congo River Basin. Several of these countries are torn by civil strife but could benefit significantly from electronic networking although it may be several years before they can operate effective SDNPs.

17. Both approaches illustrate the long-term planning required to initiate an SDNP project: reliance on locally-hired consultants wherever practical; investment in feasibility and preparatory work; the development of political support and consensus and of cost sharing within and outside UNDP have been the hall marks of the more successful SDNP projects.

18. These projects have increasingly born the SDNP stamp. In early days, as a way of initiating activities and providing visibility for UNDP in a development area in which it did not have a long history or significant experience, SDNP provided limited support to ongoing projects, particularly those initiated by CIESIN (Consortium for International Earth Science Information Network) in Eastern and Central Europe. Many of these projects are now complete and have resulted more in an awareness of the SDNP concept than in functional networks. Current projects tend to have a much more specific SDNP character - and these were the ones on which the evaluators concentrated their attention although the early activities carry interesting seeds of future SDNP models.

02.02 Funding of SDNP: Current status and perspectives

1. Current Status

19. Since SDNP was launched by UNDP in 1992 about US$6.8 million has been allocated from core funds to the Global SDNP project through 1997. In addition to the Global Funds, SDNP has leveraged about $4.3 from Country and Regional IPFs (Indicative Planning Figure)/TRAC (Targeted Resources Allocated From Core Budget), Capacity 21, TCDC, Country and Regional IPFs, ARC (Administrators Resident Coordinators Budget) and cost-sharing. US$ 2.2 million has also been allocated for 1998.

20. SDNP has benefited at the individual country level from bilateral programmes such as IDRC, CIDA (Canadian International Development Agency) and SIDA (Swedish International Development Agency) as well as allocations form the sources mentioned above. It has also generated US$ 1.2 million from a contribution of equipment by Hewlett-Packard. However, the "in-kind" contributions by governments and of the SDNP partners in the 35 countries where it is operational have mostly not been valued in monetary terms. These contributions include offices for SDNP, and staff time by the partners and UNDP senior management in each country. Likewise, the monetary value of the preferential rates given by state-owned telecommunications agencies in some of the 35 countries where the projects are operational has not been calculated. Consequently, the actual value of the total SDNP programme is greater than the $6.8 million referred to above. It is estimated that if the above were to be calculated the total value of SDNP projects portfolio would be about US $14.5 million.

21. Resources allocated form the Global UNDP programme to the Global SDNP programme have increased from about $900,000 per year for the period 1992-1996 to $2.2 million per year for 1997-1998. In 1997 about $850,000 of the 2.2 million is used for staffing and related costs of the core team in New York, and $1.4 million is allocated to the 35 country projects which are at varying operational stages. Total staffing and related costs for the 1992-1997 period amount to $3.1 million. It is noted that the average overhead is 21% or 28% per annum depending on whether the in-kind and related project costs are or are not included. (Annex 7). The total resources, including in-kind contributions, amount to $14.5, compared to $11.1 million. It is estimated that the total in-kind contribution per project is $100,000 which for 35 countries amounts to a total of $3.5 million.

02.02.02 Perspectives

22. To service adequately and to provide quality technical back-stopping to the existing 35 projects in 1998 would require more than the earmarked 2.2 million. About 3.5 million (an additional 1.3 million) would be required in order to add projects in about 10 more countries of the 44 who have already requested them. Of the total 3.5 million, 1.2 million would be allocated to the core team in New York (including international consultants) and $2.3 million to launching projects in 10 new countries and maintaining the commitments in the on-going 35 countries. This level of funding would need to be maintained through 2000 initially in order to continue to launch at least 10 new SDNPs per year which would still leave a gap of 10-15 countries requiring action.

23. The above are conservative funding assumptions, which do not reflect adequately potential growing demand from countries who are becoming increasingly aware of the importance of national ICT (Information & Communication Technologies) strategies for which the SDNP has been and will continue to serve as a strategic catalyst. However, by integrating SDNP into UNDP's programming at the corporate and country levels, it should be possible to mobilize additional funding from IPF/TRAC resources. This would be complemented by more intensive efforts to obtain co-financing and cost sharing for ICT from bilateral, multilateral and private sector sources.

24. Moreover, ICT services that country SDNPs and/or the core team in New York might provide in the future to management of UNDP national offices and programmes and to the UN Resident Coordinator system would have to be funded separately. It would be useful to explore, for example in Guatemala, on a pilot basis what economies and other benefits would accrue from such an arrangement.

25. In summary, it is essential to ensure predictable funding of the Global SDNP at least through the year 2000.

02.03 The Headquarters unit: functions and staffing

26. In 1994 the SDNP headquarters unit consisted of three staff members: a director, a technical advisor and an administrative assistant. In 1997 the staff component has increased to include an evaluation officer, a networking specialist, an official to work specifically on SIDSnet, an African coordinator, and an official to handle equipment procurement (and eventually to oversee Asian projects). One consultant works on a retainer to handle public relations and partnerships. An immediate result of this assignment was the initiation of discussions with Hewlett Packard that led to a significant partnership to supply equipment and software to SDNP projects. Three international consultants are regularly called upon to carry out technical missions. The unit has also had frequent recourse to national consultants, often from ongoing SDNP projects, to undertake advisory missions.

27. The core SDNP team contains eight nationalities and its members speak thirteen languages, including five of the six official UN languages. Staff have graduate degrees in a wide range of relevant areas including economics, political science, international management, computer science and information and communication technologies. The leadership of the SDNP program brings thirty years of UNDP experience to the core team; all others have been recently hired from outside the system.

28. None of the SDNP staff are covered by the Regular UNDP Administrative Budget. Only the Director has a permanent contract. The others are paid through various short-term arrangements with a maximum length of one year. None therefore has security beyond a few months.

29. The headquarters unit focuses on:

- identifying project opportunities;
- initiating pre-feasibility studies;
- providing advice on technical, organisational and management issues;
- preparing project documents;
- backstopping on technical issues;
- equipment procurement and preshipment installation, configuration and testing;
- ensuring linkages and the sharing of information and experience among SDNP projects;
- organising workshops and training programs;
- developing program partnerships;
- promoting the SDNP concept inside and outside UNDP.

1. With the recent arrival of new staff, each of whom has program responsibilities in a different region, the Director is able to allocate most of his time to public relations, promotion and partnership responsibilities while the rest of the staff handles most project and technical work under the responsibility of the technical advisor who is also deputy to the Director.

32. The current staff component is not sufficient to adequately follow up and advise on all project initiatives. While SDNP is not a large program in UNDP terms, it is made up of many project components with many different needs for substantive support and technical advice - and the more successful it is in leveraging funds the greater the requirement for follow up and monitoring. SDNP is an innovative program within UNDP - follow up and support on technical, organisational and substantive matters therefore often requires new solutions and approaches (for example to strengthen the participation of civil society or identify appropriate revenue generation strategies) and is therefore time intensive.

33. During the period under review, steps have been initiated to decentralise staff. The African coordinator is outposted to Cotonou, Benin. The Bureau for Africa is covering part of his costs. The networking specialist is expected to move to Eastern Europe. Outposting of staff is beneficial from the programming point of view but does not reduce the administrative load on the SDNP headquarters unit.

03. Review of findings

03.01 Overall objectives and activities

35. SDNP has its roots in the Rio Conference and in particular Chapter 40 of Agenda 21. It is operational in many countries which have subscribed to Agenda 21 and is seen as a tool to support its application at the national level.

36. But the objective of transparent networking and information exchange is also seen in a number of countries as a way of democratising political processes more generally, breaking down traditional divisions between different centres of power and facilitating decentralisation of authority.

37. SDNP has relevance in both contexts and the extent to which projects promote a broader or a narrower agenda will reflect the willingness of national institutions to use the network to extend the participation of all sectors of society in development debate and decision-making.

38. SDNP projects are housed in a variety of institutions, including government ministries, academia, NGOs, National Libraries and Chambers of Commerce. UNDP offices have on occasion hosted the initial phase of SDNP projects pending the determination of a more permanent location.

39. Sometimes SDNP has been the source of tension because it has actively promoted the incorporation of all sectors of society into its main decision making mechanism - the Steering Committee. Tensions are particularly likely to arise when the project is located in an individual Ministry, usually the Ministry of the Environment, which may consider it owns the project. As a project that promotes participatory management and inclusive debate it can be hosted in an organisation - but not owned and controlled by it. This distinction is not always easily accepted.

40. The SDNP headquarters unit - itself and through the consultants it has hired to develop feasibility studies and project documents - has consistently supported the inclusiveness of

SDNP projects: even at the risk of annoying local authorities and the UNDP office.

41. The promotion of participatory processes and open access to the Internet is a legitimate and necessary strategy that has encouraged the spread of the Internet and increased the availability of information. It will inevitably be tailored in its implementation at the country level.

03.02 Sustainability: Resources and Financing

42. There are two major models of operation of SDNPs. One of them, exemplified by China and India, is the Government as the host of SDNPs. In these cases, there is a commitment from the Governments to develop the Centres, manage them and absorb them when they have fulfilled the project objectives. The advantage of this system is that sustainability is more or less assured, provided the SDNPs perform well. The major disadvantage of this model is the remoteness of government-managed institutions and, to some extent, lack of efficiency and operational flexibility and the preoccupation by partners outside the public sector that activities remain transparent and participatory.

43. The second model of SDNP is positioned outside the Government as an NGO. The NGO could be located in a University environment or as an independent legal entity, as a registered non-profit organisation typified by the Philippines Sustainable Development Network Foundation Inc.

44. In this situation, the SDNP should be in a position to generate sufficient resources after the UNDP grant is exhausted to continue its work. It would be necessary to price its services appropriately from the initiation of the project and to build up some resources to meet needs when UNDP funds taper off. In their initial stages many SDNPs have provided intranet connectivity among local organizations and connection to the Internet. The provision of Internet service has been the major revenue generator. While providing this service, many SDNPs have also organized training programmes on Internet use, Web Page Creation (HTML - Hyper Text Mark-up Language) and Network Management. Many have succeeded because services were novel when introduced and very few Internet Service Providers (ISP) existed to provide competition.

45. The situation has changed considerably now. Most countries have commercial Internet Service Providers and SDNPs will be in direct competition with them. Thus SDNPs have to find a niche to sustain themselves. This should be in providing added-value information services: although in many countries information is considered a free resource and there is a general reluctance to pay for it, appropriate packaging and a high degree of relevance would enhance marketing potential. The other main sources of revenue would be training courses, creating and hosting Web pages and related consultancy assignments. The rich experience gained by SDNP staff would make them eminently suited as trainers and this has been demonstrated in some SDNPs. Web page creation and hosting also will provide a

continuous source of income.

46. SDNP must avoid becoming just another ISP. It has to continue development efforts by servicing projects related to the broad area of ICT in sustainable human development which are being funded by UNDP in many regions. By this process a rich information resource relevant to the country's needs will be generated and hosted by the SDNP in its databases. Value added services using these databases could be marketed.

47. Another avenue of resource generation which could be tried by SDNPs which are primarily working in providing information for sustainable development is to approach public charitable foundations to establish endowment funds. The interest from such funds could be used to pay for the core staff and facilities. Of late many such foundations have been established particularly by entrepreneurs who have generated enormous wealth by developing and marketing information technology related products.

03.03 Training and Human Resource Development

48. There are two types of training and Human Resource Developments with which we should be concerned. One is the training of the personnel manning the SDNPs and the other is the training of users.

49. The coordinators have had training in four global workshops/coordinators meeting and eight regional workshops. Many coordinators have also been financed to attend the INET (International Network Conference) workshops.

50. Besides these, the technical staff have been trained in local training courses given by national experts. An average of 23% of SDNP project resources have been allocated for training and capacity building.

51. The workshops have aimed at the sharing of experiences rather than on technology training per-se. This is appropriate for the audience. The nature of SDNP is now changing and it is necessary to address issues of effective financial management and resource generation in future workshops. Most coordinators are technically competent, but have to understand details of financial planning, changing policies, their effect on demand, etc.

52. Training in information management will also be necessary to match the transformation of SDNPs from connectivity providers to content providers. Information specialists will need understanding of databases and database management systems (DBMS).

53. The technical persons manning the SDNPs have to be trained in managing the network, tuning the operating systems and using advanced Web languages and protocols such as Java, ODBC (Open Data Base Connectivity) and CGI (Common Gateway Interface). At present, such training has in some cases been done by national experts. Not every country has local national expertise. Sending a UNDP consultant to do this is very expensive. A possible solution is to employ UN volunteer programmes where good graduate students spend a few months in the Centre and work with the local technical personnel and thereby train them. This approach will be cheaper and could build long-term relationships.

54. It is also suggested that the more mature SDNPs provide training through the Internet. It is time to explore delivering multimedia training using the Web.

55. Turning now to the training of the users, currently most of the training is to enable users to familiarize themselves with the Internet and how to use it effectively. This type of training ought to continue for some time. Besides this training on creation of Websites have been given in some centres.

56. As users get more sophisticated, training needs will change. Methods of searching for contents efficiently and methods of developing relevant databases will come to the fore.

57. The Centres should also explore the possibility of having students as information interns who would work closely with SDNP staff and be available to take up responsibilities in ISPs and other sites.

58. With the advent of digital libraries training on designing intelligent agents will need to be developed.

03.04 Technology Policy

03.04.01 Internet policies

59. The SDNP technical strategy for supporting the development of local connectivity and the use of ICTs has been very largely successful. Since the inception of the SDNP there have been revolutionary shifts in the ICT environment, but the programme made the correct technology choices in the days when there were no universally accepted standards. The programme has been lucky enough to have benefited from the foresight of its technical advisor and support from the director; both were able to anticipate the global move to the Internet and low-cost open systems. As a result SDNP hosts have pre-dated commercial

ISPs in many countries and SDNP HQ is now playing a leadership role within UNDP in many areas relating to the use of ICTs.

60. This has not been achieved without its costs - being on the 'bleeding edge' requires substantial human resources to keep up with rapid evolution, engage in the dialogue over strategy changes and experiment with new systems. In addition the UNDP office in New York naturally takes advantage of the technical talents at SDNP. All of this, combined with growing support responsibilities from the large number of national SDNPs, has resulted in a sense of being spread too thinly. Aside from the stress on the human resources, response times are increased, slowing down the project implementation times and generally increasing operational costs.
61. Because of the explosion in interest in the provision of Internet connectivity, the technical unit at SDNP clearly understands the necessity of maintaining a dynamic strategy which is responsive to the new needs caused by the changing environment in each country - in particular, the move away from the provision of access and connectivity - a role which is being rapidly assumed by the Public Telecommunications Operators (PTOs), private sector and government agencies in most countries, to focus on developing tools that can be used to build local information resources and other more advanced information services.

63. Nevertheless, the high cost of access to full Internet in many developing countries and its lack of availability outside most capital cities indicates that the provision of connectivity, in particular for low-cost email, especially from remote areas, may still be one of the important services that SDNP nodes will be called on to provide for some time to come. SDNP HQ will need to continue to support the provision, and maintenance of access equipment for at least the short-term.

03.04.02 Technical support

65. Technical staff estimate that they spend less than 50% of their time on matters of technical substance, recently as little as 20%. Time spent on technical support is significant and increasing, due to the growing number of operational projects, however, it is generally recognised that more time would be spent on support if it were available. If additional staff were available for administrative matters, the technical expertise available would be far more efficiently used; more time for closer contact with the remote hosts would also allow for earlier problem detection. Currently many technical problems in the field do not get communicated to the SDNP HQ, partly due to pride, but also because of the culture of isolation fostered by the old high-cost dialup environment. Support has been particularly necessary in the least developed countries where local technical skills are most scarce. Also, centralised technical support has been found necessary to provide continuity - in this environment where training is provided, there is a high turnover rate in staff due to their ability to find higher paying employment with their new skills.

66. Paradoxically, the move to full-Internet systems increases the potential importance of the SDNP HQ in providing centralised online support. With no-cost telnet sessions now possible to most of the SDNP nodes, the HQ technical team can remotely assist with configuration changes and problem diagnosis, thus relieving the national hosts of the need to hire full-time network administrators. At the same time, the improved accessibility of the remote hosts via

the Internet opens up new possibilities for automated monitoring of system activity, distribution of software updates and content packages for mounting on local web servers. The only problem is the slow response time over the network for countries that have low bandwidth connections.

Mirror sites

67. Because of the high cost and generally congested nature of international bandwidth in developing countries, SDNP HQ will need to assist local hosts in developing effective mirrors of relevant sustainable development information. In this context, the use of email-to-web HTML page retrieval tools should also be promoted with the SDNPs. This would all be part of the strategy necessary to assist the local SDNPs in building strengths in information provision and moving away from reliance for sustainability on the provision of access and connectivity.

Technical training needs

68. The other important areas that local SDNPs will need support in developing and tariffing include:

- Training courses and expertise in web page/site production
- Network security and use of encryption software for ensuring privacy
- Installation of filters and other techniques to reduce junk mail
- Obtaining additional IP address space when none is locally available
- Developing close partnerships with other development information content producers, trainers and single sector access providers who need specific content (e.g. SchoolsNets).
- Provision of advanced Internet services which may not be provided by the local ISP.

Depending on the local environment, this might include:

- Email-only access and low cost public access email subnodes for deployment at telephone shops and in remote towns
- Mailing list server
- Newsgroups server
- Private newsgroups, mailing lists and web space

- Image + text storage and capturing facilities (digital cameras, scanners, OCR (Optical Character Recognition), CD (Compact Disk) writers etc.)
- Gateway between mailing lists and newsgroups
- UUCP (Unix to Unix Communication Protocol) and Fido store and forward email gateways
- Real-time group discussion tools - talk/chat, shared whiteboards and slow-scan video conferencing
- Domain name management, hosting and registration/administration + Email-to-Fax gateway server (plus tie-ins to global fax servers for least cost routing)
- Databases and Web interface to databases (both for searching and for remote update capabilities)

69. Many of these have already been developed at SDNP HQ as part of its important role in testing and prototyping systems and services which are then passed on to the local SDNPs. However additional support will be required to ensure that the human resources are available to develop better documentation for SDNP developed services and to carry out the necessary training in installing and administering the new services. SDNP HQ needs to develop replies for frequently asked questions (FAQs) and include them in their Web pages.

Database management systems

70. With regard to database systems, SDNP HQ has already done much important ground work in using free software and public domain web interfaces to relational databases using the mSQL (mini Structured Query Language) relational database and associated CGI scripts to provide the web tools. This project also illustrates another area of emerging activity for the SDNP HQ technical team - co-ordinating and sharing development projects across national SDNPs. Perl scripts for the web interface are being developed by a number of Latin American SDNP network technicians who are collaborating together.

Cooperation among SDNPs

71. Aside from software development, SDNP HQ could also help encourage the exchange and sharing of training materials and relevant content. So far the SDNP hosts have been relatively isolated from each other as self-contained national projects with little sense of being part of a larger international network. With the international connectivity costs having

been all but eliminated due to the use of local Internet access, and as the hosts reach similar stages of development one would expect greater cross-SDNP networking to take place. SDNP HQ is likely to be required to set up and moderate a variety of topic oriented mailing lists for this purpose.

Billing, accounting and use statistics

72. As sustainability and cost-recovery become increasingly important with local SDNPs becoming independent from UNDP funding, web statistics monitoring and billing and accounting tools will become more important. This, along with guidance on tariffing services will also need further research and prototyping at SDNP HQ. Timely email usage and web traffic reports will help the local SDNPs justify their services to their stakeholders and other potential funders, and also allow the identification of problems being experienced by some users (for e.g. those that stop accessing the server).

73. Once the tools described above are in place, then each SDNP will be able to exploit their full potential to disseminate information to the full range of connectivity levels - fax, email and full Internet/Web. Thus, instead of paying for access to the Internet, an SDNP membership fee would allow the user, for example, to receive a daily/weekly bulletin of development information, a space to host their own organisational web pages, or access to a private web or mailing list space for internal discussions with a select group.

Location of SDNPs with respect to technical support

74. The location of many of the SDNPs within larger organisations such as Universities has benefited the technical strategy by allowing the local SDNP host the possibility of simply attaching itself to the local institutions' LAN, rather than having to purchase and support its own leased line infrastructure. Where hosts are located within a large concentration of locally connected PCs, in this fashion, it may be worthwhile to examine the possibility of developing expertise in the provision of broadband services (audio and video) in preparation for the more universal availability of broadband in the future. The location within a university or academic environment also has another important spin-off - the large pool of technical expertise can be used for basic support as well as for content building - students can be encouraged to take on the building of web pages as projects for academic credit.

03.04.03 Equipment Procurement

75. The strategy for sourcing of equipment has been a subject of ongoing debate within SDNP

and many other development agencies. Centralised purchase of equipment in North America or Europe offers the advantage of the best price and the latest models but does not build local capacity and may make the recipients more vulnerable to problems in obtaining support when the equipment malfunctions.

76. In general, SDNP has taken the centralised purchasing route, but only when cost comparisons with the local country show a significant benefit. Further advantages that UNDP is able to exploit when going this route is the 5-10% government discount on most purchases, the lack of any import duties and the availability of the UNDP pouch which can be used to ship equipment of up to 35lbs in weight. Because of these advantages SDNP will likely continue to support hardware sourcing, although probably in a diminishing capacity as local markets mature, import duties reduce (an already apparent trend for ICTs in many developing countries) and SDNPs move more into the provision of content rather than access.

77. The increasing difficulty of obtaining 220V equipment in the US has sometimes slowed down sourcing for Africa and Asia and suggests that it may be worth investigating the possibilities of partnering with a European organisation who could make these purchases.

03.04.04 Donated equipment

78. A related area is the negotiation of large donations of equipment and software from suppliers, such as the recent Hewlett Packard deal. Clearly the technical team will retain an important role in testing the equipment's suitability to run the applications in use at the SDNPs and in advising on the delicate nature of such agreements - only the suppliers of proprietary brand names are likely to be interested in such donations, but proprietary equipment often carries support exclusivity with it and other restrictions on use which may have to be evaluated in light of the local conditions. In general such equipment may be best suited to countries with more well developed markets where competition is higher and the availability of local proprietary support is available. However branded equipment distributors are becoming increasingly common even in Africa and thus local support is less of a problem than it was in the recent past. While negotiating contracts for equipment supply, issues related to software maintenance and updates for a reasonable period of time - three years minimum - need to be kept in mind.

03.05 Project management

79. Country Project management in the SDNP environment is more complex than that of other projects in the UNDP portfolio because of their unique, innovative institutional and operational characteristics:

- a large number of partners and strategic alliances are involved from the governmental, academic, non-governmental, community-based and private sectors in each SDNP project/enterprise;

- project products and services are provided to hundreds of users, many of which are "intermediaries" or serve as retailers for additional thousands of users;

- from the outset, SDNPs are conceived as enterprises which in a relatively short time (2-3 years) should attain corporate/organizational autonomy and financial sustainability; UNDP's role is that of promoting the establishment of ICT enterprises, which will ultimately recover full costs;

- serve multi-sectoral and multi-programme objectives such as, for example, productive, social and service sectors of government and civil society; sustainable human development, and the private sector (especially small and medium enterprises); and academic community;

- decentralized, transparent and participatory governance;

- complex and evolving technology, including "within country" and external connectivity issues and competitiveness with commercial ISPs.

- the UNDP counterpart and host is not known initially, and emerges only towards the end of the development stage of project.

80. These unique characteristics impact directly on the structure, organization and management of SDNPs in each country. Moreover, impact will vary during the different stages of the project: the gestation and development phase where UNDP has the lead role; the consolidation and transition phase, where UNDP's role diminishes progressively; and the autonomous and financially sustainable enterprise stage, where UNDP's minimal role may be only advisory and "nurturing" a "newborn." Consistent with the above and the participatory philosophy of SDNP, and UNDP in general, the management and administration of SDNP projects in the country appears to be as follows:

    Gestation/Development Stage

- UNDP convenes an initial working group of potential partners and users from the different sectors. This working group becomes the Steering Committee (SC) chaired by one of its members, who typically would represent one of the potentially major partners. The SC, especially its chairperson and the UNDP Resident Representative, become the "champions/promoters" of the project.

- A coordinator for the SDNP is designated

- Occasionally, the SDNP is initially temporarily located in the UNDP office.

Operational - Consolidation and Transition Stage

- Information technology and/or information officer(s) are appointed, as well as an administrative assistant. Typically at this stage there are three (two professionals, one support) and sometimes four (three professionals and one support) project staff.

- A decision is taken by the SC on where to locate the SDNP. Generally the options are: a government ministry, a University or an NGO. The host for the SDNP becomes a major partner and provides the office space and related services. When it is located in a Government Ministry it is essential to ensure that it is not owned by the Ministry but only hosted by it.

- As the number of partners and users increases substantially, the SC is enlarged to up to about 15 members. To facilitate participatory decision-making and at the same time reflect the policy-making role of the SC, it may be converted into a Management Board, which may also create a smaller executive group designated by the Board (MB). Alternatively, all users and partners may meet periodically as an Assembly, which selects an executive committee or management board which meets on a more frequent basis (monthly, or as required).

- Charges for services provided by the SDNP are instituted.

- A business plan for the autonomous and financially sustainable enterprise is prepared with support from outside local consultant(s), and guidance by the SC or MB.

- A legal, corporate structure of the enterprise is constituted within the legal framework of each country.

81. During the phases where UNDP provides significant financing for the SDNP, the UNDP country office normally shoulders the responsibility for administration and supervision of the project, including its management. Most of the projects are UNOPS executed for which it receives 10% overhead for the SDNP Global programme allocation, except for equipment procurement - only 5%.

82. While UNOPS provides overall administrative support, the Headquarters SDNP core team provides technical back-stopping and serves at times as agent for the country SDNP in getting UNOPS to expedite its administrative actions involving recruitment of local and international staff/consultants and procurement of equipment. Because of the latter, it is alleged by some that the Core Team may get involved in "micro-management." of country projects. This tends to slow down project implementation.

83. To alleviate the above, maximum delegation should be given to country offices with commensurate authority to act within approved project budgets. This delegation, which is consistent with overall UNDP operational policy, should apply to:

· line 21 (consultants)

- line 17 (technical local staff)
- line 13 (administrative local staff)
- line 31 (training)

84. In addition, depending on local conditions, consideration should be given to delegating procurement of certain categories of equipment within established policy.

85. Because of the unique institutional and operational characteristics of SDNP projects, national execution is not advisable initially, although we should aim for it when the institutional structure of the enterprise is settled and effectively implemented.

86. Active and sustained involvement by UNDP Resident Representatives and senior colleagues in the management and administration of SDNP projects, especially during the first 2-3 years, is essential for efficient implementation and in order to install discipline and standards, for record keeping, documenting decision-making, and systematic monitoring and evaluation. It would alleviate chronic problems with UNOPS which are aggravated when junior staff in the UNDP office are assigned to the SDNP project and are frequently changed. Continuity by experienced staff is essential.

87. With involvement by UNDP Resident Representatives as outlined above, integration of SDNP within the management and programming structures of UNDP country offices will be greatly facilitated. It would also increase awareness of how SDNP could become a strategic tool to implement effectively UNDP's corporate mission statement and the specific country strategies and projects. In fact, in some countries, e.g.: Guatemala, the Resident Representative could explore using SDNP (for a fee) as a management support tool for UNDP and the UN Resident Coordinator System in the country; the specific saving in UNDP administrative budgets and other benefits should be rigorously analyzed. Based on such an initial experiment, this arrangements could be instituted in an additional 5-10 countries.
88. Turning now to priority management and administrative aspects of the Global SDNP programme in New York, it is noted that the SDNP's core team responsibilities and accountability to the Administrator for the Global/SDNP project should primarily be assured through effective and systematic monitoring and periodic external evaluation. The core team should focus its activities on technical back-stopping and provision of guidelines and technical notes on ICT technological issues, types of products to be marketed by SDNPs, training materials, structuring of rates for different categories of SDNP services and how to manage collection of revenues, model business plans, network development strategies, and "best" and "worse" practices from the SDNP Global Programme and from other similar activities. Promotion of sub-regional and regional collaboration among SDNPs and with other relevant networks and databases should also continue to be a focus of attention by the New York team.
89. Guidelines for processes to be followed in decision-making during the two initial stages of the projects, including standards for documenting the decisions and files to be maintained should be promulgated. More generally, common standards should be maintained with regard to reporting financial and other data about project implementation and administration.
90. Policy guidelines reflecting experience in different institutional and cultural settings should be provided. Several models should be presented on how to structure and incorporate the autonomous, financially sustainable SDNPs.

91. Delegation of authority as outlined above, will greatly reduce, if not eliminate, complaints

about delays in staffing and equipment procurement. It will also liberate time of the limited core team to undertake the policy-related work outlined above. However, it will also be necessary to complement core team staff with consultants for some of the policy guidelines and technical notes, which should not be done at the expense of consultants time required for identification and development of projects in new countries at the rate of 10-15 per year during 1998-2000. The Programme's overall effectiveness and impact would be significantly enhanced by strengthening the financial management and administration function within the NY unit.

93. To enable the core team to carry out its expanded substantive functions, its funding sustainability until the year 2000 combined with adequate staffing and allocation for international consultants is essential.

94. In summary, integration of SDNP within the management and programming structures of UNDP country offices and in the corporate structure of Headquarters is essential. It is also critical that the senior management of country offices, supported by the regional Bureaux, expand their commitment to the SDNP programme as a strategic tool to promote UNDP's corporate mission statement and the specific country programme strategies and objectives. This would enhance significantly the overall impact in the country resulting in accelerated sustainable development that is equitable and participatory.

04. SDNP impact in the field

04.01 Development impact

95. Internet-based information and communication technologies offer unprecedented opportunities to people and institutions to communicate with each other, share information, develop mutually beneficial positions and empower themselves.

96. Sustainable development is an enterprise that interests all society and requires the involvement and support of a variety of actors. It cuts across many sectors ranging from environment and natural resources, to, to cite just a few, health, education and agriculture and involves all levels of governance.

97. The successful marriage of Internet to Sustainable Development was the task SDNP set itself.

98. The impact of SDNP projects therefore has to be assessed in terms of Internet and of sustainable development and in terms of the partnership between the two.

Sustainable development

99. SDNP will be judged, from the SD perspective, by its impact on the nature and process of the debate itself, and ultimately on the quality of decision-making, planning and policy.

100. In every country where SDNP is operational some form of steering committee exists which brings diverse voices into the debate. These do not always function perfectly (Morocco is a case in point where there is contention over its role and membership). But the first steps have been taken to demonstrate the effectiveness of open debate and many institutions and individuals in SDNP countries are firmly committed to continuing the process.

101. In some countries subgroups of Steering Committees have been established to intensify debate on specific issues - desertification for example.

102. The debate is fed by an increasingly rich array of information on the Web from both governmental and non-governmental organisations. Browsing SDNP sites confirms the existence of policy papers, legislative texts, codes of practice, research reports and other texts and data which were previously difficult to obtain and which are now being posted to Web sites in a matter of days.

103. While there is still resistance in some countries to inclusive SDNP networks the norm is for broad participation from non-governmental organisations (NGOs), academia and the private sector as well as from a variety of government departments, including education, health and agriculture, as well as the core environment ministry.

104. Some countries in Central America are planning to establish SDNP assemblies which would elect their own management committees to oversee local SDNP programs and thereby extend the concept of participation and democratisation a further step.

105. Some SDNP projects have implemented software to track visits to their sites - compared to the use of traditional information collections in libraries or documentation centres in developing countries, the figures are an order of magnitude higher. Without citing numbers, it is safe to say that SDNP has been instrumental in increasing the circulation of information on sustainable development and expanding its user base.

Internet policy

106. SDNP's strategy of encouraging the formation of broad-based steering committees and insisting on access by all groups to the SDNP network has been instrumental in some cases in encouraging governments to reform their telecommunications policies and allow Internet access to all. In some cases the SDNP has been the first Internet Service Provider and has been in a position to demonstrate the benefits of open access. Often during the life of SDNP projects, the ongoing dialogue with the Telecommunications Ministry and the national telco provider leads to changes in attitudes and a more market oriented approach. SDNP projects have certainly facilitated affordable access to the Internet by sectors for which market rates would have made connection difficult.

107. SDNP projects have all included substantial outreach and training components - and have therefore contributed to building Internet capacity within the country. Training can range from computer literacy to Web site production and Internet information retrieval skills.

The partnership

108. SDNP has provided training and small grants to organisations which would not otherwise have been able to build Web sites and share their information - either locally or globally. Apart from government departments, these include NGOs and local governments. The applications of the latter, for tourism or ecotourism for example or the marketing of handicrafts or agricultural products, are beginning to be explored and have their own potential for income generation.

109. The partnership also plays a role in increasing media attention to - and public awareness of - sustainable development issues.

110. A number of countries are exploring innovative applications of SDNP. Guatemala, for example, intends to use the network to underpin communication strategies in support of the peace process. Poland is considering mounting a virtual Sustainable Development Festival to draw in additional partners (schools, for example) and to culminate in an event to coincide with the end of UNDP presence in the country in 1999.

111. The development impact is not just a reflection of project investment but also of the excitement which the marriage of technology and sustainable development has generated in many of those exposed to the concept developed by the SDNP team.

04.02 Impact on field offices

112. SDNP has provided connectivity to a number of UNDP field offices but it has had a more profound impact in those where the Resident Representative and senior management are committed to the project. The impact is manifested in a significant contribution to advancing UNDP's mission statement and in expanding UNDP's traditional constituencies.

113. ICTs (which are at the core of SDNP) are a strategic tool in support of sustainable human development, the eradication of poverty, gender equality, fuller incorporation of indigenous peoples into the mainstream of society and a true participation of youth in sustainable development. They can also support informed, decentralised, participatory, transparent governance at all levels of society with particular emphasis on municipal authorities and NGOs. They do so by providing previously marginalised communities the opportunity to participate in public development debate - and to interact with UNDP offices.

114. SDNP facilitates UNDP country office linkages with NGOs, universities, private sector bodies (in particular small and medium size enterprises) and National Commissions for Sustainable Development. Eventually they will provide a jump-off point for developing partnerships to expand connectivity and access to Sustainable Human Development Information (SHD) information to grass roots and community-based organisations.

115. SDNPs provide a platform for disseminating information about UNDP's own goals and programs and a means of gaining visibility within a broad community within the country. They have been an effective public relations tool for a number of UNDP offices.

116. A number of SDNPs (in Honduras and Morocco, for example) have demonstrated their capacity to generate modest revenues thereby enhancing UNDP's role as a promoter of local entrepreneurship and of a culture of cost recovery. In Nicaragua the office has been able to reduce its information systems costs by relying on the SDNP network to facilitate its role within the UN Regional Coordinator System.

05. Impact in SDNP Headquarters

117. The regional bureaux and the other UNDP units dealing with information give credit to SDNP for introducing the idea that modern information technology could deliver something different to the development process and for acting as a catalyst to thinking about new

modes of operation.

118. SDNP is credited with providing useful technical information and advice in the shaping of the regional programme documents (The Hemispheric Initiative in Latin America, the Internet Initiative for Africa and the Asia-Pacific Development Information Programme). SDNP has also developed a valuable pool of expertise and a network of international contacts which can advise UNDP on local connectivity strategies for any type of project that contains an ICT component. The Africa Bureau has commissioned SDNP to act as its agent in the preparation of its project document in five countries (Chad, Mauritania, Burkina Faso, Sao Tome and Principe and Cap Verde) and is sharing the cost of SDNP's representative in Cotonou. While, on the one hand, SDNP has contributed to mainstreaming the application of ICTs to programmes in the regional bureau, on the other hand the bureaux will manage their future programmes independently of SDNP. They may or may not be more successful in creating sustainability but SDNP experiences should help them identify pitfalls and effective strategies.

119. DAIS (Division for Administrative and Information Services) recognises that SDNP has facilitated connectivity in a number of UNDP offices and drawn attention to the need to introduce more effective systems within the office. DAIS values SDNP as a partner in promoting ICT culture within UNDP and recognises that the two programs share some functions at the field level.

120. Capacity 21 is the key substantive SDNP partner. It remains committed to acting jointly with SDNP wherever possible. SDNP has in some cases prepared the ground for Capacity 21 projects by bringing local players together and creating an initial debate on sustainable development (Mexico) or by assisting the government to decentralise (Bolivia). Capacity 21 sees SDNP's role as getting the body of knowledge on sustainable development into use, facilitating the integration of the various sectors and breaking down hierarchies that limit information flows. Capacity 21 is less interested in defining the content of sustainable development information than in promoting its flow, which accords well with SDNP practice. While there is room for closer programmatic linkage between the two programs there is general satisfaction on the Capacity 21 side with the cooperation that has developed.

121. The IT for Development Program, which concentrates more on applications than on connectivity and networking has developed a collaborative relationship with SDNP which should play out at two levels. There is room for the IT program to build on SDNP networks by incorporating particular communities, universities in China, Guatemala and Honduras for example, or by bringing the networks down to the grass roots level through telecentre mechanisms in South Africa or Honduras. It will also be important that the two programs develop partnerships together so that UNDP is seen to be speaking with one voice.

122. UNDP itself is introducing a new approach to the provision of technical services to the field through Subregional Research Facilities (SURFs) connected to a global hub in New York. In

a pilot phase six multidisciplinary support teams are to be established; on the basis of this initial experience a decision will be taken on the expansion of the programme to all regions. SDNPs exist (or are about to be established) in four of the SURF countries; SURFs must take advantage of, and not duplicate, SDNPs in their efforts to foster effective information exchange links, nationally and regionally. If the SURF model is adopted the SDNP Director should consider the initiation of SDNP projects in all SURF countries.

123. While the SDNP experience has not yet apparently effected a visible change in thinking at the level of senior UNDP management of the need for a strategic approach to ICT and development programs it has clearly played a significant role in supporting increased program activity and in shaping the estimated $20 million yearly that UNDP invests in ICTs.

06. Conclusions

124. SDNP is effectively supporting the development of a culture of information sharing and the growth of Internet capabilities in the countries in which operational projects are underway. In some cases this has led to creative tensions around the mechanisms needed to ensure participatory management of the projects - but these tensions are probably a necessary feature of a move towards more collaborative, transparent and electronic approaches to decision-making, planning and research on the cross cutting issues related to sustainable development.

125. SDNP has also played an important in-house role - through the provision of experience and advice to other UNDP units exploring the relationship between the new information technologies and development.

126. While the goal of financial sustainability has only been achieved in a few projects, many project have developed business plans and strategies which will prepare the way for more experiments in revenue generation and a growing understanding of the complexities of transforming a development project into a financially sustainable unit.

127. To offset the relatively slow progress towards financial sustainability, national institutions are committed to supporting many projects through the provision of staff and office facilities.

128. Although SDNP has positioned itself well to exploit the fast changing Internet world for development ends, there are a number of areas in which clarification is needed to improve implementation and pave the way for future program growth and adaptation:

- scope: SDNP should continue to avoid limiting its networks through preconceived definitions of development, sustainable development or sustainable human development;

- location management and administration: there is a need for clarification of roles of management agents and decentralisation of administrative decisions; SDNPs should be hosted, but not owned, by organisations with a firm commitment to inclusive networking and participatory decision making;

- network extension: SDNP should seek partnerships to extend its reach beyond its current institutional base;

- the role of technology: SDNP needs to remain at the interface between ICTs and development;

- program support: projects also need more substantive advice and information on best practices on non-technological issues (sustainability and network organisation, for example);

- project duration: projects need a long enough life to respond to the challenges of SDNP;

- a global programme: SDNP should continue to act in all regions and at a variety of development levels but should not avoid politically difficult countries;

- partnerships: SDNP could maximise its investments through cooperative arrangements with other ICT and development programs.

93. The last two chapters of this report will justify, and elaborate on, these recommendations and propose a mechanism within UNDP which will build on SDNP learning to create a program focus on ICTs and development.

07. A Framework for the Future

07.01 Development, Sustainable Development, Sustainable Human Development

94. SDNP sites interpret sustainable development differently; their networks incorporate institutions from a wide variety of sectors and host Web sites that may provide general information about the country as well as more focused SD materials. The particular mix and focus will be the result of country priorities and the mandates of the participating organisations and the relationship between SDNP and other projects, particularly (but not only) Capacity 21.

Recommendation 1: SDNPs should continue to be flexible and non-prescriptive with respect to the definition of the information that flows through the network.

07.02 Location, management and administration

95. Unique, innovative institutional and operational characteristics of SDNP projects impact directly on the structure, organization, management and location of SDNPs in each country. Based on the detailed analysis in section 03.05, the following recommendations are made:

Recommendation 2: SDNP projects should be located preferably in Universities, NGOs or contiguous to National Commissions for Sustainable Development where they are effective. They may also be located in appropriate Ministries, provided it is clearly understood that the Ministry hosts but does not own the SDNP.

Recommendation 3: UNDP Resident Representatives and senior colleagues should be involved actively and on a sustained basis in the management and administration of SDNP projects, especially during the first 2-3 years.

Recommendation 4: From the outset, governance of SDNP projects should be participatory and effectively administered, reflecting the full range of users and partners, facilitating their transformation into autonomous and financially sustainable enterprises. A legal corporate structure of the enterprise should be constituted.

Recommendation 5: Recovery of costs for services should be initiated as early as possible.

Recommendation 6: Management and administration of SDNPs should be professional, maintaining high standards, and adequately documented through appropriate data and information systems.

Recommendation 7: Strategic alliances should be sought with a wide range of actors of civil society, especially with the National Commissions/Councils for Sustainable Development where they exist.

Recommendation 8: Maximum delegation of authority for SDNP project implementation

should be given to UNDP country offices to enhance efficiency and to minimize if not eliminate the need for "niche management" by Headquarters.

Recommendation 9: UNOPS should continue to be the Executing Agency with maximum delegation to the field. National execution should be promoted as the projects progress toward autonomous enterprises.

Recommendation 10: Explore in selected country offices, e.g.: Guatemala, the feasibility of linking the existing MISS and DDSs with SDNP, for a fee, as a management and information tool of UNDP and the UN Resident Coordinator System.

Recommendation 11: Integrate SDNP into UNDP's overall programme, with special attention to creating synergies and complementarities with relevant other programmes and projects, e.g.: telecenters and service centers for Sustainable Human Development.

96. Turning now to priority management and administrative aspects of the Global SDNP project in the New York, the following conclusions and recommendations are offered:

Recommendation 12: The SDNP core team at New York should focus its activities on both substantive and technical issues: guidance on new appropriate technologies, training, technical coordination, assistance on business plans, equipment specifications and testing and software systems. It would also be useful to promote regional and subregional cooperation. To allow sufficient time for them to focus their activities as specified above, it is necessary to relieve them of many of the administrative activities pursued by them to a person with specialized knowledge in that area.

Recommendation 13: The SDNP's overall effectiveness and impact would be significantly enhanced if a function is established in New York with responsibilities for financial management and administration. This function should be staffed appropriately.

Recommendation 14: SDNP New York has responsibility to keep track over 35 projects spread all over the world which will increase to over 90 in the next few years. The responsibilities of SDNP New York include funding, equipment procurement, supply maintenance, staff recruitment, monitoring, evaluation, etc. In order to do this effectively and have up-to-date information on each country it will be essential to have a well designed information system which is updated on a daily basis.

Recommendation 15: It is necessary to implement a computer-based information system at SDNP headquarters in New York to track the progress of all the SDNP centers worldwide.

07.03 The extension of the network

97. There is nothing in the principles of SDNP that prevents projects working with grass roots and community-based organisations. The concentration of institutions working on sustainable development in the capital cities, the challenges inherent in bringing even these organisations together into an effective information sharing arrangement, and the limited reach of telecommunications infrastructure has meant, in fact, that most networking efforts are concentrated there. However, much work on sustainable development is carried out at the local level and it would enhance the value of SDNP networks to tap into local experiences.

98. SDNP probably does not have the resources itself either to tackle the technical issues involved in extending connectivity to the real grass roots level or to make the necessary infrastructure investments. But there are possibilities for partnering with the initiatives of other organisations; in Mozambique for example SDNP is discussing with IDRC the possibility of a partnership to extend the reach of the Beira VSAT that will be installed under the SDNP project.

Recommendation 16: SDNP should partner with other organisations to extend its reach to grass roots and community-based organisations collecting data and conducting research on issues related to SHD.

07.04 Technology push?

99. SDNP is manifestly not a project that is driven by technology. But it is often perceived as such.

100. Its primary purpose has always been to increase the flow and use of information on sustainable development by taking advantage of the potential of the new Internet-based technologies. Today's technologies are changing the way people work and the way institutions behave; the human, organisational and technological aspects of networking are increasingly intertwined as we move towards a 'learning society'. In that society the capture of data and information - and its transmission from field camps to local, provincial, national

and international research, analysis or decision-making centres will be speeded up, while at the same time it will be easier to maintain the integrity of the information as it moves seamlessly from one point to another. The implications for governance at all levels are enormous and largely unexplored.

Recommendation 17: SDNP has been, and should continue to be, part of the process of exploring the interface between technology and SHD. It must therefore continue to develop cutting edge approaches to technology in support of the extension of its broader information sharing goals.

07.05 Project Duration

101. Currently most SDNP Centres have been funded for 2 to 3 years, after which the Centre is expected to become self-sustaining. Two years is perhaps a little short, as it takes at least one year to get the project reasonably off the ground. Three years looks optimal, as it gives reasonable time for the Centre to stabilize and gives them confidence to venture on their own. It is better for UNDP funding to be tapered off after the third year. For countries with very poor infrastructure and where the infrastructure development was slow perhaps a four-year period may be recommended. It will be counter productive to extend UNDP assistance beyond 4 years. If a project has some new exciting proposal from which others can learn it may be considered as a new proposal and dealt with on its merits.

Recommendation 18: SDNP projects should initially be funded for a minimum of two and a maximum of four years. A second funding phase should be considered if the proposal is novel and will offer significant opportunities for learning.

07.07 A global program?

102. SDNP should remain a global program. It already operates in all developing regions and in Europe and the CIS states. The sharing of knowledge between different levels of SDNPs will become increasingly valuable over time as more projects move beyond connectivity to information use and beyond the established institutional base to a more local clientele.

103. In its initial phase SDNP tried to establish criteria for selecting the countries in which projects should be located given that resources fell far short of enabling a comprehensive program. In reality a judicious blend of common sense and opportunism has assured a balanced representation of countries from different regions and at different levels of development and is probably all that is required.

Recommendation 19: SDNP must continue to operate in countries in different regions and at different levels of development in order to take the benefit of the lessons emerging from individual projects. It must retain the capacity to intervene in countries where political circumstances make networking difficult but of considerable potential benefit.

07.08 Partnerships

104. SDNP will never have the skills base or the resources to solve all the problems associated with the application of the new Internet-based ICTs to development. But it should be a leader in piloting particularly promising approaches, in learning their lessons and persuading governments and other development agencies to follow them. UNDP will need to build successfully on its SDNP experience if it intends to lead development thinking into the next century.

105. To facilitate learning SDNP will need to create judicious partnerships with other organisations, national and international, that are acting at the level of infrastructure, policy, tools and applications to promote and facilitate the application of ICTs to development.

Recommendation 20: SDNP should explore program partnerships that will promote its goals globally; but it should put particular emphasis on establishing project partnerships that will enable it to explore new territory and contribute to global understanding of ICT and development issues.

08. The way forward

106. SDNP was initiated at a time when there were few major programs sponsored by international organisations in support of developing country access to information through the Internet. Today there are many such programs which recognise the potential empowerment capability of the new ICTs - at all levels from government and academia to community-based organisations. SDNP is therefore not only in a more competitive environment than it was five years ago but it is also required to compete with organisations that have programmed more substantial investments and have a longer history of involvement with information and development (although not necessarily technology) issues on the ground.

107. UNDP has staked its claim to a part of the ‘global knowledge’ terrain through its participation in the June 97 conference in Toronto. SDNP is a major instrument to enable the Organisation to define its program approach to ICTs in support of development. While other programs are emerging within the Organisation, SDNP currently provides the main base of experience; its lessons must be easily available as new approaches are defined and UNDP positions itself within the context of the global knowledge society in which development actions will be judged over the next three to five year period.

108. To play this role effectively SDNP will be required to:

- consolidate its role within UNDP; and
- develop productive partnerships with other donor programs.

08.01 UNDP role: a program approach to ICT & Development

93. SDNP and IT and Development are two related programs both operating from the Bureau of Development Policy (BDP). The programs are synergistic in the sense that SDNP has concentrated on the development of networks and information products and services and the IT and Development program on applications and mechanisms for local level access.

94. A new program resulting from a merger of the two units could provide a program policy framework for UNDP’s ICT and development interventions. It would promote, more actively than is the case now, the sharing of information and experience across different levels of SDNP operation. It would identify case studies and best practice not only drawn from SDNP but also from other sources of relevant experience. It would exploit the information products developed by SDNP networks as well as the downstream applications and access experience of IT and Development.

95. It would integrate and update UNDP’s understanding of ICT and development issues and ensure its application in a program context.

Recommendation 21: Consideration should be given to merging SDNP with one of the BPD appropriate units to create a single global program that would focus on the provision of policy guidelines, piloting technologies, mechanisms and applications and exploring the development potential of cutting edge information and communication technologies.

08.02 Partnerships

96. Judiciously selected partnerships with other donor programs could extend the reach of SDNP and thus its impact on sustainable human development.

97. Many examples could be elaborated; the following are illustrative only.

98. The World Bank's Economic Development Institute's WorldLink program is implementing schools connectivity and providing training to teachers in a number of developing countries. Schools provide fruitful territory for testing and implementing sustainable development educational materials and for promoting a culture of sustainability. The linkage of schools into SDNPs could stimulate small-scale projects and build a young constituency for sustainable development.

99. The UN Population Fund (UNFPA) and the UN Population Division manage a global population information network with the Regional Commissions. This program has promoted the development of many population Web sites - applying many of the same approaches as SDNP, for example the reliance on local consultants. In countries where POPIN is active linkages with SDNP could expand the coverage of population information and strengthen the integration of population issues into sustainable development policy and planning.

100. IDRC's Acacia program aims at demonstrating the empowerment potential of ICTs in remote and disadvantaged communities. It is providing support for remote access in support of community-based natural resources management projects in a number of Sub Saharan African countries where SDNP is active. It is also supporting the implementation of variety of telecentre models. Linkages could encourage the flow of information to SDNP from grass roots organisations.

101. Partnerships to resolve technical problems could also be fruitful: a common strategy among development partners to facilitate access to and use of database management software and the elaboration of tools to support use by populations not literate in the European languages of the Internet are two possible examples.

Recommendation 22: The new merged program should identify strategic and synergistic partnerships which will extend the reach of its networks and diversify their membership.

102. The External Evaluation Team firmly believes there are no 'silver bullet' solutions to the challenge of connecting Internet technologies to the development goals of UNDP. The Organisation is fortunate to have a growing body of experience from SDNP projects around the world on which to draw to elaborate its future programs.

List of Annexes:

Annex 1:

Third External Evaluation of the Sustainable Development Networking Programme (SDNP): TOR for SDNP Evaluator(s)

The overall purpose of this mid-term evaluation of Phase III of the programme is to review the design and implementation to-date with the intention/aim to develop concrete recommendations regarding future programme activities. This will involve if necessary amendments to ensure the achievement of the objectives.

At each selected sample site and in the context of the overall SDNP the following 5 themes will be examined:

1. Overall Objectives and Activities

- establish the relevance of the programme's development and immediate objectives, approach, implementation procedures, outputs, etc.;
- analyse if the present programme design is consistent with UNDP's objectives, needs of the

developing countries and the recommendations of the last evaluation mission;

- assess the need for - or otherwise - and the possibility of mid-course corrections, if any, at the global, regional and/or country level of SDNP design and implementation;
- analyse the effectiveness of the present approach at SDNP HQs and in the field;
- determine the impact of SDNP on sustainable human development both at HQ and in the field based on visits to sample countries; and
- appraise the geographical distribution of SDNPs, including the allocation of resources.

2. Resources and Finances

- review if programme/projects are cost-effective;
- assess the overhead expenses and management expenses in relation to overall programme and project funds;
- review HQ staff overhead to total programme funds and review allocation of programme funds per sub-activities, especially equipment; and
- review the strategy for achieving financial sustainability from a representative sample of SDNPs and at SDNP HQ.

3. Training

- assess the managerial and technical training provided to national staff (timeliness, quality, validity and effectiveness), including the continued availability and utilization of the trained staff on completion of training;
- assess the actual level of technical self-sufficiency, and recommend activities and policies to further technical self-sufficiency for SDNP projects;
- appraise the training of HQ staff; and
- review the need for further training in the field and at HQ.

4. Equipment

- appraise the effectiveness of equipment procurement, timeliness of processing and placement of orders and whether the equipment was installed on time and utilized optimally;
- evaluate current usage and future projections for use of equipment and whether the equipment selected is appropriate under local conditions; and

- assess operation and maintenance (O&M) systems of SDNPs.

5. Project Management Arrangements

- determine the usefulness of the Steering Committees to the management of SDNPs and how do they contribute to the sustainable human d evelopment scope of SDNPs;
- assess the comparative advantage of project management by UNOPS vs. national management;
- assess the flexibility of SDNPs, both in the field and at HQ, to integrate change in their planning and managing structures;
- review future plans for the utilisation of the expertise and facilities acquired during the programme;
- assess the usefulness of the outputs to the needs of the direct beneficiaries; and
- review the appropriateness of monitoring and evaluation indicators. Is there a need to establish or improve these indicators?

Conclusions and Recommendations

This should include technical and substantive recommendations with a view to improving project performance in relation to stipulated or recommended immediate objectives and outputs.

The consultants will prepare a report entitled "Review and Forward Strategy for SDNP" with the approximate length of 25 pages with supporting appendices. The consultants will review the material at SDNP HQ and will have the freedom to contact SDNPs in the field particularly those selected as the sample group. The selection of the sample group will be made by the consultants. The sample group will consist of up to 8 countries currently in three different implementation status with SDNP (i.e. countries with approved funds, but yet not operational, countries operational and presently receiving financial assistance from SDNP; and countries already financially independent). At least four of the 8 countries should be in an operational mode. The assignment is for 20 days, of which 8-10 days should be spent at SDNP headquarters. The mission is foreseen from 17th November to 12th December 1997.

The consultants will be engaged by SDNP and will report directly to the Director of SDNP.

Annex 2:

Annex 3

Annex 4

Annex 5

Annex 6

Annex 7

Annex 8