

PROPOSAL FOR *infoDev* ACTIVITY

Response to reviewers' questions

## **INTERCEPT**

**I**nteractive **C**ontextual **E**nvironmental **P**lanning **T**ool

for developing countries

Submitted to the World Bank (Industry & Energy Department)

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## Note

*We found little need to clarify reviewers' comments in the sections "Strengths of the Proposal", with which we largely agree. This document responds to comments in the sections "Weaknesses of the Proposal". The reviewers' comments in original order are annexed. We have grouped and reordered the points in this response for ease of continuity.*

*We are responding at some length to ensure we adequately cover the points raised. This does not imply an especial emphasis on our part in the particular content of these issues compared with others concerning the project that have gone unmentioned.*

*We thank your reviewers for their valuable comments. Their questions have helped us refine and focus our project concept. Specifically, their comments have thrown light on some areas of unclarity and required us to be more explicit about programme activities, their need and their benefits as relate to infoDev development objectives.*

*We have rewritten the proposal sections "Short Description of Activity" and "Abstract". These are annexed to this document.*

## Compatibility of objectives

*Reviewer 1: Key concerns exist about the financial sustainability of this venture and how these can be reconciled with the development objectives of infoDev.*

It is not clear from the reviewer's comments precisely why or how concerns about the financial sustainability of this venture and the development objectives of *infoDev* may need reconciliation. The concern over financial sustainability of the project is addressed later on. First we deal with compatibility of objectives.

We understand that the development objectives of *infoDev* to be to:

- create market-friendly environments;
- reduce poverty and exclusion of low-income countries and social groups;
- improve education and health;
- promote protection of the environmental and natural resources;
- increase the efficiency, accountability and transparency of governments.

The table below sets these *infoDev* objectives against stated features of the information service to be provided by the project. Note that some of these features are contributed by the complementary projects INFO2000 and DAINET.

<i>infoDev</i> Development Objectives	Project Features
Create market-friendly environments	<ul style="list-style-type: none"> <li>• provides market-oriented service: fee-based wherever possible or, at least, transaction-based (ie information for information)</li> <li>• differential pricing and variable cost packages (what the market segment will bear)</li> <li>• supports shift to electronic and automated information services</li> <li>• encourages spin-off development of info/eco-enterprises in India (profit and non-profit)</li> </ul>
Reduce poverty and exclusion	<ul style="list-style-type: none"> <li>• empowers grass-roots development through extended access to information by Indian NGOs and CBOs</li> <li>• supports progressive upgrading of communication means for disadvantaged social groups</li> <li>• no exclusion on grounds of inability to pay</li> <li>• no exclusion for contributors of information</li> <li>• richer users "subsidize" poorer users</li> <li>• improves indigenous language access to information</li> </ul>
Improve education and health	<ul style="list-style-type: none"> <li>• integrated with community education programmes, including training in Internet use (DAINET/Spinning the Web partners)</li> <li>• enables improved operation throughout India of social development NGOs who are DAINET partners</li> </ul>
Protection of environment and natural resources	<ul style="list-style-type: none"> <li>• provides global information on environmental status, issues, solutions, best practices</li> <li>• stimulates new electronic networks for technical exchange at local, regional and national level in India (DAINET and others)</li> </ul>
Efficiency, accountability and transparency of governments	<ul style="list-style-type: none"> <li>• democratizes governance through information dissemination</li> <li>• provides open and participatory information system</li> </ul>

## Stakeholders and their needs

*Reviewer 1: While it is perhaps less critical to the success of INFO2000, a detailed business plan and marketing strategy which includes an assessment of user needs and "willingness-to-pay" are an essential prerequisite to technical implementation of the INTERCEPT project and should be given more emphasis.*

Other points in this comment are covered through the remainder of the document (see, in particular, the section "Economic Aspects"). Notably the marketing strategy and our approach to a business plan, are \*\*\*. Here we deal with user needs.

### Current needs

User need for development organizations in India is undeniable. Most Indian organisations are starved of information that could support their sustainable development. They have little access to development innovations and project results in their own country, much less from outside it. The threshold of skill, effort and cost of acquisition is simply beyond them.

There is a lack of timely, reliable and user friendly information on environment and development issues in India. What is available is not automated and thereby not accessible in the time required. Indian discussion groups have virtually no links with global electronic conferences on similar themes. Indian organizations are often dumped with foreign information because it is easily available. The information is either not inherently useful or not converted into a format in whereby it can be used effectively by most organizations in India. Substantive query response and customised information services on environment and development themes are very few in India. Here again, they operate through conventional means of communication with virtually no use of electronic communication systems.

The case of need was argued to the Ford Foundation by DA and was annexed to the proposal. The case was made for independent sector organizations (ISOs) in India but a similar case could be made for certain government and commercial organisations, which this project would equally benefit.

The case, in short, is that India has between 30,000 and 100,000 ISO or NGO-type organisations. Electronic connectivity is the lowest among ISOs when compared to other constituencies of society. Even those with connections are unable to use it to its potential. Currently 100 to 500 such organizations can use full Internet services (including multimedia), the minority using it frequently and fully; the remainder incompletely or infrequently. A further 1,000 use text-only Internet or email. Greater than 95% of NGO organisations still use postal services, hand delivery and word of mouth as their primary means of means of information recovery. Full internet service delivery for most ISOs is infeasible for at least ten years<sup>1</sup>. Limiting factors are national infrastructure policy and costs (notably government as monopoly service provider), incomplete geographic access, bandwidth, and user charges<sup>2</sup>.

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<sup>1</sup> The growth in internet use in India is largely limited to the wealthy individuals and sectors including publishing, financial and investment firms, real estate agencies, traders, and recruitment companies.

Madanmohan Rao, *Indian ISP Boom Expected To Boost Internet Stakeholder Base, Ad Revenues, Services Markets*. In: *Indialine.com* "net.COLUMNS", December 16, 1998  
<http://www.indialine.com/net.columns/index.html>

<sup>2</sup> "In India, we have:

- 1) Poor quality lines, some outdated exchanges, but that is improving.
- 2) Low density of phone lines and PCs, for which there is no solution in sight (though if, under the new policy, cable TV operators do begin to offer Net connections at reasonable rates, that might help)

However, telephone services are already adequate for considerable expansion of email and fax services<sup>3</sup> and, for those already using such basic automatic services, for a progressive increase in frequency of use and their facilitated interface with more automated systems such as the Internet.

There are probably about 5,000 ISOs with computer and telephone connections, but not electronically connected due to non availability of modems and other support services customised to meet their requirements. There are about 30,000 to 100,000 ISOs who are non-automated, who also require more systematic information support for their environment and development activities. Of these at least 5,000 have adequate working knowledge of English.

This project aims to accelerate the transition of this significant market segment of telephone, fax and basic email users towards fully automated information services during a decade when most would not have this opportunity. It will increase access and exposure to networked communication services in India and build capacity for its use by NGO groups. Though endemic restrictions will limit most from having direct access to full internet, many will have the benefits of a lower-bandwidth facilitated interface with the internet.

### Future needs

With respect to stakeholder needs in the future, it cannot be assumed that users are stationary targets on whose future information behaviour it is a simple matter to report with any confidence. Nor is it a matter of simply predicting movement of users in a particular direction (a first derivative) when it is their flexibility and manoeuvrability which is changing -- as the past few years of internet usage have shown. If nothing else, the Web has demonstrated how users have become highly active and continue to develop new behaviours and needs in response to new facilities. This project's "stakeholder-as-participant" approach encourages and taps the development of this phenomenon in a fully interactive manner.

It is further assumed that user needs will evolve as much with respect to information presentation as to content. In countries of the developed world (also in the predictable futures of the developing world), those accessing information are often overloaded. This challenge is evolving exponentially. This project assumes that there is/will be a backlash against information *per se* and a rapid call for meaningful patterning of such information over which users have some interactive control in the light of cultural and other preferences (eg for complexity, colour, sound, etc). This is one reason for increasing corporate investment in a new category of "information visualization" tools, which may also be understood as the

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3) Monopoly, overstretched ISP, but private sector entry is expected any day now.

4) Relatively few people know English well, the others have little incentive to join, even if they can afford to. But that, maybe, we should discuss under the head of "content" in another thread.

5) High cost of connectivity -- including the cost of local calls, over a US dollar an hour. Competition should improve that."

Arun Mehta, *Managing Director of indata, B-69, Lajpat Nagar-I, New Delhi-110024*, contribution to *Workshop on the Internet in South Asia -- Opportunities and Threats, 20 October 1998* (SASIANET Archives)

<http://www.PanAsiaNetworking.org.sg/cgi-bin/majordomo/lwgate.sasianet/sasianet>

<sup>3</sup> The five-year plan for the period 1997-2002 will result in 18.5 million telephone lines installed by the Department of Telecommunications and 5.2 million lines by private operators. By year 2000, 10 million new lines will have been installed. India has 45 cities with a population of greater than one million. In the cities of Mumbai and New Delhi, telecom provider MTNL has 3.5 million telephone lines.

Extract from Madanmohan Rao, *Indian ISP Boom Expected To Boost Internet Stakeholder Base, Ad Revenues, Services Markets*. In: *Indialine.com* "net.COLUMNS", December 16, 1998

<http://www.indialine.com./net.columns/index.html>

need for knowledge, as opposed to information (or data). The INFO2000 dimension of the project specifically requires the development of multimedia tools in support of policy-making and these features will be integrated where practicable into the *infoDev* project. In this way emerging stakeholder needs in India will be anticipated, rather than simply followed, enabling some “leapfrogging” in sophistication of methods of use of information.

The INFO2000 project consortium is currently designing and contracting out an independent stakeholder response and needs survey. The survey is intended to take place during the February – April 1999 inclusive. Participants will include academic institutions, NGOs and professional organizations. We could add some organizations from India and other developing and disadvantaged areas to complement this project. The results will enable refinement of the prototype interactive system and will guide *infoDev* project opportunities.

## **Economic aspects**

### **Willingness to pay**

The project is designed to navigate the essentially uncharted transition between conventional information products, desired by known markets, to unconventional information services responding to the changing needs of emerging markets. In this context the "willingness-to-pay" of any particular, possibly as yet undefined, niche cannot be effectively determined in an economically uncertain environment. What degree of confidence it is possible to place in estimates of usage and payment five years hence for a service defined today?

We believe an adaptive project or service would respond like an amoeba to marketing opportunities, pulling back from unsustainable interaction as appropriate. Our strategy relies on the demonstrated sustainability of a continuing core business, through established information publishing and delivery services within more stable economies, venturing wherever possible into more risky areas (see “Financial Sustainability” below). Given the nature of Web and email marketing, charges for the service could vary from zero to "what the market niche will bear" at the time. Charges may be varied also as a consequence of sectoral subsidies, introductory offers, scaled rates and other time or volume dependent devices (see “Multi-Tier Strategy” below)

The process of payment, and "willingness to pay", will also be partially determined by continuing experiments to be undertaken with the use of "information credits" in the exchange between "users" who may also be "suppliers" of information. For Indian NGOs, credits may be provided for a bridging period by collaborating organizations or sponsors in other parts of the world. Another example would be where credits for use were given for information was gathered by Indian organizations but compiled or distributed by others. These experiments may reflect aspects of current investigations into LETS systems and their electronic equivalents. This is currently significant with the revelation of the extent of barter arrangements in countries such as Russia and is equally true of many developing economies such as India. Information has itself become a new unit of currency and the challenge is to integrate its exchange into determinations of system viability.

### **Commercial potential**

*Reviewer 2: If the commercial potential is really there, the proponents should be seeking a loan to finance this and not a grant from the World Bank (in fact, none of their funding comes from the private*

*sector or from developing country governments which leads me to conclude it is supply-driven and not demand-driven).*

Our use of the word “commercial” in the proposal may have unintentionally misled the reader. If so, this is also reflective of the way in which the conventional distinctions between organization types and their activities have blurred in the post-modern world.

This proposal arises from non-profit organisations. These organisations do not have venture capital but they do have venture capability. The boards of these organisations consider this a worthwhile development project with good replication potential, and to which they are prepared to redirect (invest) their organisational resources and research capability. They do not see it in terms of a good investment risk in terms of financial gain. This is simply not the way their mandate requires they think. An interest-bearing loan would not be considered an appropriate funding mechanism by either of them.

Our notion of “commercial” includes market-oriented, non-profit enterprise, which may otherwise be described as earned income of non-profit NGOs. The significant distinction is that any surplus “profit” is fully recycled into the business (as salaries, equipment, training and matching funds for projects such as this); none of it is creamed off. Very similar commercial activity may also be found, for example, in many for-profit eco-enterprises attached to non-profits, family businesses, small environmental consultancies, education institutions, foundations and the like. Indeed many SME’s are non-profits in the legal sense. Within the project partner group, the UIA is a non-profit publishing house; AgoraNet, a legal collective of which it is a member, is a commercial ISP; DA is a non-profit manufacturing company of alternative technologies, amongst its other business and service hats; WCMC is a non-profit information management and consulting company.

To return to the reviewer’s point, this criticism raises the issue of whether the objective is "commercial viability" or "financial sustainability". This is a useful distinction to draw.

The reviewers probably read “commercial viability” as return on investment typical of “for-profit” business ventures. As non-profit organizations, neither the proponents nor the project seek to make that kind of money. Reframing the question in this way, it is quite clear why commercial (for-profit) interests do not invest in the manner developed by the Grameem Bank (subsequently supported by the World Bank) -- they could not make the kind of return on investment characteristic of "commercial potential". This project has a similar set of financial ambitions. As non-profit organizations, the proponents are interested in "financial sustainability", namely the long-term survival of the project with minimal call on fresh funds other than as a feature of any partnership opportunities that would typically improve the quality of information in a sector of interest to the partner in question. We believe this project is financially viable -- as the partners have demonstrated in relation to their other initiatives.

With respect to the point that "none of their funding comes from the private sector or from developing country governments", this loses sight of the range of databases integrated into the service. Without such a foundation provided by the major content-providing partners (UIA and WCMC), this *infoDev* project would be inconceivable. In the case of the UIA problems and strategies databases, these were originally developed with donated funds from the private sector and have been subsequently developed with advance payments for editorial costs from the commercial publisher (a Reed-Elsevier unit) of the last three hardcopy (and CD-ROM) editions. With respect to the organizations information, this is covered by advanced payment from the same publisher since the early 1980s. The French translation of this database has been largely subsidized by funding through ACCT, which is largely composed of developing country francophone governments. WCMC’s datasets have been prepared in part by funds from corporate sponsors such as oil companies and sporadic funds from developing countries. All this funding is

“hidden” within the project, at least not monetised. But without this long-term, multi-sectoral investment in content, the project would be an idea that could not take off.

### **Financial sustainability**

The key partners in the proposed enterprise have a long-established track record in the information business (UIA and WCMC) and in grass-roots, third-world development (DA) at its innovative and risky edge -- specifically with respect to the supply of new kinds of information and development tools into emergent markets. In responding to issues relating to financial sustainability, we make the following points:

1. The partner organisations are each already characterised by financial sustainability. *infoDev* funds are not sought to bolster existing operations but to extend economically sustainable operations into other domains. The distinction to be made is between establishing a new enterprise from scratch and building on a reasonably stable platform and existing initiatives that work.

2. At the broad level, the partners do not distinguish between the financial sustainability of this project and that of their ongoing concerns. This is because the work proposed for *infoDev* is essentially on their own development paths. They are prepared to contribute considerable matching funds and bring in other funds and partners to accelerate this process. They are also keen to share skills and technology and recognize that this project will enable joint approaches in the Indian context that would otherwise remain untested.

3. At the same time, the partners are keenly aware that the project must produce viable outcomes which survive beyond the term of startup funding. One criterion of its success is that the service provided at the termination of the project period has more or less independent financial sustainability. A key determinant of this measure of success is “willingness to pay” (see relevant paragraphs both above and below). Other indicators will be the startup of agency operations (already begun by DAINET) which themselves embody financial sustainability and the growth of users and their appreciation of the service. Both developments have strong potential to attract additional external sources of financial support to the project.

4. We hold no illusions about the challenges of financial sustainability in a financially stretched market. Some of our models and guidelines for creating success are (1) food market vendors in India have flourishing businesses despite the “poverty” of many of their customers; information, we argue, is also a basic necessity; (2) systems of micropayments and credits, such as the Grameen Bank and Local Exchange and Trading Systems (LETS), administration of micropayments are more realistic in countries with ample labour resources; (3) shared facilities and costs, with wealthy users paying for the backbone of the service + own use charges, poorer users simply for their use (this applies not only within India, but worldwide, because the major part of the data will be globally available and is of global relevance; more on this aspect is provided below); (4) sponsorship and other support, eg any future project of the UIA or WCMC that results in data enrichment will indirectly benefit future users of the service.

5. Because aspects of this project are (1) modular (additive in content to long managed databases; additive in coverage to already funded initiatives) and (2) interwoven with information developments funded by other parties in other domains (eg internet and e-commerce initiatives), this project has built in a considerable degree of shared risk with other “non-project partners”. The immediate circle of partners is INFO2000, Ford Foundation and the Spinning the Web consortium.

6. At the very least, the project will reliably make available in the longer term the substantial corpus of information that has been accumulated over a couple of decades. It will deliver back to NGOs material

that they themselves in large part have provided. This information will be more or less continually updated by other ongoing projects within the partners' domains and those of other hyperlinked domains. This level of service is essentially passive and costless. The additional cost component increases with increasing interactivity. This aspect of the project is also dealt with under "Ongoing Costs" (below).

### **Mixing commercial and non-commercial goals**

*Reviewer 2: Mixing commercial and non-commercial goals may perhaps be plausible but I personally feel such an approach is doomed to fail. The document notes that almost all commercial ventures on the Web are currently failing - it would be even more complicated to marry this with non-commercial uses.*

We disagree. The mixture affords flexibility which is of advantage to "risky" and "enduring" ventures alike, ie any project whose survival is subject to the whims of fashion and the marketplace, as information projects currently are.

The UIA has long demonstrated its capacity to mix the commercial objectives of its publisher with its own non-commercial objectives -- to the considerable satisfaction of both parties. Whilst it may be "complicated" to marry such contrasting philosophies in a Web environment, the proponents believe they have a credible strategy for doing so -- as well as a variety of credible fall-back positions if any particular tactic proves unsuccessful.

### **Ongoing costs**

*Reviewer 1: In particular, it would be useful to see a breakdown of the estimated costs of service provision over the medium to long-term which clearly distinguishes these from the operating costs/overheads of the agencies involved.*

For the strategy described above to be viable, it is assumed that the greater part of the costs of this service would be absorbed into the ongoing operational costs/overheads. In this sense the objective is to benefit maximally from the publishing advantages of the Web.

Once provision is made for stakeholder access to data, by covering server operation and maintenance costs, the core costs then relate to processing information resulting from user interaction with the information and service providers. This is personnel time. We are anticipating a continuing additional requirement of between 1 and 2 persons to deal with the specific person-to-person requirements of this service. The people will be Indian staff of DA employed at TA or PA level. The estimated ongoing cost is \$US 30-40,000 annually and will be built into the annual budget requirements of the organization. After completion of the project, the UIA role in India will be advisory, currently envisaged as a cost that can either be absorbed by UIA and/or is within the external consulting budget of DA.

In a worst case "pull-back" scenario, the person-to-person services can be completely automated or severely cut back (as current experiments have determined). Under optimal conditions (an "expansion" scenario), ongoing costs relate to the continuing editorial/research development of information profiles and linkages -- together with the continuing development of the interfaces through which users interact with that information (including new visualization techniques). We see these being funded by a combination of DA/UIA/WCMC surplus funds, some of which will be user charges, and complementary new contracts or direct sponsorships.

**Multi-tier strategy**

*Reviewer 1: Further, more detail is required on the proposed multi-tier strategy.*

The nature of the multi-tier strategy would be based on a combination of willingness to pay and ability to pay (as indicated in the following table) -- further modified by the amount of information supplied in response to the query of a particular category of user (ie inclusion/exclusion of some data elements for particular databases).

The details of the multi-tier economic and marketing strategy would be a matter for continuing review and innovation in the light of the development of e-commerce possibilities, loss-leader marketing opportunities, exercises in LETS-type interaction with user-suppliers, as well as sectoral subsidies or sponsorship.

<b>Indicative user groups</b>	Category A "Able to pay"	Category B "Subsidized"	Category C "Info-barter"	Category D "Unable to pay"
Corporations				
Governments				
Universities/academics				
NGOs/CBOs				
Students/schools				
Journalists/media				

Those deemed "able to pay" would be designated as Category A users and charged "what the market would bear". Typically Category A would include corporations, governments and universities of industrialized countries. The requirement for payment may be accompanied by an explanation that this not only supports work to maintain the quality of the information content but supports access of financially disadvantaged users.

Nonetheless, it is expected that even Category A users would get some level information for free, notably "data", eg names, addresses, URLs, raw statistics and the like; essentially any simple, unprocessed materials that would be considered by their "owners" as public information. Factors certainly likely to trigger user charges are access to multiple records, formatted records, or lengthy texts of professionally edited documentation, extensive searches, analyses or downloads that heavily consume server time, and the like.

Those deemed "unable to pay", or to engage in any kind of LETS-type exchange, would be designated at Category D and would be allowed some form of free use of the system. This might include a range of users from developing countries (or their equivalent in industrialized countries). Note, however, that guest users of all types might be initially accorded this freedom as part of the marketing strategy. A strong encouragement would be given to all such users that contribution of information in return for use would be valued.

Those willing to engage in some LETS-type non-financial exchange in return for information supply would be allocated to Category C. Typically this would include certain kinds of advocacy groups and other non-commercial "power users". Certain academics have expressed a desire to work in this way. Other organizations in this category would be current collaborating partners in information banking of UIA, DA and WCMC.

Category B would be for users that it was considered appropriate to support to some degree in the interests of development objectives, notably those of the World Bank. This would include some bodies with limited ability to pay, whether in developing or industrialized countries. It would include some important development NGOs, for example.

In working with the above scheme, the intention would be to shift users into a progressively higher category, Category A where possible, but without denying them the service if it was possible to include them in one of the other categories. Users could, for example, be allocated to Category B if some sectoral services were subsidized by interested third parties.

### **Offsetting charges to the poorest**

*Reviewer 1: To what extent can the needs of the poorest (commonly those with most need) be offset by charges to commercial organizations and other partners? Have WCMC or others investigated this aspect of service provision?*

WCMC employs various options to meet the needs of the poorest; it does this routinely as part of its service provision for research, information design and capacity building. Firstly it charges at different rates (discounted, standard, commercial) and ploughs surplus income back into service management and development. Secondly it tends to be rather more flexible over services to those who are not in a position to pay. Thirdly, it has in the past managed to attract funds for providing information services to those less able to pay. As will have been noted, these WCMC procedures are similar to the guidelines for equitable redistribution of resources that we have proposed for the *infoDev* project.

Ironically, best intentions in this regard can be foiled. Making unsold copies of UIA reference books available to users in developing countries at zero cost price turns out to be significantly inhibited by transportation costs as well as customs charges (to the destinee), especially when secure forms of delivery are considered necessary. As a result very few copies are distributed in this way and unsold publications are simply pulped (despite consultation with Unesco concerning alternatives that would not undercut commercial sales). This is a cause for regret for both UIA as owner and Saur as publisher. Distribution of outdated CD's poses fewer problems and is being reviewed. In a Web context the inhibiting factors are largely absent. As the above table indicates, users can be allocated into Categories B through D to the extent that the service costs permit. In this way costly reference information can be provided in inexpensive formats and those with greater monetary resources can subsidize the needs of the poorest.

## **Partnerships**

### **Partnership with international organizations**

*Reviewer 1: Surprisingly, the proposal doesn't attempt to overcome the financial paradox described above by fully addressing the potential role of partnerships with international organizations (e.g. The World Bank) which have a responsibility (albeit a newly-defined one) to provide knowledge-based services to their clients.*

The partners in this project are alike with the World Bank, and certain other international organizations, in holding a responsibility to provide knowledge-based services. Each organization recognising this as its mandate must find their own economic means to do so. It is not immediately apparent from the reviewer's comment how partnership with the World Bank, for example, would overcome the financial paradox dealt with above -- other than by seeking project funding through appropriate Bank channels, as

is happening. Is the reviewer suggesting we are coy or have a blind spot in our approach to the World Bank or other international organizations? If so, we may need more pointed suggestions.

We would be delighted to consider offers of World Bank partnership other than funding. In support of this we are prepared to send our personnel to Washington to meet with Bank staff and advisers.

Our past experiences with partnerships account for a strategic approach for this project that is not dependent on particular partnerships, however "logical" in principle, but rather on partnership building wherever and whenever it proves possible in practice. The degree of "partnership collaboration" within the project frame could also vary in practice in the light of experience and need. The Web environment is ideal in that it offers the possibility of rapid partnership formation (and dissolution) in response to changing needs and priorities -- without requiring the administrative overhead traditionally associated with information exchange with intergovernmental bodies that are often subject to momentary political pressures that undermine the integrity of longer-term projects.

It is in this sense that the UIA has a long record of "collaborating" minimally with some 20,000 international organizations by requesting and receiving information on their organization profiles and on the problems and strategies that engage them. Such "minimalist partnership" is in fact vital to information collection in circumstances in an information society increasingly riven by mutual suspicion (this is not a generalization, but certainly true of some of UIA's more problematic exchanges).

*Reviewer 1: The synergies of such relationships (Client-NGO/Service Provider-International Organization) are potentially significant, and include: (i) improved dialogue on sustainable development between users, (ii) improved policy relevance of data / services provided, (iii) advice/assistance to international organizations in mobilization of knowledge resources, (iv) identification of data gaps, if these exist, (v) coordination with in country development activities and, (v) offset of costs to poorest countries - to ensure accessibility.*

This is certainly correct in principle. Such synergies inspire us to venture this proposal.

*Reviewer 1: There is a persistent view of international organizations (WHO, WB UNEP, UNESCO) as funding sources, rather than partners with significant bodies of knowledge on sustainable development which should be mobilized.*

It is certainly the case that the majority of those seeking partnerships with such bodies lead off with a dollar request. Unfortunately this view is also held to a high degree within such intergovernmental bodies which consequently have considerable difficulty in envisaging or discussing any form of collaboration that is not directly attached to a budget line with a dollar value attached. There is no understanding of the potential of "zero-cost projects" or budget lines and no study has been made of such opportunities. A specific instance of this is that UIA collaboration with UNESCO, along some of the lines discussed in this proposal, has been "under discussion" for two years with no conclusion in sight despite explicit approval from its DG. In addition to systemic blocks regarding non-financial collaborations, there may be considerable difficulty in producing a coherent approach to "transversal" projects that feed into departmental rivalries, as again from our experience seems to be true for UNESCO.

As an aside, for a balanced view of the possibilities, a franker articulation is required of what tends to undermine ideal and logical partnership schemes, whether it be personality issues, greed, or institutional empire building. The recently publicized instance of the European Commission withholding scheduled payments to NGOs for political reasons is an example of the prevailing mind-set and calls for strategic

wariness in the case of partnerships with intergovernmental institutions – if an NGO is to be dependent upon such funding for its survival.

It is probable that the situation may become a great deal more flexible when the issues become "electronic" rather than "administrative" and political.

*Reviewer 1: A similar concern relates to the organizations participating in the project. Given the large number of conservation / biodiversity information networks which exist, it is surprising that the proposal doesn't explicitly include some of the major data providers in the proposal.*

The project is designed to build on existing strengths. WCMC, for example, has a wide range of operational links and partnerships with agencies in conservation/biodiversity networks in which it participates. UIA has relationships with some of the same such organizations, and some others in addition. DA has established links with over 2,000 Indian organizations and so extends this combined network into the national, regional and local levels of India.

It is a characteristic of the international information business that there is a radical difference between "vapourware" and operational services. We believe that potential partners are wise to avoid extensive discussions ahead of a concrete basis for partnering. Before any agreement is reached for *InfoDev* support, this project will have a very extensive range of interlinked databases operational on-line with the aid of INFO2000 funding -- and integrating stakeholder contributions. It is in this concrete form that meaningful discussions can be undertaken with new potential partners.

The project itself is not seen as requiring extensive partnerships to take off. It is a fact that many potential partners are currently highly active in forming their own coalitions, in support of, or in competition with, one another. This is a characteristic of the information business. It is not our intention to add to this phenomenon or strain already straightened resources of other organizations for no good reason other than claim to shared interest. As indicated above, the project will form (and dissolve) partnerships throughout its existence in response to concrete mutual information needs and priorities.

### **Shared governance/ funding**

*Reviewer 1: Surely, these agencies (e.g. IUCN, WRI, UNEP), which are presumably the source of much of the data to be provided through the system, should be explicitly represented in the governance structure of the service (which also needs clarification). This would also improve buy-in by these agencies, provide access to existing in-country networks (e.g. InfoTERRA) and provide some insurance against financial risk.*

This project, and the integration of databases between UIA and WCMC (an affiliate of IUCN, WWF and UNEP), is dependent on being "light" on governance and administration (and their associated costs) and "heavy" on operational links between data elements that are of value to users. This philosophy would be extended to partnerships with other institutions. Potential partners, especially if they have their own databases, tend to be understandably reluctant to constrain their own data strategies in response to others. However, by the use of hyperlinks (and especially query links between such databases), real "operational partnership" can be achieved without the requirement for extensive "administrative partnership". This approach does not preclude greater involvement in governance as practical issues emerge -- but again it would be hoped that most such issues could be articulated, discussed and handled electronically.

We envisage a shared governance structure with a light hand, mainly for coordination purposes. This is possible because the project proponents are already embarked upon activities that are precursors to this project. They know their next steps. There is no foreseeable requirement for rulemaking and protocols.

The association between UIA and DA goes back 20 years, both in professional project work and governance (DA is represented on the board of UIA). It is worth noting that the relatively limited funds requested for administration of this project, notably for travel to meetings, is because it is light on governance. Face-to-face meetings will be devoted to technical exchanges and learning, rather than reporting and governance.

On the issue of “buy-in” by intergovernmental agencies and others, we would rather take the route of building on existing partnerships and demonstrating capability to potential new partners before seeking further involvement. As explained in “Financial Sustainability” above, through synergistic support of related projects, the financial risk of this project has already be spread. Any new partnerships must be a *quid pro quo* arrangement that makes sense first in terms of service delivery, second in terms of injecting funds. This approach enables us to keep our financial risk low and focus on doing the work rather than raising money. The *infoDev* funds would be sufficient for us now to bridge the development gap between where INFO2000 leaves off and testing and building capability in the Indian context.

The linkup with in-country data sources is not a specific objective of this proposal. This will be done where appropriate, but we see this as the role of others. We note that INFOTERRA is proposing to adopt a decentralized multi-sector approach at the national level, to enable greater stakeholder participation in the provision of an integrated environmental information service. This would be accomplished through the establishment of a networking partnership of major environmental information service providers and stakeholder groups (perhaps we would be a part of this new partnership). According to the programme's Advisory Committee, “a radical re-invention of INFOTERRA ... is needed if it is to meet the public demand for better access to global environmental information in the new millennium.” We believe that projects such as our will provide valuable inputs to this process. Some input will inevitably happen as a result of staff members of our partner organizations already being advisors INFOTERRA.

*Reviewer 1: Indeed, following the line of these arguments, the proposal clearly demonstrates the tensions which exist between financial sustainability of information services in a cash-strapped environment, and the responsibility of these same agencies to deliver on their development objectives. Clearly the best possible world would include a comprehensive partnering of technical service providers, scientific experts / data gatherers, development agencies and commercial organizations, with all bringing their resources to bear on the issues of sustainable development. This proposal is an attempt to address a small component of this problem. It may be that this proposal represents a useful, if modest, step in the development of this comprehensive relationship - but it should clearly acknowledge these long-term goals and attempt to place the project in context.*

The reviewer's point is well made. His/her “best possible world” of information partners is clearly one that this project is attempting to build some pieces for.

The UIA, because of its database initiatives, has been invited to join the Strategic Alliance for a Sustainable Information Society, launched 30 October 1998 under the aegis of the European Environment Agency. This initiative, with extensive corporate involvement, aspires to establish a consensus on long-term goals and procedures for “working together”. The exercise is a timely one. Just how such “consensus-building” can be reconciled with varying value priorities (including “national interest”) and the “competitiveness” of the information business, remains to be determined. The process will again contribute valuable insights into attaining shared long-term goals and the partners'/project's roles in enabling this.

Specifically on the matter of defining long-term goals for a comprehensive system of sustainable development information, we note that prior to the energy crisis in the 1970s, “environment” was treated

as quite secondary to "development". This was reflected in the design of institutions and their information systems -- and the classifications through which knowledge was obtained. Both institutions and information systems were then forced painfully into restructuring -- often requiring years to do so . It would be a strategic error to assume that other transversal priorities will not emerge in the near future to redefine and reprioritize "sustainable development". In this sense this project is based on the assumption that "goal re-defining" is part of what a participative information system relevant to policy-makers should permit.

### **Data provision and sources**

*Reviewer 1: Clarification is also required concerning the dichotomy which exists between restrictions on the end use of data, arising from the custodian model, and the proposed development of in-country commercial services. How would this work, in practice? Does the custodian model accommodate the sale of data to third parties, or local licensing arrangements? This may not be an issue if the data sets involved are public domain - which seems unlikely - but is further complicated by the "user-partner" relationship which will increasingly be the center-piece of such a relationship (i.e. information flow will be two-way). As in-country data passes to the system would the providers be compensated, or would this offset the costs of service provision? A well-worn criticism of past efforts to improve access to biodiversity conservation data is that "non-profit" agencies have compiled data from developing countries - provided on request in most cases, repackaged this and sold it back (or have been perceived as doing so).*

We have found that donors of data generally feel much easier about "giving it away" in an environment where they get something back which they value. This can be information provided by others in the same or related fields; it can be wider dissemination of their organizational information. The interactive "stakeholder-as-partner" model caters for this. Also, as noted above, this project will increase delivery back to NGOs of material which they themselves in large part have provided over several decades.

This said, the reviewer's statement of this dilemma is a problem for any information provider adding value to public domain materials and concerned to maximize access. Our response is not to coopt or resell others' data; rather we significantly reformat it, if appropriate, and where not take full advantage of a hyperlinked and interactive environment.

In a Web environment, information can be sourced from any participating server. Some have entrance gateways requiring payment, some not. The challenge is to develop a way of handling categories of users passed through by hyperlinks from one financial regime to another without undue frustration; also to provide the user with alternatives and sufficient information to assist their choice.

It is in this context that the Reviewer's question concerning "in-country commercial services" can be answered. It is not intended to charge for any information in a form currently in the public domain and available for free (putting aside for now that it always costs the user something to access even free information). In the case of the project partners, charges would apply only to provision of requested services that are additional to those already provided for free or required to be freely given by their organizational mandate and collaborative partner arrangements. Charges made by partnering commercial and non-commercial services in India would be determined between themselves and their clients. Such charges would be affected by individual agency arrangements and also by flow-on charges for access and services provided by DAINET and other service providers (these not being mutually exclusive).

In a Web and email environment the need for intermediaries and "local licensing" is reduced since there is no need for acquisition of information by an intermediary -- only transfer from source to end user. The intermediary chain found in conventional marketing processes is much reduced or absent. Ideally, basic

information changes hands between the source repository and the user on whatever terms they agree between them. It is at this point that the Reviewer's question concerning accommodating "sale of data to third parties, or local licensing arrangements" becomes relevant. Essentially the art would be to ensure that, in the event of any sale, it should be negotiated between user and data source or the user and a specialist service provider, not with any intermediary.

To clarify the point about exploiting other's resources (also alluded to in a later point by the same reviewer): None of the *infoDev* partners would seek compensation for any information or services available freely from other sources and which did not require effort (costs) on their part. The distinction is made between the stockholders and stockbrokers; the stockbroker does not get paid for stocks themselves (that could be freely sold anyway), but for providing a valued facilitation and transfer service as an intermediary between buyer and seller.

The intermediary service in this case is a specialised one of "information broker", "value adder", "knowledge switchpoint", "expert finder" and "meaning creator". Such information services are increasingly valued. They are the core business of clearing house organizations like UIA and WCMC. As previously noted, this is in part because knowledge bases of such organizations are analogous to metadata in that they provide comparable references, formats and relationship links. This does not mean that "sale" and "licensing", or their electronic equivalents, are not there. Just that any transaction is enabled within a framework where participants are responsible for their own information specification and control. One of the intermediary's arts is in designing the interfaces to enable transactions to be as "automated" and self-designed as possible.

Thus, in the case of the UIA, this means that there is no acquisition of information from Development Alternatives or WCMC or any of myriads of other relevant data providers. There would rather be an open grid of millions of internal and external links (currently in existence and evolving) and a designed "conduit" with the Indian DAINET system to enable flows of information through intelligent filtering mechanisms. These would switch the user to the information they require, also enabling those with email access interrogate the internet. The precise details of such a conduit are part of the development work of the project. We trust this paragraph responds to the Reviewer's question concerning passage of in-country data "to the system".

*Reviewer 2: Apart from standard statements simply stating that everybody will be happy to cooperative and provide all their data, nothing is said that makes us believe it will be any different. In fact I expect it will be even more problematic for this project to succeed because of its semicommercial odor; data providers will be even more reluctant to cooperate if they feel someone else is profiting.*

We believe that a variety of responses to this group of concerns has been already provided.

### **Developing country partners**

*Reviewer 3: Strategy and schedule for developing partnership with actors in developing countries : who are they targeting ? (NGOs, universities, ministries ... ) how will they be associated ? (training sessions, participation to the development of the product, strengthening of the local capacities?: giving access to internet, providing them with the required equipment...*

This series of questions is covered by earlier and later responses. Specifically, this is a project implementing new forms of content and modes of process and delivery; it is not a project delivering training, infrastructure or equipment. These are roles of other initiatives, although comments on the training issue are given below.

Rather than “targeting” specific groups, notably in India, in the mode of treating them as passive objects, we would first let real stakeholders identify themselves. They would do this through making genuine queries which access our pages – as is already happening with the Web prototype. From here they would be provided with more information about the site and service and encouragement to become more involved. They may also identify themselves by responding to information circulars, delivered by email and in conventional print media. We believe this is a preferred way of connecting with stakeholders of the service and enabling its joint development.

### **Partnership agreements**

*Reviewer 1: At three months, the timeframe mentioned for the development of partnership agreements is hopelessly unrealistic*

This timeframe was for the finalization of agreements between UIA, DA, the other INFO2000 partners and the World Bank. We believe this is sufficient time.

As remarked above, the project is designed to evoke working partnerships of different kinds throughout its operation. Each partnership agreement will be given the time it requires.

## **Local involvement and training**

### **Early involvement of local partners**

*Reviewer 3: The partnership with actors in the developing countries is not enough developed. It is not something that should come after developing the product but before, because what is at stake is the capacity of the partners to accept and appropriate the product and use it extensively. They will not be able to do so if they are not closely associated to the development of the product and trained to modern information technology required by the product.*

The partnerships with actors in India has been developing steadily in the past eighteen months, through the Ford Foundation project and other DA initiatives. The local partners are contributing to the design of the service. Some partners house communication nodes which are part of the DAINET system. They also receive technology training and infrastructure support, where needed, by DAINET.

An extension of these local partnerships for *infoDev* will be involvement of Indian actors who volunteer themselves as potential users of the service for sustainable development information. Some Indians contacts have already been made as a result of attendance at the IUCN World Wilderness Congress in Bangalore this October.

As a complement to this project, stakeholders in other developing countries who access the service via the internet would also provide feedback and suggest alternatives that might better meet their current needs. As noted elsewhere, any stakeholder associated with the service, as a provider of information is necessarily part of the development of the service. Involvement of such developing country “partners”, both formal and informal, will clarify their special needs for support. These needs will be automated, where possible; where not, in India DAINET will deliver training, support and advisory services; support services in other countries would need to be developed as an extension project of this current one.

Partnership arrangements for formalizing the involvement of local stakeholders in other countries are in discussion phase. Interested potential partners include communities and/or organizations in the Scottish highlands, Palestine and aboriginal Australia. Any such developments would be separately funded outside of this *infoDev* project.

### **Capacity building**

*Reviewer 3: Capacity building aspects should be taken into account. Some local staff should be associated to the development of the product*

As a main partner, DA staff in New Delhi, Bangalore and elsewhere, and others associated with the DAINET activities in India are clearly associated with the development of the product.

### **Training**

*Reviewer 3: No training of the users is scheduled in the proposal*

It is correct that the proposal did not make any provision for training. The DAINET nodes and partner groups in India actively support the training needs of their users. These activities are already funded. A further consideration is that, to the extent possible, the interfaces developed for the service will facilitate self-training by users who already have some understanding of email and Web use. This approach is taken to maximize the possibility of access rather than constrain it through dependence on trained and certified users of the service (that would incur the travel and related costs of training).

Training in delivery of email and ISP technology is also largely provided through the DAINET support service and other investments in rural networking in India. However, you will see in the Workpackages that some additional training needs are now covered in this proposal, notably Workpackage No 3.

### **Enhancing in-country development**

*Reviewer 1: In its present form, the proposal leaves unanswered a number of questions which would provide linkage to the objectives of InfoDev (see above). Even if one assumes in-country demand, willingness-to-pay and technical accessibility, the project fails to clearly explain how it would significantly enhance in-country development, specifically: data provision / licensing of local companies, provision of training, user needs assessment and feedback mechanisms.*

The reviewer highlights a number of specific objectives (“unanswered questions”), few of which are, in fact, stated objectives of the project.

The response to links to *infoDev* objectives has been given above. The issues of in-country demand, willingness-to-pay, enhancing technical accessibility, user needs and training have been covered in responses above.

On the matter of in-country development: It is assumed that enhancement of in-country development comes in some measure from access to more meaningful presentations of information offering a context for strategic choice. The focus of this project is on the provision of context for development-related information (rather than data) that may be available from a variety of sources. Context is the key to strategic responses to questions that can then be more appropriately formulated. The project uses extensive hyperlinking (horizontal and vertical relationships, vicious loops, fixed destination and open-ended search queries) as a basis for creating patterns of meaning.

On the matter of data provision and licensing of local companies: As discussed above, the concern of the project is not so much to deliver data to (or via) local companies but to establish partnerships with local bodies as user-suppliers of information enabling more insightful development decisions. Data provision and exchange are certainly goods in themselves, and will be delivered by this project, but are the first level of goods. Our primary aims are to enable greater access to information (initially in India) and to build a participative system that receives as well as disseminates information. We expect any incidental licensing needs to be largely arranged within the complementary DAINET programme.

On the matter of user feedback: As noted above, the feedback system is built into user interaction with the system as is already evident in the test implementation. User interaction is offered at the paragraph level, at the profile level, and more generally. User feedback is also designed to enable interaction between users providing such feedback in response to each other's comments.

### **Integration of local components**

*Reviewer 1: As such, the essential local components of the project are tenuous and the proposal open to the criticism that it will support the development of capacity/revenue-generating potential of international NGOs. This is particularly true given that the advanced stage of technical development of the INFO2000 project and the broad experience of the project partners - who must surely have addressed these issues at some stage.*

Some response of relevance to this comment has already been provided, notably in the section on "Partnerships" and in previous paragraphs in this section.

With respect to the suggestion that the project is designed purely in the interest of international NGOs, the earlier discussion of distributing costs to favour poorer users, the LETs system possibilities, the non-commercial ("profit-making") approach and the nature of the interactive communication tool would seem to argue against this perception. . This is especially the case given the UIA's investment of 60 percent matching funds in the INFO2000 project.

Further to the point concerning bias towards capacity/revenue-generating potential of international NGOs at the expense of local components, we aver that (1) capacity building and revenue raising of international NGOs is scarcely a matter for censure; (2) the local components of the project are very real (unless the reviewer sees Development Alternatives with over 500 Indian staff, as an international NGO) (3) the objective of UIA is to pull out of the local scene when its capability has been shared with DA; (4) other international partners (eg WCMC) are donating their resources.

In endeavouring to further respond to this point it is useful to distinguish four forms of "local components": local information, local partners, local Web connections and localized interfaces:

With respect to *local information*, DAINET is creating data nodes (two directly funded by this *infoDev* project) and will be uploading considerable amounts of India text materials currently unavailable electronically. In addition, the profiles developed by the UIA are derived from material synthesized and supplied by international organizations with networks in every country (as profiled in a parallel UIA database) to which the problem and strategy information are hyperlinked. Interaction with Indian users will augment this information with Indian examples, issues and perspectives. Our intention is to increase the flow of South-North information (not to mention South-South information).

In linking to DA, enabling stakeholder contributions to data content and building regional and local databases, there is the notion of allowing less "sophisticated" or well-managed data as a way of encouraging rather than inhibiting participation. This is disassociated from the well-edited data with a

variety of protocols which hold the data in separate files while displaying them together so they appear seamlessly related to the user.

With respect to *local partners*, Development Alternatives within the Indian subcontinent serves a prototypical role for “local” information services in other parts of the world. The UIA is in discussion with other groups in Scotland, Palestine and in central Australia.

With respect to local Web connections, this project is a content response to the opportunities opened by the ongoing investment in rural networking services. As the demand via these services increases, it is expected that there will be a need for the kind of relevant contextual information provided by the proposed service as a means of handling the information overload to which end users will otherwise be exposed. The DAINET programme provides the local vehicle for development content delivery.

With respect to localized interfaces, the UIA has already developed and experimented with multilingual interfaces and thesauri in its CD-ROM applications. The possibilities of further development are clear. A part of this project is to develop sustainable development thesauri in three Indian languages and to enable access to information using indigenous language interfaces. This is sensitive to increasing use of non-English scripts, which it is assumed in turn will increase familiarity with information technology<sup>4</sup>.

## Data and data flows

### Metadata

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<sup>4</sup> Challenges remain in extending the benefits of the Internet industry to the rest of India's vast population. "We have a booming software industry, but the country's literacy rate is barely 50 per cent. The software industry is almost a separate, elitist enclave. It is very English-centered, a language which barely 5 per cent of the population is conversant with."

Madanmohan Rao, *Indian ISP Boom Expected To Boost Internet Stakeholder Base, Ad Revenues, Services Markets*. In: *Indialine.com* "net.COLUMNNS", December 16, 1998

<http://www.indialine.com/net.columns/index.html>

“The focus all these years on creating the right environment for software exports has meant that certain fundamental challenges in increasing the use of information technology (IT) in a poor, multi-lingual and considerably illiterate country have been ignored. Without remedial action, the new thrust that is now being given to the IT sector by the Central and State Governments may well end up with India possessing a booming software industry but one which is essentially an enclave with little or no connection with the larger economy and society. The National Task Force on Information Technology, in its first report, did attempt to correct the existing approach. But in operational terms the main emphasis of the recommendations remained on creating a favourable environment for the IT industry in India. “

“One of the biggest benefits of computers, e-mail and the Internet is supposed to be that they are instruments of empowerment since they give people both more information and the ability to process it. But as long as India remains home to the largest number of illiterates in the world and computer software is not available in Indian languages, IT will have the opposite effect on society. There will be a further concentration of knowledge and power in the hands of the state and the small minority which is equipped to use IT in its current form. There is already some awareness of the need to improve the IT infrastructure and work towards a widespread use of this technology by increasing computer access rather than by greater ownership of what remains, by Indian standards, an expensive product. But there is as yet little awareness of the priorities of basic education and localisation of software. “

Extracted from *Preconditions for spread of IT*, Editorial, 24 November 1998, *The Hindu*

*Reviewer 1: There is little mention of the role of metadata and the essential feedback loop which this service will facilitate through its relationships between in-country data sources and international information networks.*

It is perhaps useful to comment on the concept of "metadata" in relation to the needs of sustainable development. The concept was first developed in response to the need to reconcile data sets of different agencies or derived from different scientific surveys using different methodologies, or the challenge of bibliographic searches across (library) information systems based on different classification philosophies. Technical solutions have been developed to bridge across data sets. In this sense, metadata has an important role to play in facilitating searches for data in support of development processes. We are familiar with the GILS and GELOS programmes and take account of the types of standards they are seeking to promulgate.

The internet is providing another type of popular "meta-information" structure which UIA and WCMC are experimenting with in a sophisticated manner in the use of hard and soft links at the data element level. And as discussed above, the structured knowledge bases of these organizations have significant metadata characteristics. These will feature in the forthcoming on-line version, currently in beta-test mode. The scope will continue to be developed.

However, the focus of this project is not on "data" as such, and to a significant extent it is not on "information" – or "meta-information" as is conventionally understood. Our project is concerned much more with "knowledge" as "meta-information", or preferably with "meta-knowledge" and the "patterns that connect". This is consistent with our interpretation of the theme of the World Bank conference on Global Knowledge (Toronto, 1997).

The concern of this project with knowledge is evident in the concern with how complex patterns are to be detected and presented with computer assistance -- beyond the capacity of standard statistical graph packages. It is interesting that there is a burgeoning investment in "information visualization" software products. We contend, such presentations need to hold politically significant operational issues such as conflicting opinions (of different constituencies and factions) of the significance of information and on how data should be interpreted and rated as relevant or irrelevant. Policy-makers require a context that interrelates such conflicting perspectives. It is to this end that the project is focused.

### **Two-way flows**

*Reviewer 1: Promotion of consistent, two-ways flows of information / knowledge are essential if data quality is to improve.*

As noted, this feature has been built into the on-line system that will shortly move out of its test phase. A significant part of the project will focus on the protocols and editorial logistics of managing user comments and facilitating access at appropriate levels of accreditation -- without alienating those whose views whom some may consider irrelevant or out-dated.

*Reviewer 1: Again, this will require the successful reconciliation of commercial with non-profit concerns.*

This is certainly the case. It is obvious in the transaction costs associated with licensing certain types of software. It is more obvious where a commercial service imposes a significant cost on users of data over which it has a monopoly or holds under copyright.

### **Commercial and non-profit data**

It is useful to acknowledge that a situation may well emerge in which much information of significance to development may be held by commercial services whose priority is to ensure a maximum return on investment inconsistent with the needs of developing countries. This is a well-established pattern.

This project proposes to address these challenges in three ways:

- 1) Where appropriate, referring users on (via hyperlink) to commercial services holding such information, and leaving it to them to follow that path and to negotiate the access transaction. However, as suggested above, partnership arrangements may be explored with certain services to reduce the financial and administrative hassle of this procedure for the user.
- 2) Developing the strengths of a contextual information system across the full range of human endeavour and concern; this is to offer policy-makers access to larger patterns that cannot be detected through specialized, restricted systems that are invariably not open to constant self-renewal.
- 3) Engaging the power of the internet as a public knowledge base, enhancing its interactive characteristics and receiving new materials into a structured but flexible knowledge architecture. In this way, non-profit concerns can have access to content improved through their own inputs and efforts, made feasible because there is a framework and process to use to do so.

### **Reluctance of data providers**

*Reviewer 2: The greatest problem in developing functional information networks (as WCMC knows all too well) is the reluctance of data providers to provide data.*

There are various reasons that "data providers" may be unwilling to release the information, and we are trying to address all of these. Firstly we need to move towards a true network approach, where the data provider can provide access to his data without it being sent elsewhere. Secondly we need to ensure better information within the database on source and quality of information. Thirdly we need better accountability of how the information is being used.

### **Data maintenance and quality**

*Reviewer 2: The constant information problem in the developing world is that the baseline information is not being kept up to date and is not available at a fine-enough scale - these fundamental problems are not addressed in any way under this project (and nor could they as it is a completely different scale or problem). It is worthwhile to note that this problem of up-to-date and appropriately-scaled information has plagued WCMC efforts to introduce similar types of tools (at a much simpler level) at the World Bank - there was little demand for a product like the Biodiversity Map Library even in an institution that would theoretically need that kind of information every day...*

The reviewer acknowledges that this project does not have a principal objective of improving data management wholesale. As made clear in the proposal and, if not there, certainly above, this project is concerned with providing a context for data and information, knowledge structuring rather than information management *per se*. However, we would add that within the domains of the partners who contribute information to this project – UIA and WCMC – every effort is made to keep information up to date, using a range of scales and hierarchies commensurate with the accuracy and specificity of the information.

One principal focus of the INFO2000 project is to design systems and processes that can handle incommensurate information. We believe that non-standard information is a fact of life and that people

can and must be enabled to use mixed information. It is currently unrealistic to expect up to date information from the highest to the lowest scale. But taking the reviewer's example, we are not sure why there is a problem providing the age and scale of the information are known.

Information can only be up to date and at a scale for local use when they are maintained adequately at the local level. In many parts of the world they are currently not. The first point is about information services, the second is about capacity building. What we need to do is to build the link between the two. This WCMC and DA are doing as part of their other work.

### **Deliverables and evaluation**

*Reviewer 1: The proposal is heavily weighted towards report-based deliverables, not to the development of useful and widely available knowledge. The effort required in this respect should be balanced with what can be achieved through standard Bank supervision.*

It is not clear what "report-based" means in relation to the intentions of this project. The essential deliverables of this project are electronic information services which generate "reports" or profiles to users on demand. The only reporting proposed is to chart the project's progress.

If the comment refers to the fact that the content material to be delivered is text documents of importance to India or relies on documents supplied from international organizations and other international sources, including the Web, then we fail to see the criticism.

If the criticism implies that this project is not associated with the "development of useful...knowledge", then there is a misunderstanding. Considerable effort goes into clearly articulating the problems and strategies on the basis of material that is often highly confusing in its presentation. Furthermore there is a heavy investment in the (hyper)linkages between such "concepts" in a process of building up a network of interrelated concepts -- and the networks of organizations associated with them. This process is effectively a concrete step, beyond data and information, to knowledge building -- to the extent that this is associated with patterns of information.

As to the matter of "widely available", again the import of this comment is not clear given the intention of making the information available on the Web and through interfaces available also to email and fax users.

To these ends, it would be most helpful to understand the operational significance associated with the benefits of "standard Bank supervision".

## Evaluation indicators

*Reviewer 3: Clarification required on definition of precise evaluation indicators*

The following is a list of proposed evaluation indicators. Others may be added.

### Websites

Hits  
Characters added  
Geographic distribution  
Referrals  
Link backs from other sites

### New users/uses in India

New email users  
New internet users, including email users  
graduating to internet  
Downloads from websites via email and text-  
based internet  
Geographic distribution

### Partnerships/sponsorships

Number of volunteer collaborators  
Number new partners  
Information trading

### Self-financing

Sectoral sponsorships  
Sale of online information/services

### Database development

Local documents online  
Increase in text / linkages

### Project coordination

Adherence to schedule, reporting and  
invoicing/payment

## Relevance and demand

*Reviewer 1: Annex 11 does suggest that some analysis has been carried out as part of INFO2000 and it would have been extremely valuable to view the substance of this.*

### Analyses

The analysis to date has been based on three principal sources: (1) current user statistics (ie user demand for existing services), some of which have been discussed in “Addressing real user questions”, below; (2) informal survey of the information industry, and (3) hands-on experience and day-to-day information.

1. The service is already operational in an experimental, demo mode using static pages and with only limited interaction possibilities. Some user statistics are nevertheless available demonstrating a call for such a service.
2. A preliminary analysis of potential users was supplied with the annexed INFO2000 report; also a review paper by Professor Ken Friedman of the INFO2000 group on electronic publishing in Europe.
3. As mentioned above the INFO2000 project consortium is embarking upon two new activities that will contribute further data for analysis. One is an independent user response and needs survey. The other is delivery of dynamic pages by the UIA

### Limiting local conditions

*Reviewer 3: It is not clear how the project will associate the first category of users (policy-makers) to their activity. It is critical that the local conditions be taken into account: in developing countries many government offices are not yet connected to the internet or do not have competence in information*

*technology. The use of CD-roms and the use of computerized decision-making or planning tools are not yet regular.*

We find this a surprising response in that it focuses on limiting present conditions rather than those of a preferred future – a future that *infoDev* is presumably helping create.

It is predicted that an entry level PC will reduce to \$200 within a year or so<sup>5</sup>. This brings the potential for electronic communications within the economic access of millions and no more financially demanding than a television. Even though “reception” (bandwidth) may be less than ideal and language issues will initially limit access, people will still aspire to enjoying the benefits of a computer.

It is now easy to forget that most “western” offices did not have internet access or CD-ROM drives five, even three, years ago.

We believe that even in the two-year period of this project local conditions will evolve rapidly. We believe that receptivity for quality content and familiarity with computerized systems will develop enormously. This period of development of this product corresponds to the period in which infrastructure investment in rural networking will bear fruit and call for content. Where Web connections are not possible, CD-ROM products are envisaged and have already been produced in prototype form.

### **Addressing real development needs**

*Reviewer 2: Bottlenecks for sustainable development in the developing world are not cutting-edge Web-based tools of information interactivity but rather poverty, population growth, lack of institutional capacity, lack of funding. The kind of information product that the proponents offer could perhaps be useful to highly trained professionals and specialized individuals but I suspect these people are already adept at finding and putting the information together they need.*

We think again that the reviewer is prejudging the future to be somewhat the same as today and being selective about the root causes of underdevelopment. Why not claim lack of education or lack of information or lack of democracy?

The *infoDev* programme is about information for development. We submitted this proposal on that basis.

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<sup>5</sup> “The major problems facing countries like India and Nepal are: a) poor PC penetration; b) lack of font standards/localised operating systems and applications. Point A will get taken care of soon because the cost of an entry-level PC is expected to drop to \$200 by the end of next year. This will make the PC affordable to a great majority of people. But if they have no content to access, it's like buying a car but not having roads to drive on. (Regarding point B) the most urgent thing to do therefore is to create national level initiatives to establish standards that everyone follows and persuade Microsoft to release localised versions of its operating system. After all, the Hindi speaking population of the world is probably larger than the Spanish speaking population of the world, currently the fastest growing language on the Web.

### **Empowering self-inquiry**

*Reviewer 2: For each of those questions, the proponent would need to demonstrate that a skilled infotechnician could not find the answer with existing information databases and Web sites.*

This observation implies a misunderstanding about the project as being focused on providing "answers" to "questions". In fact the project's prime purpose is enabling users, notably policy-makers, to refine the questions to which they seek answers. There are many information sources to provide expensive answers to questions that later turn out to have been inappropriately framed.

An infotechnician, as advocated by the Reviewer, tends to be extremely expensive and beyond the budget of most users requiring new insight. Such a person tends to act in response to the questions specified by the inquirer, and is rewarded for doing so. The proposed service is designed to place the user in a learning mode that ensures that the question can be explored in a context which may lead to its being totally reframed -- although the user can at any time follow up leads to "existing information databases and Websites" provided in problem or strategy profiles.

### **Multiplicity of end-users**

*Reviewer 2: The fact it is simultaneously directed to so many potential end-users (government, NGOs, and private sector) also subtracts from its value. It is true of any product that the more we aim to please everybody, the less value it has to any individual user*

This statement should be challenged in its relation to policy-making. It is of course correct that governance and policy-making aimed at pleasing a particular sector is no great challenge. Information systems in support of such policies would of course be of great value to the sector or constituency so favoured. This is one classical option for policy-makers -- whether in governance or the corporate world. Such projects would indeed be viable in response to the needs of that constituency.

Unfortunately governance is increasingly challenged precisely by its democratic mandate to "please everybody". Increasingly it is "everybody" that is also a prime source of information which a single sector finds it too costly to extract or purchase in a timely manner by conventional means. A degree of cross sectoral, multi-level cooperation is therefore required involving the active cooperation of a wide range of stakeholders for the service to be of use to anybody.

This, however, is not responding to the point the reviewer presumably intended to make, which is the differing sustainable development content requirement of different user groups and enquiries. We envision having separate entry points and surface layers to access the information. This calls for site and interface design and knowledge structuring. To the greatest extent possible we want to enable users to quickly identify themselves in terms of their data needs, search style etc. Such data could be recorded in their user profile to enable quicker future searches. We believe that the period of development with volunteer users should help clarify such aspects.

### **Addressing real user questions**

*Reviewer 2: Need to better define who the users would be (and prove they want the product)...*

*Reviewer 2: Need to provide more detailed examples of the kinds of questions they [users] are asking.*

The *problems database* is already perhaps one of the comprehensive collections of information on questions and dilemmas which different constituencies face -- as articulated through the world-wide networks and meetings of international organizations. It provides a framework into which further problems can be incorporated. In this sense it itself provides the "detailed examples" sought by the Reviewer. It might be added that the strategies database provides, correspondingly, one of the most comprehensive collections of collective "answers" to these problems.

Both databases are designed in anticipation of the questions and answers of tomorrow as much as those of today. Our approach is not to design a service that is solely capable of responding to the questions of yesterday and today.

As an indication of the type of questions asked, the strategy most accessed during the last quarter of 1998 was "Minimizing soil erosion" with 3,486 hits. For the problems (excluding a few with "sex" in the title, which always increases their hit rate) they were: "Deforestation" (1,958), "Soil erosion" (1,913), "Caste system" (1,223), "Juvenile prostitution" (1,191), "Youth gangs" (1,018), "Juvenile delinquency" (986) "Children of drug addicts" (959), "Adolescent pregnancy" (949) and "Forest fires" (840). These are real questions crossing many dimensions and all-important for sustainable development.

Over the same period, accesses to the UIA site by significant indicative group (identifiable by their email extension) was:

<i>Hits</i>	<i>Percentage</i>	<i>Country</i>
135,863	20.26%	.com (commercial, mainly USA)
107,614	17.61%	.net (network)
46,937	7.96%	.edu (USA educational)
8,975	1.65%	.org (non-profit making organisations)
2,468	0.41%	.gov (USA government)
<u>1,648</u>	<u>0.29%</u>	.mil (USA military)
303,505	48.18%	

We submit that even in this test mode (1% of the databases on-line), the UIA knowledge system seems to be addressing a lot of real needs for information.

### **Demand in developing countries**

*Reviewer 2: There is no demonstrated demand from developing countries for this product. It does not suffice to state that it will be used when evidence is not provided that anybody is asking for it.*

Even in its current form, it is possible to test out links from other sites to the INFO2000 service. It is clear that it is an accepted and appreciated tool. The usage statistics (over a half a million accesses in the last quarter, averaging 5,976 accesses per day) and e-mail feedback, suggest that users already appreciate its potential.

To illustrate the demand from developing countries, we show the statistics for India, constituting 0.2% of traffic at the site, and the grouping of countries around it in the range 0.1% and 0.3% of traffic. Issues of numbers of population and computers aside, Indian accesses are not far below those of several developed countries (and have been so for 12 months) and not far above a selection of developing and transition countries. This is one of the reasons that India presents such a good pilot country for testing the more general features of this project (those capably of replication in other developing countries).

Hits	Percentage	Country	Hits	Percentage	Country
1425	0.30%	.ar (Argentina)	711	0.16%	.co (Colombia)
1648	0.29%	.mil (USA Military)	677	0.16%	.id (Indonesia)
1337	0.28%	.at (Austria)	591	0.15%	.si (Slovenia)
1388	0.28%	.pt (Portugal)	234	0.15%	.ua (Ukraine)
1252	0.27%	.no (Norway)	556	0.15%	.hu (Hungary)
960	0.21%	.ie (Ireland)	685	0.13%	.tr (Turkey)
<b>1158</b>	<b>0.20%</b>	<b>.in (India)</b>	472	0.10%	.pl (Poland)
1053	0.19%	.il (Israel)	602	0.10%	.ro (Romania)
1053	0.17%	.za (South Africa)	532	0.10%	.hk (Hong Kong)
Hits	Percentage	Country			

Interestingly, the Russian Federation (up a massive 0.24% in the previous year to 0.60%), Brazil, Malaysia and Croatia have higher access rates. Even in the 0.05% to 0.10% use range there are the countries (in descending order of use) Philippines, Ecuador, United Arab Emirates, Chile, Slovak Republic, Lithuania, Thailand, Cyprus, Czech Republic, Peru, Malta, Kuwait, Luxembourg, Estonia, Pakistan, Uruguay and Yugoslavia.

So whilst it is clear that Africa and the small island nations are currently excluded from use, there appears to be some demand from other developing areas. As importantly, our statistics show that the absolute traffic originating from developing countries is also increasing at about 7% every quarter.

*Reviewer 2: I kept trying to imagine who would use it and why and could not imagine anyone in a third world country sitting down to a computer to explore this tool.*

With respect, this sounds patronizing and we believe wrong, especially in the light of the above figures in a demo mode. In fact, this kind of tool is most relevant in developing countries where other information resources are lacking. You only have to see the dismal holdings of organization libraries (such as UNDP Delhi) to realize that information is still often difficult to access in the south and that creative and cost effective methods of transmitting updated information, particularly through email, is crucial.

We can provide two anecdotal examples from our own experience.

1. India is a high knowledge country with plenty to share and little opportunity to do so. We know in India that highly motivated graduates are in the field undertaking village development work. They are in routine urban employment. They find they have little intellectual stimulation or opportunity for ongoing learning. DA believes that several of its own field staff would jump at having access to this tool and using it interactively.

2. In April 1998, UIA field-tested a CD-ROM prototype of the INFO2000 project with an international NGO development office based in Amman, Jordan. This office runs a country programme dealing with agriculture, rural development, environment, education and training, women's issues, food security and poverty, and involves a large local and foreign staff.

The UIA databases were made accessible on the internal network system and senior management staff were given a demonstration of its application for local project planning. The INGO management staff was sufficiently impressed with the contextual planning applications of the system to convene a number of spontaneous staff training workshops where local and foreign staff were given demonstrations of the system.

Management staff were impressed by the holistic problem analysis of the system; how sustainable development could be presented to local staff in integrated planning approaches where single issue project development - ie women's development - could be expanded to consider environmental aspects; additional problems not considered - ie water and housing - and additional development strategy components could be integrated into a more holistic approach to local problems and project development.

This simple informal field test of the UIA system revealed one of the key problems which INTERCEPT aims to address; how development work most often operates in single, separated, project- specific, issue-specific actions, often overlooking opportunities to include environmental components in otherwise non-environmentally focussed activities.

Local management staff of the INGO considered the UIA software a unique planning tool, enabling trained local project staff to substantially broaden their project appraisal and project planning perspectives, identifying ancillary problems relevant to main theme project objectives and additional opportunities to cross link initiatives and programmes in more community orientated and environmentally relevant packages.

## Focus

*Reviewer 2: A tool for sustainable development encompasses literally everything. The project would benefit from more modesty and specificity.*

We recognise that our proposal was in places somewhat vague on specifics and at the same time appeared to have goals so broad that they were all-encompassing. This is partly because this project is intimately interconnected with other projects which have more extensive goals. It is also because some of the partner organizations' goals, which are furthered by this project, are founded on broad visions and longstanding activity and achievement (as indicated by the range of international reference books produced by the UIA and WCMC on a regular basis). However, this may have produced the effect of over-optimism and over-statement. Whilst our vision is large we could certainly have achieved more modesty by focusing it on the specific objectives of this project. We stress that roughly one-third of this project is experimental, with outcomes that are imprecise; two-thirds is based upon firm development lines with predictable outcomes. We hope that the workpackage descriptions and other materials now supplied help reassure on this point.

We submit that this project is "modest" in its pragmatic approach to use of resources in processing very diverse data under conditions that are problematic for virtually all other operations we know. It is also modest in seeing itself as only one part of the bigger picture of sustainable development information and employing as a key strategy internetworking with the other parts (this point was made above in relation to long-term goals). It is also modest in assuming that there is far more wisdom to be garnered from individuals prepared to interact with it than has been compiled by collective efforts to date.

We suspect the reviewer would like us to withdraw our claim that this is a tool for sustainable development. One of our problems in being more specific is that just as the scope of sustainable development is indeed literally everything (at least in the eyes of the large diversity of bodies that consider their own efforts in this light), so are the UIA's databases. Like an elephant, a 20-year-old project that has catalogued, profiled and interlinked the world's problems, solutions and human potential on the basis of information provided by international organizations (which it also re-profiles annually) does not sit comfortably in the modest category. WCMC's databases are similarly global in scope and

catalogue increasingly broad fields of information related to biological conservation. While content-wise the infoDev project is a mere extension of these expansive bases, it is unrealistic to deny their presence.

Unfortunately, from a policy and information perspective, it could be dangerous to be too forthright in indicating what a tool for sustainable development should exclude (and consequently which bodies are effectively irrelevant to that process). Sustainable development might usefully be explored as a crisis of "specificity". There is a plethora of "viable" specific projects that offer little conceptual challenge to funders. And yet somehow they do not successfully encompass or respond to the challenges of sustainable development. Specific dam-building projects aggravate social conditions, etc. In contrast there is a dearth of viable cross-sectoral projects, which do indeed constitute a conceptual challenge because of the lack of an adequate interdisciplinary frameworks. Governance, like sustainable development, is about interdisciplinary issues and these do encompass literally everything.

*Reviewer 2: INFO2000 is presumably enjoying some success (although this is still under-development and the jury is not in) because it is a relatively focussed tool. Why is this one so incredibly broad and vague?*

It is not clear whether "INFO2000" refers here to the European Commission programme as a whole, or as a shorthand reference to the partners' involvement as initiators of one of the many INFO2000 projects, namely that on information for biodiversity conservation.

On the assumption that it is the latter which is the "relatively focussed tool", it is appropriate to note that, on the UIA side at least, that project endeavours to clarify contextual (often subjective, and non-scientific) information to issues of biodiversity conservation. This is done by building up profiles on problems and strategies that impact on biodiversity conservation -- or which are impacted by efforts at biodiversity conservation. Accepting value biases, it treats equally the priorities that different constituencies -- including the World Bank -- perceive as most important and to which they prefer to allocate resources. Since this covers millions of plant and animal species, it is indeed rather ambitious and comprehensive but the procedures are pragmatic. Indicative searches indicate that biodiversity issues, at least indirectly, impact some 60 percent of problems. With some 100,000 database entries and over 250,000 hyperlinks it may indeed be "broad", but it is questionable whether it can be usefully said to be "vague".

The policy challenge of the times is that it is relatively easy to design specific information systems and policies addressed to specific issues. There is a multitude of them. But unfortunately the challenge lies in the manner in which these policies undermine each other -- as typified by the costs of the well-known problem of successively digging up and repairing the same road to lay gas, electricity, sewage, telephone and optical lines because of an incapacity to coordinate across agencies. In information terms, there is little capacity to deal with such "broad" issues and "shared" territory -- and the challenge is greater as the challenges range across health, agricultural, educational, security and other issues.

This project endeavours to respond to this challenge -- the challenge of governance -- which is a major issue for most countries at this time. The question as to whether countries, or the world, are inherently "ungovernable" is as yet unresolved. It is however clear that this challenge cannot be effectively met by reliance on overly specific information systems; nor information systems that deliver old information rather than integrate new insights.

*Reviewer 2: Why not wait till INFO2000 is more of a proven product before leaping in to extend it to the entire field of sustainable development? I would also suggest trimming back the proposed project to be more of a logical extension of INFO2000: development of tools to extend the usefulness of data sets that have been put together under INFO2000.*

This comment is taken to relate to the biodiversity conservation project within the INFO2000 programme.

The point is accepted. There are both advantages and disadvantages to waiting, which may weigh up to be about the same. One disadvantage is losing personnel who are currently involved with the ideas and activity, notably those of the non-remunerated partners of this project. Another is forfeiting cost savings due to overlapping of activities.

The INFO2000 project builds on the proven “raw materials” of UIA and WCMC databases, currently “marketed” as a myriad of products. INFO2000 is another shopfront. The datasets that are being “put together” for INFO2000 are, in large part, literally that: meaning integrated rather than compiled from scratch. The hard work, as we all know, is making sense of data.

The reason why the INFO2000 project has the specific subject focus of biodiversity conservation is that this is the specific concern of WCMC. For the UIA this means focus on a subset of its data on problems and strategies – which provide the context for "biodiversity conservation" as described above. The entire field of sustainable development is however already covered by these UIA databases -- which have been developed since the early 1970s as part of the long-term Encyclopedia of World Problems and Human Potential. For example, the databases have extensive coverage of development issues, notably with the use of World Bank material.

The "modesty" of ambition requested by the reviewer is achieved by varying the depth of coverage on any specific issue according to the editorial resources and material readily to hand -- and the copyright constraints on the manner in which that material can be used. The request for *infoDev* funding is partly in order to improve the quality of coverage on issues that have been only modestly treated in the past.

## Workpackages

*Reviewer 3: The proposal needs to clarify the content of the workpackages of the INTERCEPT project (with the same level of details of the workpackages presented for INFO2000) and description of the deliverables and deadlines. In these workpackages the relations between DA's activities and the other actors' activities need to be clarified precisely.*

The five workpackages are detailed on the following pages. First is a summary showing person months of effort for each partner.

Workpackages / Person months	Partner	UIA			DA			Total
		M	T	S	M	T	S	
	Staff category*							
Project coordination and administration		15	3	6	3	2	4	33
Increasing stakeholder access to online information		2	15	12	2	10	16	57
Increasing frequency and sophistication of stakeholder use		2	12	8	3	20	20	65
Building regional and local databases		2	15	19	2	30	20	88
Building component services and partnerships		4	11	2	10	18	4	49
		25	56	47	20	80	64	292
* M = Management / T = Technical / S = Support								

It is worth mentioning that even though most of the field work is occurring in India, the information system design and delivery aspects are generic and global in scope. Also the new internet content will be available globally. We are treating India as a prototype. We intend to extend the learnings from that case to other countries, although recognizing that India is in fact many countries and therefore quite an adequate test in its own right.



## Workpackage Descriptions

### Workpackage No 2

**Title: Increasing stakeholder access to online information**

**Lead partner for this WP**      **UIA**                      **Start month: 2**      **End month: 24**

**Initial state, work already done, preconditions for starting tasks, end result expected:**

Full-featured internet access is rarely available to Indian organizations. This will improve but little for the majority over the next several years. An exception is through the efforts of the DAINET programme. The work for this workpackage will use the DAINET system as its delivery vehicle.

This workpackage makes the UIA, WCMC and other similar databases more easily accessible to sustainable development stakeholders in India. The work should be directly translatable into other developing country settings, and wherever local constraints limit full-featured internet access.

The objectives are to design and test interface procedures which enable people with less automated communication means (text-based internet, email and, to a certain degree, fax) to “emulate” the content recovery available to those with full featured internet access (notably graphics and top page downloads of hyperlinks).

The partners would work with a volunteer group of stakeholders in India to provide user input and review developments. Results would be progressively collated and incorporated into product design.

### Tasks:

1. Stakeholders would be identified and approached. They would be individuals who have a regular need to access information on sustainable development and are prepared to collaborate with the project. They would already be users of electronic communication equipment (telephone with fax and/or computer) and have a reasonably frequent pattern of use. The group would include universities and students, NGOs and CBOs, government officers and those doing policy research, environmental consultants and the sustainable development divisions of corporates.
2. For those with email and text-based internet access, the tasks are to:
  - design query forms and user-friendly software whereby they may seamlessly access (read) information available on the internet with zero manual intervention in between;
  - design forms and software whereby they may upload web pages/databases available on the internet
  - build capacity among the user group to adapt to this inquiry approach
3. For those with internet access, the tasks are to:
  - construct knowledge portals that enable users to quickly and accurately identify themselves and the information they require
  - design recognition protocols that enable the partners servers to save user information and preferences, thus speeding up their subsequent journeys through the system
  - design an knowledge architecture with multiple entry points and interior journeys.

**Estimation of labour effort required: 67 person months**

UIA			DA		
Management	Technical	Support	Management	Technical	Support
2	15	12	2	10	16

## Workpackage Descriptions

### **Workpackage No 3**

**Title: Increasing frequency and sophistication of stakeholder use**

**Lead partner for this WP: DA**

**Start month: 2 End month: 34**

**Initial state, work already done, preconditions for starting tasks, end result expected:**

Sustainable development stakeholders in India who have computers and telephones may not combine them for information retrieval and advanced communications. This workpackage builds capacity among grassroots groups with a telephone and computer whereby they can graduate to using email, then gradually to internet use, on a regular basis that is financially affordable to them.

Work already done is the preparation of the comprehensive 10-volume DAINET directory of Indian NGO groups. Profiles of the organizations are held in database format and include equipment and communications information.

The activity will initially be in the well-served DAINET regions -- New Delhi, Bangalore, Chansi – gradually extending as other DAINET centres are established.

**Tasks:**

1. Request participation in the programme. Select a suitable sample of organizations.
2. Provide assistance with locating reliable modem suppliers
3. Provide email access
4. Provide support services (“hand-holding”) over a 6 to 18 month period until such time as the organization become a regular and confident email user with indirect access to the Internet (Work Package 2).
5. Assist users with upgrading to become a more sophisticated internet user.

**Estimation of labour effort required: 65 person months**

UIA			DA		
Management	Technical	Support	Management	Technical	Support
2	12	8	3	20	20

## Workpackage Descriptions

### **Workpackage No 4**

**Title: Building regional and local databases**

**Lead partner for this WP: UIA**

**Start month: 6 End month: 24**

**Initial state, work already done, preconditions for starting tasks, end result expected:**

With respect to content, electronic information for sustainable development in India is inadequate in two ways:

- few documents and data have been converted into accessible electronic formats;
- there are very few locally and regionally-relevant databases/directories etc.

This workpackage builds model databases and holdings that have:

- Indian content, including electronic publishing of Indian documents and data
- local and regional relevance to sustainable development stakeholders in India
- linkages to generic and global databases and the internet.

The objective is to establish two data centres (=subject content centres) within the DAINET system. It is intended that the centres be held in different geographic locations and that their development be accompanied by local training and capacity building (funded separately). The methods and tools so developed should be replicable for application to other data centres.

This work will draw upon the experience of UIA, WCMC and others in creating and managing information systems. Specifically it would call upon the INFO2000 groundwork in building (1) interactive and participative information systems, (2) enhanced search and query facilities and (3) UIA’s multilingual and thesaurus-building capabilities.

**Tasks:**

1. Identify two themes in the UIA/WCMC databases of immediate and critical relevance to the South Asia region. Under consideration (and currently not funded by other means) are water, ecotourism, non-timber forest resources and appropriate technology.
2. Build databases of South Asian relevance on these themes.
3. Develop the links between:
  - these two theme databases and the global databases of UIA and WCMC
  - the international organization database of UIA and the DAINET Indian NGO database.
4. Engage remote contributors (information editors/caretakers) for the regional and global databases such that the Indian content is progressively increased and they become more broad-based and cost effective to manage.
5. Develop an environmental keyword thesaurus to facilitate local Indian access to the Indian databases and to the existing UIA and UNEP INFOTERRA databases. Three Indian languages would be selected.

**Estimation of labour effort required: 88 person months**

UIA			DA		
Management	Technical	Support	Management	Technical	Support
2	15	19	2	30	20

## Workpackage Descriptions

### *Workpackage No 5*

**Title: Building component services, usage and partnerships**

**Lead partner for this WP: DA**

**Start month: 7 End month: 35**

***Initial state, work already done, preconditions for starting tasks, end result expected:***

This workpackage assesses the feasibility of component services that can be self-financing in the long-term through such means as:

- fee for service
- subscriptions
- sponsorship
- information micro-enterprises

This work will draw upon the INFO2000 groundwork in the first three areas.

It also builds partnerships with other organizations interested in content linkage and development and local Indian organizations concerned with delivery of information services.

***Is there more?***

***Tasks:***

1. Use email to inform potential users of the service and seek volunteer participation. Progressively implement the Internet component of the marketing strategy. Take into account stakeholder workshops and online feedback. As the product develops, use more conventional components of the marketing plan as part of the usual operations the partners (mailings, meetings, journals etc).
2. Develop local partnerships, formal and informal, that can assist the service delivery and training objectives of the project. Partners are likely to include small businesses, NGOs, universities and individuals.
3. Experiment with suitable packages and formulae using a mix of zero cost and billed access to Web information. Undertake simultaneous experiments with billing for selected portions of the data and offering facilities to sponsors to subsidise access to data in particular domains.
4. Prepare a sponsorship proposal and accompanying the demonstration materials. Undertake research into likely sponsorship areas and organisations. Approach potential sponsors (companies, foundations and organisations). Follow-up approaches and negotiate deals.

***Is there more?***

***Estimation of labour effort required: 49 person months***

UIA			DA		
Management	Technical	Support	Management	Technical	Support
4	11	2	10	18	4

## Annex 1: Reviewers' comments

### Reviewer 1

#### What are the strengths of this proposal?

The proposal recognizes the difficulties inherent in accessing quality controlled and comprehensive environmental data and international "best practice" in developing countries, the flow of information frequently being solely outwards. Further, the proposal acknowledges that integration of datasets can provide real value-added to government planners in developing countries. Rather than provide raw data, the specialists available to the service providers can ensure accuracy, policy relevance and sound scientific interpretation - of immediate utility to planners and others.

The use of the Internet is the logical choice for delivery of such a service. This will allow access to continually updated data and knowledge and, by, linking various stakeholders involved in sustainable development, provide a forum for improved dialogue.

The proposal also correctly notes the long-term utility of making such information available as a service as opposed to a product. The potential exists to subsidize this through contributions from developed countries and other partners to ensure access by the poorest - where the need is often greatest. This proposal begins to address this issue, and that of financial sustainability, through the use of a tiered market strategy.

WCMC and their partners, through participation in a wide range of information initiatives, and their pivotal role in environmental data management, have access to wealth of data and expertise which can be brought to bear on this project. Further, they have successfully addressed or are addressing critical issues relating to data quality, data ownership and custodianship and web based delivery of services.

Finally, the proposal builds on, and extends, the existing Info2000 project, which minimizes risk and provides a firm technical foundation.

#### What are the weaknesses of this proposal?

##### *Financial Sustainability*

Key concerns exist about the financial sustainability of this venture and how these can be reconciled with the development objectives of InfoDev. While it is perhaps less critical to the success of Info2000 a detailed business plan and marketing strategy which includes an assessment of user needs and "willingness-to-pay" are an essential prerequisite to technical implementation of the INTERCEPT project and should be given more emphasis. Annex 11 does suggest that sortie analysis has been carried out as part of Info2000 and it would have been extremely valuable to view the substance of this. In particular, it would be useful to see a breakdown of the estimated costs of service provision over the medium to long-term which clearly distinguishes these from the operating costs/overheads of the agencies involved. Further, more detail is required on the proposed multi-tier strategy. To what extent can the needs of the poorest (commonly those with most need) be offset by charges to commercial organizations and other partners? Have WCMC or others investigated this aspect of service provision?

Clarification is also required concerning the dichotomy which exists between restrictions on the end use of data, arising from the custodian model, and the proposed development of in-country commercial services. How would this work, in practice? Does the custodian model accommodate the sale of data to third parties, or local licensing arrangements? This may not be an issue if the data sets involved are public domain - which seems unlikely - but is further complicated by the "user-partner" relationship which will increasingly be the centerpiece of such a relationship (i.e. information flow will be two-way). As in-country data passes to the system would the providers be compensated, or would this offset the costs of service provision? A well-worn criticism of past efforts to improve access to biodiversity conservation data is that "non-profit" agencies have compiled data from developing countries - provided on request in most cases, repackaged this and sold it back (or have been perceived as doing so).

### ***Partnerships***

Surprisingly, the proposal doesn't attempt to overcome the financial paradox described above by fully addressing the potential role of partnerships with international organizations (e.g. The World Bank) which have a responsibility (albeit a newly-defined one) to provide knowledge-based services to their clients. There is a persistent view of international organizations (WHO, WB, UNEP, UNESCO) as funding sources, rather than partners with significant bodies of knowledge on sustainable development which should be mobilized. The synergies of such relationships (Client-NGO/Service Provider-International Organization) are potentially significant, and include: (i) improved dialogue on sustainable development between stakeholders, (ii) improved policy relevance of data / services provided, (iii) advice/assistance to international organizations in mobilization of knowledge resources, (iv) identification of data gaps, if these exist, (v) coordination with in-country development activities and, (vi) offset of costs to poorest countries - to ensure accessibility.

A similar concern relates to the organizations participating in the project. Given the large number of conservation / biodiversity information networks which exist, it is surprising that the proposal doesn't explicitly include some of the major data providers in the proposal. Surely, these agencies (e.g. IUCN, WRI, UNEP), which are presumably the source of much of the data to be provided through the system, should be explicitly represented in the governance structure of the service (which also needs clarification). This would also improve buy-in by these agencies, provide access to existing in-country networks (e.g. InfoTERRA) and provide some insurance against financial risk.

Indeed, following the line of these arguments, the proposal clearly demonstrates the tensions which exist between financial sustainability of information services in a cash-strapped environment, and the responsibility of these same agencies to deliver on their development objectives. Clearly the best possible world would include a comprehensive partnering of technical service providers, scientific experts / data gatherers, development agencies and commercial organizations, with all bringing their resources to bear on the issues of sustainable development. This proposal is an attempt to address a small component of this problem. It may be that this proposal represents a useful, if modest, step in the development of this comprehensive relationship - but it should clearly acknowledge these long-term goals and attempt to place the project in context.

### ***Links to InfoDev objectives***

In its present form, the proposal leaves unanswered a number of questions which would provide linkage to the objectives of InfoDev (see above). Even if one assumes in-country demand, willingness-to-pay and technical accessibility, the project fails to clearly explain how it would significantly enhance in-country development, specifically: data provision / licensing of local companies, provision of training, user needs assessment and feedback mechanisms. As such, the essential local components of the project are tenuous and the proposal open to the criticism that it will support the development of capacity/revenue-generating potential of international NGOs. This is particularly true given that the advanced stage of technical development of the Info2000 project and the broad experience of the project partners - who must surely have addressed these issues at some stage.

### ***Other points***

The proposal is heavily weighted towards report-based deliverables, not to the development of useful and widely available knowledge. The effort required in this respect should be balanced with what can be achieved through standard Bank supervision.

There is little mention of the role of metadata and the essential feedback loop which this service will facilitate through its relationships between in-country data sources and international information networks. Promotion of consistent, two-way flows of information / knowledge are essential if data quality is to improve. Again, this will require the successful reconciliation of commercial with non-profit concerns.

At three months, the timeframe mentioned for the development of partnership agreements is hopelessly unrealistic.

**What questions about the proposal does the proponent need to clarify?**

All of the above.

**Reviewer 2**

Project title: INTERCEPT - Interactive Contextual Environmental Planning tool for developing countries  
Project ID number: 980327-276

**What are the strengths of this proposal?**

The strengths are that this builds on a lot of interesting work that has been done over the last few years (as part of INFO2000 and as part of other projects of WCMC, UIA, etc.). It seems to be technologically cutting edge and some of the suggested tools seem very innovative.

**What are the weaknesses of this proposal?**

I think the weaknesses outweigh the strengths. There is no demonstrated demand from developing countries for this product. It does not suffice to state that it will be used when evidence is not provided that anybody is asking for it. I kept trying to imagine who would use it and why and could not imagine anyone in a third world country sitting down to a computer to explore this tool.

INFO2000 is presumably enjoying some success (although this is still under-development and the jury is not in) because it is a relatively focussed tool. Why is this one so incredibly broad and vague? A tool for sustainable development encompasses literally everything. The project would benefit from more modesty and specificity.

The fact it is simultaneously directed to so many potential end-users (government, NGOs, and private sector) also subtracts from its value. It is true of any product that the more we aim to please everybody, the less value it has to any individual user.

Mixing commercial and non-commercial goals may perhaps be plausible but I personally feel such an approach is doomed to fail. The document notes that almost all commercial ventures on the Web are currently failing - it would be even more complicated to marry this with non-commercial uses. If the commercial potential is really there, the proponents should be seeking a loan to finance this and not a grant from the World Bank (in fact, none of their funding comes from the private sector or from developing country governments which leads me to conclude it is supply-driven and not demand-driven).

Why not wait till INFO2000 is more of a proven product before leaping in to extend it to the entire field of sustainable development? I would also suggest trimming back the proposed project to be more of a logical extension of INFO2000: development of tools to extend the usefulness of data sets that have been put together under the INFO2000.

Need to better define who the users would be (and prove they want the product) and need to provide more detailed examples of the kinds of questions they are asking. For each of those questions, the proponent would need to demonstrate that a skilled infotechnician could not find the answer with existing information databases and web sites.

Bottlenecks for sustainable development in the developing world are not cutting-edge web-based tools of information interactivity but rather poverty, population growth, lack of institutional capacity, lack of funding. The kind of information product that the proponents offer could perhaps be useful to highly trained professionals and specialized individuals but I suspect these people are already adept at finding and putting the information together they need. The constant information problem in the developing world is that the baseline information is not being kept up to date and is not available at a fine-enough scale - these

fundamental problems are not addressed in any way under this project (and nor could they as it is a completely different scale or problem). It is worthwhile to note that this problem of up-to-date and appropriately-scaled information has plagued WCMC efforts to introduce similar types of tools (at a much simpler level) at the World Bank - there was little demand for a product like the Biodiversity Map Library even in an institution that would theoretically need that kind of information every day...

The greatest problem in developing functional information networks (as WCMC knows all too well) is the reluctance of data providers to provide data. Apart from standard statements simply stating that everybody will be happy to cooperate and provide all their data, nothing is said that makes us believe it will be any different. In fact I expect it will be even more problematic for this project to succeed because of its semicommercial odor; data providers will be even more reluctant to cooperate if they feel someone else is profiting.

**What questions about the proposal does the proponent need to clarify?**

see Weaknesses.

### Reviewer 3

Project title: INTERCEPT - Interactive Contextual Environmental Planning tool for developing countries  
Project ID number: 980327-276

#### What are the strengths of this proposal?

The main strengths of the proposal are:

- the philosophy of the general approach (information technology and network oriented)
- the experience of the proponents in terms of giving access to natural resources information (WCMC) and networking (UIA)
- the preliminary study of the users needs
- the concern about sustainability and the marketing prospections that are planned

#### What are the weaknesses of this proposal?

The weaknesses of the proposal are the following:

- the partnership with actors in the developing countries is not enough developed. It is not something that should come after developing the product but before, because what is at stake is the capacity of the partners to accept and appropriate the product and use it extensively. They will not be able to do so if they are not closely associated to the development of the product and trained to modern information technology required by the product.
- no training of the users is scheduled in the proposal
- capacity building aspects should be taken into account. Some local staff should be associated to the development of the product
- it is not clear how the project will associate the first category of users (policy-makers) to their activity. It is critical that the local conditions be taken into account:  
in developing countries many government offices are not yet connected to the internet or do not have competence in information technology. The use of CD-roms and the use of computerized decision-making or planning tools are not yet regular.

#### What questions about the proposal does the proponent need to clarify?

The proposal needs to clarify the following points:

- content of the workpackages of the INTERCEPT project (with the same level of details of the workpackages presented for INFO2000) and description of the deliverables and deadlines. In these workpackages the relations between DA's activities and the other actors' activities need to be clarified precisely.
- Strategy and schedule for developing partnership with actors in developing countries : who are they targeting ? (NGOs, universities, ministries ... ) how will they be associated ? (training sessions, participation to the development of the product, strengthening of the local capacities : giving access to) internet, providing them with the required equipment...
- definition of precise evaluation indicators

## Annex 2: Rewritten sections of proposal

### 3. Short Description of Activity

This project creates a globally networked, participative knowledge system for sustainable development. Internet based, it also enables access by email and text-only users. It builds capability for increasingly sophisticated electronic information access by independent sector organizations in India, as a pilot for other developing areas. It increases local content and South-North information flows.

### 10. Abstract

The *infoDev* INTERCEPT project is the development of an Internet-based information system covering sustainable development topics. The project couples building knowledge with building online access to that knowledge. It will be initially trialled in India within the evolving DAINET system of Development Alternatives (DA), which provides increased connectivity and information access for the underserved independent sector organizations in South Asia.

The project aims to accelerate the transition of this significant market segment of telephone, fax and basic email users towards fully automated information services during a decade when most would not have this opportunity. It will increase both access and exposure to networked communication services, in India and globally, and build capacity for their use by NGO groups. These aims will be achieved by developing software tools that seamlessly bridge non-automated and automated systems, by designing interface layers that improve ease of access and by providing interactive support services, both personalized and automated.

The project will also build Indian knowledge bases on two issue areas and establish these in regional datacentres within the DAINET system. The Indian information content will be linked with the global knowledge system of the Union of International Associations (UIA), which incorporates automated procedures for user feedback and participation in knowledge creation. This will increase Indian participation and online content and enhance south-north information flows.

INTERCEPT is market-oriented within a non-profit context. It will explore several levels of financial sustainability by (i) distinguishing between government, non-government and private sector end-users and (ii) combining sponsorship and partnership agreements (notably for national and sectoral support programmes), organisational franchise schemes (for commercial development of micro-infoenterprises in the private sector), and on-line transaction schemes (non-monetary and exchange) for use in the non-government sectors.

This activity builds upon the existing environmental information system being created through a four-partner INFO2000 project (40% EU funded) and in its first full year is significantly supported by INFO2000. INTERCEPT also builds on the international network relations and further electronic communications systems of key project partners (UIA / WCMC / DA), involving several thousand organisations and environmental agencies internationally.

It is intended that INTERCEPT will support (i) policy-making at the government level in developing countries (through the use of internationally-relevant information sources); (ii) programme planning at the INGO and NGO level (through contextually-oriented environmental planning support); (iii) provide strategic information to the development of environmental service sectors (commercial) in developing countries and (iv) information sharing between developing countries and enhance their contribution to international knowledge.

The project will also produce a CD / Web-based package for international distribution.

