the project, and then at periodic intervals during project implementation and also after the project closes. The *cost of the literacy gain* as achieved by the project can be compared with *what could be achieved* by means of other delivery options (other technologies).[8] The technology (the delivery option) with the largest gain per amount of money spent is the one that should be used for producing this particular project output. The type of project analysis just described is an example of **cost-effectiveness analysis** (CEA). CEA is used *when it is not possible, or it is very difficult, to assign a monetary value* to the outcomes produced.

For other project objectives, in addition to measuring learning units produced, it may also be possible to assign *monetary values* to the learning achieved. For example, the business skills taught to herdsmen and other rural people could be assessed by comparing the future earnings of those who are exposed to the business training with the earnings of others who are "otherwise the same" but *not* exposed to the training.

What does it mean to be "otherwise the same"? The ideal way to evaluate the effect of a training course (or "treatment," in the language of an experimental researcher) is to *assign individuals randomly* – half to the "treatment group" and the other half to a separate, "control group." With social programs that affect people's lives and welfare in important ways, however (as with a training program designed to augment herders' future incomes, or with a health experiment that tests the efficacy of a new drug treatment or new clinical procedure for treatment of a life-threatening disease), the random assignment of human subjects to treatment and control groups is generally considered to be unethical. In such situations, it is usually necessary to *control statistically* for other factors expected to affect the outcome of interest (in the case of the RDL business training, the earnings of the rural population) and expected also to be correlated with the "treatment" variable (in this case, the training in business skills). If, for example, those in rural areas who choose to participate in the training program are systematically more motivated and more skilled to begin with, then it will be necessary somehow to control for the initial motivation and skill level so as not to overestimate the effect of the training.

Once an unbiased estimate of the effect of the training program on the earnings of rural herdsmen and other entrepreneurs has been derived, then it is possible to undertake standard cost-benefit analysis (CBA) to appraise (or to evaluate) this component of the project. Although (as indicated above) the specific learning outcomes (and, therefore, the specific training components) of the project have not yet been finally determined, it is likely that the economic analysis of the proposed new RDL project for Mongolia will consist of some combination of CEA and CBA.

[8] An *ex ante* comparison is conducted up-front, during project preparation, for the purpose of appraising the project (or particular project component). An *ex post* comparison can be conducted after the project has been implemented, for the purpose of evaluating it.

Annex 5

Project Economic Analysis

Elsewhere in this project document, the target groups (beneficiaries) and project objectives (learning outcomes) of the proposed RDL project have been identified as follows. It should be noted these are merely tentative designations, given here for purposes of illustration. The final selection and elaboration of target groups and project objectives will occur during project preparation (based on extensive consultation with local stakeholders, to allow for variation across aimags) and also during project implementation (to reflect evolving needs and preferences over time).

Target groups (beneficiaries)

- individual adult learners (e.g., herdsmen, mothers, farmers)
- in-service rural teachers
- remote rural schools (to supplement classroom teaching especially in difficult-to-staff, specialist subject areas)
- out-of-school children
- rural migrants to urban areas

Project objectives (learning outcomes)

- business skills for herdsmen and farmers
- child rearing programs for mothers (including pre-school preparation)
- animal husbandry and agriculture
- life skills, including local crafts and culture
- establishing and sustaining small businesses in remote rural areas
- civics, including how democracy operates, rights and obligations of citizens, and civil law
- public health education, including fitness, cosmetics and nutrition
- functional literacy
- formal education for out-of-school children
- specialist programming for remote rural schools (e.g., physics, mathematics, English, and special education for disabled children or children with learning difficulties)
- English
- computer and IT skills

In order to determine whether the project is achieving its stated objectives, it is necessary to (1) define **project performance indicators** (PIs) for each objective, (2) collect baseline information (the PI values at the start of the project), and then (3) monitor changes over time. Careful selection, definition and measurement of PIs, and deciding on project milestones (performance targets), are essential pre-requisites for conducting a summative evaluation of the project – determining, in the end, whether or not the project satisfies its goals and can be deemed "a success."

For some project objectives, it may be enough simply to measure progress in terms of the *learning units produced*. For example, in the case of the literacy objective, the functional literacy rate of the target population could be measured before the start of

charged for participation in the program. The problem with cost recovery in the case of RDL is that this is essentially a poverty-alleviation program – the learning services are targeted to the poorest households in remote, rural areas of Mongolia. Many such individuals and families may be unable to afford (even modest) course fees, and if the charging of fees acts as a barrier to participation in the program, then one of main development objectives of the project (achieving access and equity) will not be met.

All of the above suggests that, for sustainability in the short- to medium-term, a sustained commitment on the part of the **external donor community** will be required. A number of donors and international agencies, including the Danish, Japanese and Korean Governments, UNDP, UNESCO, UNFPA, UNHSF, UNICEF and WHO, have been generous in their support of NFE/DL in the past, but clearly the overall level of support has declined, and there currently no national program in this area backed by any donor.

Development is inevitably a drawn-out process, requiring patience and commitment. Assuming that the benefits of a well informed, adaptable, literate and market-oriented rural population can be convincingly demonstrated, not to mention the greater social harmony in the nation as problems of poverty and dislocation are overcome, then it should be possible to mobilize continued international support for programs that produce these results. As rural incomes rise in the future as a result of these efforts, then it may be possible gradually to raise the level of cost recovery for such programs, thereby relieving the burden on society at large (both Government and external donors), which is what is needed to ensure sustainability of NFE/DL in the very long run.

To increase the likelihood of sustainability, the current project will be designed with at least two considerations in mind. First, where there is a choice between low-cost and high-cost technologies, especially in regard to the recurrent costs of continuing to the technologies in the future, the **low-cost option** will be chosen other things remaining the same. (Obviously, the decision must also take into account the impact of the two technologies on the learning outcomes of the program. A low-cost delivery method that delivers little or no learning of value is not a cost-effective option; it does not provide value for money. On the other hand, even a very effective technology should be avoided if there is little or no chance that the financing necessary to sustain its use will be available after the donor-financed project comes to an end.)

Even very low cost technologies, however, require some level of recurrent cost financing in order for them to be sustained, and so the second consideration in designing our program will be the **availability of financing** to cover these costs over time. The three main funding sources for sustaining a RDL program are: (1) the Government (an allocation from the central, aimag- or soum-level budget, or from all three); (2) the beneficiaries of the program (fees paid by the learners); and (3) the external donor community (official development assistance, or ODA). There may be other possible sources (e.g., a fund financed from a national lottery, or from a special-purpose tax on business transactions), but the three mentioned seem the most likely.

Certainly, **Government** needs to back the national program of NFE/DL. To some extent, government support can be seen to be in place already. The salaries of the current staff of the National Centre for Non-Formal and Distance Education (NCNFDE), established in 1997 in conjunction with LfL, are now a reasonably secure part of the central education budget of the Government, as are those of all the part-time methodologists at the sub-national level. However, governments generally find it easier to continue paying staff salaries after a project ends, than to cover non-salary recurrent inputs, once the leverage exerted by the donor is gone. (Civil servants vote, whereas learning materials do not!)

There is a current guideline that 1% of the educational budget at each level of government should be devoted to NFE. This guideline is non-binding, however, and it is difficult to determine to what extent it is followed (or honored in the breach). Anecdotally, it would seem that some aimags do spend 1%, or even more than this, on NFE, but it is quite likely that others spend less. In aggregate terms, and if a new national program along the lines of the one proposed here is put in place, it could be argued that more than 1% of the state budget for education will be needed to support and sustain an effective program of NFE and DL. Given, however, the many competing demands on the budget (including demands within education, e.g., growing enrollments in technical and tertiary education, and the introduction of an eleventh school year at the primary/secondary level), it seems quite unlikely that more than 1% of the budget will be allocated for this purpose.

Often, the way to make a program truly sustainable is to charge the **users** directly. This ensures that any expansion in services is matched (at least in part) by expansion in money coming in. It can also be argued that cost recovery increases the effectiveness of learning programs, because learners are generally less willing to waste their own money than to waste Government's money. The design of the RDL program should investigate the items and the prices that users might reasonably be

Annex 4

Sustainability

Sustainability is the Achilles' heel of very many externally-funded development projects. The recurrent funding and staff continuity needed to keep a program running after project investments are in place, and after donor support for the recurrent costs generated by the project (e.g., additional staff positions and, specifically in the case of NFE/DL projects, the development and production of new materials, transportation costs and connectivity charges) have ceased to flow are simply not available. As a result, the project may wither and eventually die.

In an evaluation of the Learning for Life (LfL) project conducted 18 months after this comprehensive and, in very many ways, catalytic project came to an end, the authors presented a mixed, but generally sobering account of the project's sustainability:

In general terms, the personnel trained and put in place through the LfL project are still working, implementing a range of non-formal education activities. These include training and learner sessions modeled on LfL, as well as aspects of non-LfL work, such as adult literacy and catch-up education for school dropouts. What has ceased is the distance education component – no radio programs are being made, no new associated print materials being developed, and the visiting teacher system … functions in a patchy manner. Material production has not quite stopped at local level, but at national level no new NFDE materials are being produced, except in the context of the UNESCO adolescent project …. The reason for lack of sustainability in these areas is twofold: first, the necessary expertise is now dispersed and otherwise engaged, and second, there are not adequate funds available from local sources to mount the kind of national program which LfL was able to deliver.[7]

To some extent, the first reason for the lack of sustainability is subsumed by the second. Government staff who are trained as part of any project naturally disperse and assume other duties when there is no budget allocated to support the activities carried out under the project. In the case of LfL, most visiting teachers stopped working after the project ended because they stopped getting paid, and because their transportation costs stopped being covered. By comparison, many aimag- and soum-level "methodologists" have continued to function, at least to some extent (depending on the interest and commitment of the aimag or soum director of education), because these methodologists are education department employees whose salaries are already covered in the budget. Under LfL, there were assigned (usually on a part-time basis, in addition to their other education department duties) the duties of NFE methodologist (supervising the NFE Learning Center, and facilitating both the work of the visiting teachers and the learning of the project participants). In many cases, the methodologists have continued to look after the Learning Centers since LfL ended.

[7] Clinton D.W. Robinson and Chultem Otgonbayar, "Non-Formal Distance Education in Mongolia: An Evaluation of its Impact," Ulaanbaatar, UNESCO, June/July 2003, p. 65.

The main drawbacks are that learners will need to attend the enlightenment centers in order to access the computers/DVDs, and two or three students may need to share each computer station, if there are no other computers available. This may require some kind of scheduling to be arranged. Lastly, the computers will need to be maintained and gradually replaced over time, and this will eventually be a cost that the local aimag will have to bear.

It should be recognized that although the provision of video materials will be important for some subject areas, and will need to be shared among participants, the core teaching materials for all programs will be print combined with compact discs, which will be distributed to every program participant.

Recorded audio. There is strong research evidence from several studies conducted outside Mongolia, and substantiated in Mongolia by experience from the GWP and LfL projects, that students learn better from asynchronous technologies such as cassettes or print, than from synchronous technologies such as broadcasting and video-conferencing. Print combined with recorded audio is an effective and very low cost technology. Audio can take learners through the printed material, provide additional resources such as interviews with herders, and facilitate testing and feedback. Audio combined with text requires a different production style from radio, enabling use of the stop, start and replay facility, giving designers and learners much greater control over the learning experience.

Audio-cassettes were used effectively in the GBW and LfL projects, but mainly for replay of broadcasts that were missed by learners. The problem is access for individuals. Audio-cassette replay is usually provided as part of an integrated portable radio system, requiring slightly more expensive radios, although stand-alone audio-cassette replay machines are low cost (around $10). However, the mission was disappointed by the results of the governor's survey in Ömnödelger, which found only 25 per cent of households with audio-cassette or CD players.

Furthermore, audio-cassettes are being rapidly replaced world-wide by compact discs. CD players are now relatively cheap (from US$20 to US$75), as is the cost of reproduction and delivery of compact discs (less than US$1 per disc for large runs). CDs can be used without the need for other equipment except a headset or a small speaker system, or can be connected to a speaker through a radio, if it has an audio input socket.

For these reasons, the mission recommends that CDs developed in conjunction with the printed materials should be delivered to individuals, core families and bagh canters. We recommend that the World Bank project provides free CD players and a headset to each person enrolling in the demonstration programs. This will establish a base of equipment over the next three years, until there is more widespread ownership of CD players in rural areas of Mongolia. The mission also recommends that a small charge be made for the program, which can be reduced when World Bank funding ends, to facilitate the purchase of a CD player for new enrolments. Donors may be approached to provide the initial purchase of CD players.

Recorded video. Video will be a requirement for many of the programs teaching skills such as crafts or technical skills (e.g. delivery of a calf). The mission has determined that broadcast television will be too high cost for sustainability. It is recommended instead that the provision of up to 10 computers with a DVD player be located in each of the soum schools and/or enlightenment centers. It is estimated that this will cost less than US$1,500 per station.

There are several reasons for our recommendation. The price of computers and DVD players continues to drop. The computers and generators can be shared with other projects in the soums, such as teacher training or for school work, thus increasing the stock of computers in the Mongolian education system. DVDs can contain video, audio and text materials. The DVDs can be integrated with the computer to provide individual interaction with the learning materials.

Lastly, the focus in this project is customization of programming to meet local needs. National broadcasting means everyone gets the same program. This may be useful for one or two national rural distance learning programs (such as English for Business), if the costs can be reduced. Also, as with television, one or two programs might be made for marketing purposes, but we suspect that television would be more effective for this purpose.

Besides Mongol Radio, eight regional radio stations were used in the LfL project. The UNESCO impact study indicates (p.54):

- the radio hardware provided by the project is still in use
- the radio personnel trained in NFDE programming are still largely in place
- but educational programming has come to a complete stop.

The study concludes:

'There is in effect no coherent use of radio for distance learning currently. Although the national NFDE has a radio studio…, it does not currently have the funding or the necessary personnel to mount a national distance education initiative which would use radio…..LfL has left the various components in place, most crucially the human resources; these cannot be used to good advantage without adequate financial backing.'

Later, the UNESCO impact study concludes (p.68):

'There is a current non-binding guideline that 1 per cent of the educational budget at each level should be devoted to non-formal education….Since the percentage would need to rise considerably to sustain the level of activity which prevailed in LfL, there is need for external financial support, at least for a time….It should be noted that there are strong competing demands on a strained education budget…. It is difficult then to see how more funds can be given to non-formal education until the country's economy improves.'

It is the mission's view that unless radio organizations agree to fund non-formal education programming and transmission from within their own budgets, or unless the government increases the percentage of funding for non-formal education, then national or regional radio is not sustainable for this project.

This does not mean one should rule out the use of radio. Radio technology has undergone radical changes in the last few years. It is now possible to buy a complete FM radio station and transmitter, with 35 watt capacity, for under US$5,000, including local power generation. This allows for very low cost community radio, with a two-person production team. This would enable community-based radio at the soum level, probably using volunteers as the radio crew. We think that this might be a sustainable technology for rural non-formal education, and thus we would like to experiment with such community radio in several soums in one aimag. We believe that if successful, communities will cover the cost of running their own radio station. Training could be provided initially on contract by the experienced educational radio producers at Mongol Radio and by the regional FM radio stations.

Television. Television access has rapidly increased in Mongolia in recent years. Almost the whole of Mongolia is covered by one channel of national Mongol Television, and in recent years herders and others in rural areas have been purchasing satellite dishes enabling them to receive programs from China and Russia as well as the national Mongolian channel. A 2003 survey by the National Statistics Office found that 85 per cent of households viewed television at least once a week, and 74 per cent listened to radio. However, access in rural areas is much lower. A survey in 2004 by the governor's office in Ömnödelger, a moderately remote rural soum in the Khentii province, identified 43 per cent of households with TV, 36 per cent with radios, 25 per cent with audio-cassette or CD players, and 9 per cent with VCRs or DVDs. Access figures will almost certainly be lower in less prosperous regions of Mongolia.

Broadcast organizations usually require that they produce materials for broadcasting, and this results in high costs, as the broadcasting organization will usually charge for educational production. Transmission costs are also relatively high for each transmission. One or two television programs would be valuable for marketing purposes, but we believe that the regular use of television is unsustainable, unless Mongol TV is willing to absorb production and transmission costs themselves, and in any case television would not reach enough of the target group, at least in the first few years of the project.

Radio. National Mongol Radio also covers most of the country, and was a major partner in both the Gobi Women's and the Learning for Life (LfL) projects. The UNESCO impact evaluation (Robinson and Otgonbayar, 2003) states that:

> "The Mongol Radio team created by LfL is unique in Mongolia; all of the members have earned national awards for the quality of their work. They have also developed good teamwork and are highly creative. They are a sadly under-used resource at present." (p.55).

However, the UNESCO internal evaluation for the Learning for Life project (pp.71-73) found that 22 per cent of the target group (which included urban as well as rural learners) did not have radios and 23 per cent had poor quality reception. For these reasons, less than half the target group (48.7 per cent, or 61 per cent of those able to listen) regularly listened to the radio programs. On the other hand, 32 per cent listened to tapes of the radio programs. Furthermore, the radio programs received relatively poor ratings from the listeners in terms of quality. Less than 13 per cent said the programs had strong impact or were helpful to consolidate information.

Of equal concern is the fact that although the radio personnel at Mongol Radio are still working there, there are now no programs for non-formal education being broadcast by Mongol Radio, even though they are mandated as part of their license to carry up to 20 per cent of all programming for educational purposes, Mongol Radio requires payment for the production and transmission of educational programs. Transmission costs alone are US$150 per 20 minute transmission. We believe that such costs are unsustainable for rural distance learning and are one of the reasons why national radio is no longer used for non-formal education.

Annex 3

Choice of technology

Introduction

Although the mission's recommended technologies are relatively low cost, there are also other advantages. New developments in the pedagogical application of these technologies allow for their use in radically different ways from the commonly considered, 'mass media' mode of distance education, where all students receive the same materials, which was centrally developed and delivered. On the contrary, it has been shown that technology developments in digital cameras, desk-top publishing, printing and copying, digital radio, audio and video production, and community radio all enable low cost production and delivery for relatively low volumes of activity. This means that RDL production and delivery can be done locally at relatively low cost. Where materials are to be used nationally, economies of scale still apply. The project therefore aims to balance local identification of needs and collection and adaptation of materials with central high quality production, quality control, and national distribution of materials.

As mentioned previously in the document, the mission proposes the following technologies for the distribution of learning materials:

- print
- CD players
- computers with DVD drives
- community radio as an experiment in one Aimag
- Internet for communication between the National Centre for Non-Formal and Distance Education and participating Aimags

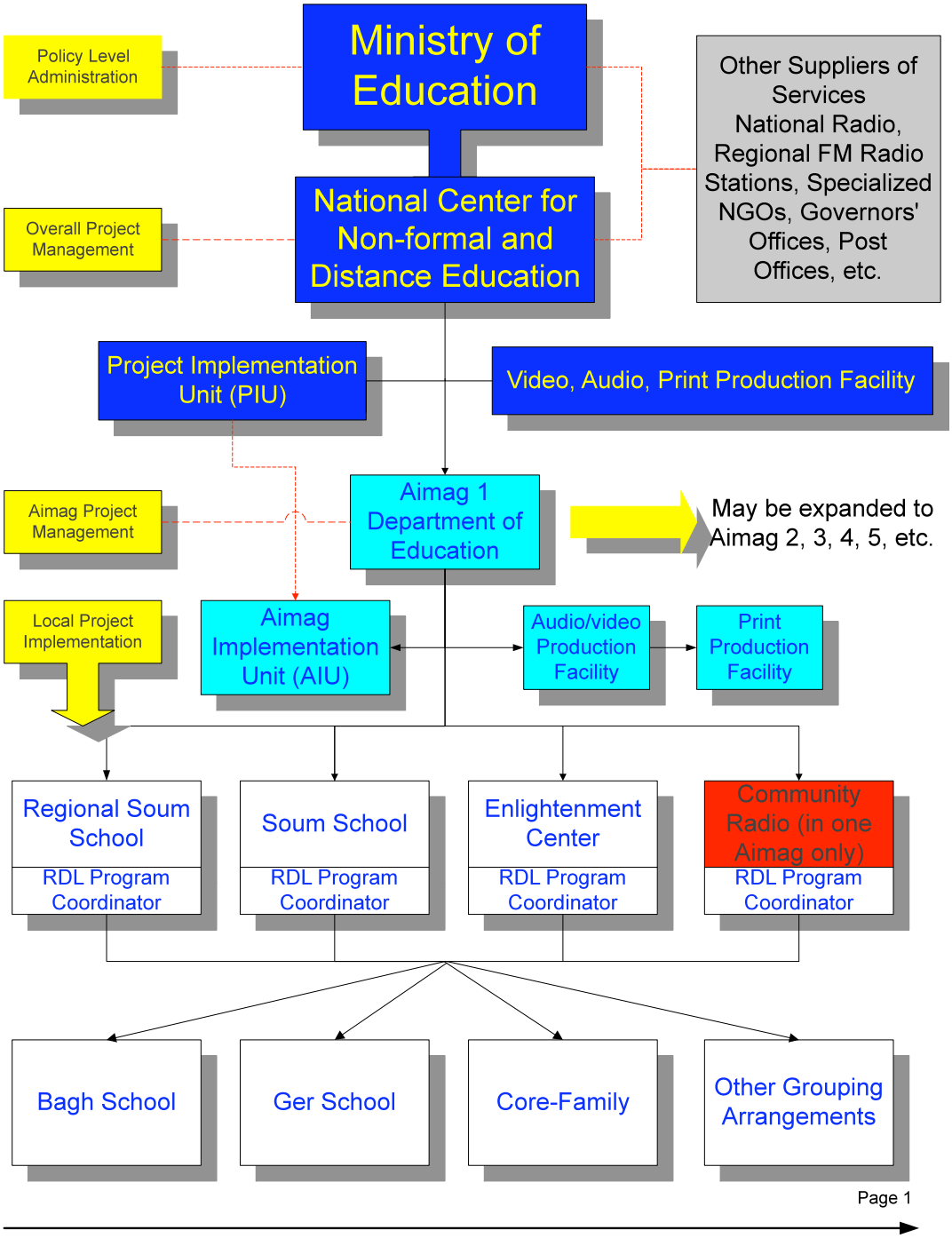
Print. Because levels of literacy are already generally high in rural areas of Mongolia, individual copies of the print materials carefully designed to the literacy level of the target group can be made available to all in the target group through the physical distribution system created among the National Centre for Non-Formal and Distance Education, the Aimags, and the soums.

However, in order to ensure maximum use of the specially designed print materials by other users such as schools, the print materials should be digitally produced using international standards such as SCORM. This will help build a stock of educational materials in the Mongolian language that can be immediately distributed on disc for use on computers and also be made available over the Internet as the access to the Internet expands in Mongolia.

Thus we recommend up-grading the print facilities at the National Centre for Non-Formal and Distance Education, and providing low cost desk-top printing and copying facilities for the participating Aimags, where this is not already available. This should include the development of a web site that acts as an archive of project materials (audio-visual as well as print).

Annex 2

Non-formal Rural Distance Learning Scheme



dropouts (and of pre-school children whose school readiness could be enriched through NFE) are emerging. It would be a failure of government policy and of donor support if the extensive network of NFE learning centers and trained DL teachers and methodologists were allowed to "wither on the vine."

Learning Centers, available in the soum centers. For such families, a "core family" was selected among each group of 4-10 families. The core family head was a respected and hardworking person willing to assist the "visiting teacher," who operated out of the soum center and circulated as often as time and budget would allow amongst the baghs in the soum. Learners met regularly in the ger of the core family and listened to radio programs, discussed what they heard and what they had read, and cooperated under the guidance of the core family head. Visiting teachers were unable to visit all families in the program and, therefore, face-to-face meetings were conducted in the core family gers.

The visiting teachers supported the learning of participants by focusing on the self-study process as well as on learning content. To the extent possible, learners also attended larger meetings of learners in the soum NFE Learning Centers, where additional resources and materials were also available for them to consult. Visiting teachers and learners were supported by the soum-level "methodologists,"[4] who were in turn supported by the aimag-level methodologists, who were supported and received materials from a national LfL team. The methodologists were (and still are) responsible for the operation, maintenance and re-stocking of the soum- and aimag-level NFE Learning Centers. Most often, the methodologists are performing these functions on a part-time basis, having been assigned to handle them in addition to other department of education duties.

Since the end of LfL, some new DL projects have been initiated. The **Improving the Outlook for Adolescent Girls (and Boys) in Mongolia Project ("the Adolescents Project")**, which utilized the NFE structure put in place by LfL, focused on sex education, the rights of the child, career counseling and life skills, involving nearly 14,000 "direct" and 47,000 "indirect" learners between 2001 and 2004. Two new projects with DL elements were launched in 2004, but it is too soon for them to provide lessons for the future, and neither is national in scale. The first focuses on just 20 soum schools (10 in each of two phases of the project) in three Gobi aimags severely affected by recent "dzuds" (climatic disaster years),[5] and the other focuses on eradicating illiteracy amongst herder families in just 20 soums (10 in each of two phases of the project) in 10 aimags of the country, selected not only on the basis of high illiteracy rates but also to ensure a regional balance of participating aimags.[6]

Despite the rich legacy of programs and lessons in DL and NFE in Mongolia, there is evidence of external donor fatigue in support of such programs. Since the end of the Adolescents Project, there is no national program of DL supported by the international donor community. Despite past successes, the needs in rural areas of the country have certainly not all been met, and new generations of school leavers and

[4] The title "methodologist" is based on a Russian concept and refers to a specialist in a particular area, in this case DL and NFE. The role of the NFE methodologists is to facilitate learning. They are not instructors or teachers.

[5] **Rehabilitation of Boarding Schools and Provision of Refresher Training Course for Headmasters and Teachers in the Dzud Affected Gobi Desert Provinces in Mongolia – Bayankhongor, Dundgobi and Zavkhan Aimags ("the Rehabilitation and Refresher Training Project")**, financed by the United Nationals Human Security Fund (UNHSF) and executed by MOSTEC with support from UNESCO and UNICEF.

[6] **Provision of Comprehensive Mobile Educational and Cultural Services for Herders in Mongolia ("the Comprehensive Mobile Education Project")**, a Japanese Funds-in-Trust Project executed by MOSTEC with support from UNESCO.

Annex 1

The Legacy of Distance Learning In Mongolia

Until the 1990s Mongolia, RDL was almost non-existent in Mongolia. There certainly was no infrastructure to support its sustained implementation. Likewise, Non-formal Education was quite limited. The **Gobi Women's Project (GWP)**, which ran from 1992 to 1996 in six aimags, was the first significant initiative of this kind. Financed by DANIDA and executed by MOSTEC with UNESCO support, GWP aimed to enhance the quality of life of rural women in the Gobi region, by giving them useful skills that could be used to supplement their incomes. Two projects, started in 1994 and sponsored respectively by DANIDA and UNICEF, focused on in-service teacher training using DL methods. Two initiatives in the late 1990s experimented with the delivery of higher education courses by distance methods.

The Mongolian Law on Education states that "the education system of Mongolia will be a unity of both formal and non-formal education." In 1997, the Government issued a resolution (No. 116, 1997) articulating a "National Programme for Non-Formal Education" (to be implemented between 1997 and 2004), and in 2000, it promulgated its "Distance Education National Policy." These decisions gave primary responsibility for the management and planning of RDL initiatives to MOSTEC, establishing a National Centre for Non-Formal and Distance Education (NCNFDE) within the Ministry, to be guided by an Advisory Committee chaired by a member of the Cabinet and the Minister of MOSTEC and with representatives from professional, business and non-governmental organizations as well as from the Government. Responsibility for the execution of DL initiatives was given to Policy Implementation Committees chaired by the governors of participating aimags and cities.

The largest DL/NFE project to date, and the one with the most important results upon which now to build, was the **Learning for Life (LfL) Project**, which ran from February 1997 to the end of 2001. It was the successor to GWP, and it took many elements of that project (implemented successfully in six Gobi aimags) and built a network of NFE Learning Centers ("Enlightenment Centers") down to the soum level throughout the entire country. It was financed principally by DANIDA, which contributed US$1.7 million to the project over its five-year life. LfL consisted of two main components. The first was the Youth Business Programme (YBP), which targeted 6,000 out-of-school youth in urban and semi-urban areas, with the aim of giving them skills to survive in the market economy. The second component was the Family Learning Programme (FLP), which targeted 37,000 rural families nationwide (in the end, 40,000 families were reached, with the number of individual family members ranging from 2 to 10 persons), is the one on which the proposed new project will build. The aim of the FLP component was to "improve the quality of life" by offering basic knowledge in such areas as income-generating skills, health, literacy, civics, and the environment.

A key concept of the LFL Project was that of the **core family**, used to reach beneficiaries of the project outside of the soum centers – for the most part, herder families who had less ready access to the learning facilities, including the NFE

verified, these identified needs will become the basis for curriculum development and program revisions.

Subcomponent 2.5: Staff Training – Within the aimag, the AIU will conduct ongoing and regularly scheduled in-service training for staff and teachers involved with non-formal rural distance education programs. This training will be custom designed for the participants and will be in addition to the training provided by the PIU from the national level.

Subcomponent 2.6: RDL Curriculum and Instructional Materials Development – Each AIU will establish a facility to locally produce course materials, based on Aimag needs assessment activities (Subcomponent 2.4). It is envisioned that each facility will include equipment suitable for the production of field-gathered digital video and audio content. Desk-top publishing capacity will also be established to digitally produce print materials as required. Associated with that, a photocopy capacity will also be established.

In the aimag pilot where the use of a minority language will be added, specialized equipment will be added where required. This may include recording equipment and specialized word processing programs, etc.

In the aimag pilot where the use of "community radio" will be tested, a selected number of soums will be provided with a "*radio station in a box*" portable FM radio station and all the necessary support equipment such as an antenna, a generator, etc.

responsibility of the aimag's AIU. Therefore, an Aimag Implementation Unit (AIU) will be established in each project aimag (5). Each AIU be closely linked to the PIU and will be responsible for the day-to-day implementation activities within the respective aimag down to soums and then to the individual services delivered to rural participants. Each AIU will be under the direct authority of the Director of Education for that aimag.

It is envisioned that each AIU will consist of: (a) an AIU Director/Methodologist; (b) a technology specialist/media producer; (c) an RDL curriculum and instructional materials development specialist; and (d) a computer/media technician. In the aimag that also incorporates the use of minority language, there should also be (e) a minority language specialist. As there will be a need for some transportation between the respective aimags and their associated soums, transportation vehicles/drivers will be provided by the project where needed. If well qualified specialists are not available, specialists from the national level may be provided for a period of two years. If neither are available, the project will employ international consultants/volunteers in that capacity. As in the employment of consultants at the national level, it will be expected that all aimag consultants will be required to fully train local counterparts to replace themselves within the first two years of the project.

Subcomponent 2.2: Facility Modification and Equipment Procurement - The AIU will be responsible for the identification of facility modification needs and the types and amounts of equipment required to fully implement the project. These needs will be gathered and verified by the national PIU before authorization for facility modification will be given. The equipment requests will be combined with the other aimags into procurement packages for tendering at the national level. Such tendering will likely be through international competitive bidding, although some national competitive bidding may be authorized. As mentioned in Subcomponent 2.1, one or two vehicles may be provided at the aimag level for use by the AIU. Motorcycles and possibly some vehicles may be provided at the soum level depending on the planned work loads for each respective soum.

Subcomponent 2.3: Equipment Monitoring and Maintenance Program Development – As the project will be placing a significant amount of equipment in the field, it is necessary to develop a strong equipment monitoring and maintenance program. Each AIU will be responsible for the development of such a program, under the guidance of the national PIU. The monitoring program will provide a computerized inventory of all equipment procured and distributed under the project, including the names of persons to whom the equipment has been assigned. It will also institute a preventative maintenance schedule and a record of equipment repair. These schedules will be associated with a depreciation schedule to signal the need for individual equipment replacement as required.

Subcomponent 2.4: Rural Participant Needs assessment – The AIU will be responsible for the development of a system for ongoing assessment of needs within its service area. This assessment will include regular field visits by identified representatives (possibly the soum RDL program coordinators and school's social workers) with written reports indicating the identified needs found. These needs will then be verified at least once per year by field visits conducted by the AIU. Once

MSIS will be used for similar management functions, but will also serve to document student enrollments in RDL and will organize the data in ways that will permit efficient reporting at both the aimag and national levels.

Subcomponent 1.3: Expansion/enhancement of Capacity for the Audio, Video and Print Facilities – Currently, the NCNFDE has facilities for the production of video, audio and print materials. These facilities will be assessed and enhanced to a level where they will have the capacity to produce professional standard digital audio and video materials. The print facility will be converted to a digital facility with increased capacity to meet the national needs of RDL curriculum and instructional materials development.

Subcomponent 1.4: Staff Training (National and Aimag) – The PIU will have the responsibility for training all national and aimag personnel in the following areas: (a) Program Management; (b) Philosophy of Rural Distance Learning; (c) Field-based Needs Assessment; (d) Student Support Services; (e) Field-based Curriculum and Instructional Materials Development; etc. To conduct this training, it is envisioned that the PIU specialists will each prepare training workshops that will be delivered at a time and place found appropriate by the management.

It is estimated that about 10 weeks of PIU delivered training will be provided to all national and aimag staff, during the first two years of the project)

Subcomponent 1.5: Monitoring and evaluation – The PIU will be responsible for the establishment of a national and aimag level monitoring and evaluation program. This will include field visits by selected evaluators and formal feedback reports as required.

Subcomponent 1.6: Studies

1.6.1 Assessment of national rural needs – The PIU will be responsible for the implementation of a study to assess the RDL needs of rural populations every two years. In the project a research contract will be supported wherein a national university or other appropriate NGO will be selected to conduct this study twice. The findings of this study will be useful in the development of national RDL policy and to support the rationale for further expansion of the project into a national delivery system if it were deemed appropriate.

1.6.2 Sustainability of Rural Distance Learning – The PIU will be responsible for the implementation of a formative (ongoing) study to identify the factors that contribute to a lack of sustainability, and the potential ways to address those issues. This study will be carried out by the staff of the PIU as part of its monitoring and evaluation activities. Findings of this study will be provided in a report to the Director of NCNFDE at the end of each fiscal year for the duration of the project.

Component 2: Aimag and Soum Capacity Building

Subcomponent 2.1: Establishment of Aimag Implementation Unit (AIU)– Although the national level PIU will have overall responsibility for the implementation of the project, local program implementation will be the

Planning and Implementation of the Second Project. Although a demonstration/ pilot project is initially desirable, the aim should be to conduct and evaluate the pilot sub-projects on a tight timetable – say, within three years between their launching and the completion of a (formative) evaluation. This will allow the planning for the second project (replication of the most successful components of the first phase) to begin, before the DL/NFE infrastructure (the Learning Centers, learning materials and trained staff) in the rest of the country is lost or has seriously deteriorated.

The project will place an emphasis on the local management and delivery of the program. This includes local decision-making regarding needs assessment and the program delivery through an appropriate mix of technologies, etc.

As seen above each aimag program will be designed around a common organizational framework, but two of the five aimags will differ from the others in that each will implement an additional pedagogical and/or technology scheme. In this way, the project will be able to test the several low-cost options to identify the best approach for use in Mongolian rural environments prior to replication into a national delivery system in a subsequent project.

Initial Project Investment Components

The project components will consist of the following:

Component 1: National Capacity Building

The NCNFDE will receive a number of investments to improve its overall capacity to manage the project and to support the curriculum and instructional materials requirements of the aimags. Within this component there will be several subcomponents:

Subcomponent 1.1: Establishment of National Project Implementation Unit (PIU) – It is estimated that the PIU will require: (a) PIU Director; (b) RDL Methodologist (Pedagogical specialist); (c) RDL Technology Specialist/Media Producer; and a (d) RDL Curriculum and Instructional Materials Specialist. If well qualified specialists are not available for employment in the PIU, the services of international consultant/specialists will be procured for a period of two years each.

The PIU will be report directly to the Director of the NCNFDE and will be responsible for the implementation of the project both at the national and aimeg levels. During those two years, all employed consultants will be required to fully train counterpart staff from the NCNFDE to replace them during the third and subsequent years. Additional part-time and full-time counterpart support may be required for procurement, and field implementation activities.

Subcomponent 1.2: Establishment of a Management and Student Information System for RDL – During the first year of the project, using local consultants, the PIU will develop a computerized Management and Student Information System (MSIS). The MSIS will serve to collect and organized critical performance and cost data required to effectively manage the national programs. At the aimag level, the

The proposed project is designed as a **non-formal rural distance education/learning project**. As mentioned above, a number of technology and pedagogical options will be tested. It is expected that the duration of this project will not exceed three years.

As much distance learning infrastructure and governance structures have already been developed by the NCNFDE with the support of previous projects, it is expected that this project will build upon what has been done to date. There will be a need to expand and upgrade the management structure of NCNFDE to meet the demands of this project, to establish a Project Implementation Unit (PIU) under the authority of NCNFDE, to strengthen the linkages between the project's participating aimags and, and to enhance NCNFDE's existing capacity to develop quality RDL curriculum and instructional materials.

It is planned that five aimags will be selected for participation in the project. More specifically:

- Three aimags will be selected to implement the "**basic approach"**, a low-cost, low-technology option that will primarily use well designed RDL print materials supported by specially designed digital audio visual materials, supported by field-based RDL program coordinators at the local levels, to implement a program of rural distance learning. **Participant charge-back and other cost recovery approaches may be tested in these aimags**;
- One aimags, will be selected to use the same **"basic approach**" as above but will also incorporate the use of a **minority language** into its programming.
- One aimag, will be selected to use the **"basic approach"**, but will also incorporate the use of small, inexpensive **"community radio" systems** located at the soum level for delivery of some content;

Selection of Participating Aimags. The choice of pilot aimags would be decided through some national selection process involving Government and other stakeholders, but it is recommended that each selected aimag should satisfy certain criteria, so as to maximize the lessons learned during the pilot phase. Some regional balance is probably desirable (politically), but the aimags included in the pilot should represent a range of other, relevant factors (e.g., population density, distance from Ulaanbaatar, prevalence of herdsmen, per capita income). Moreover, at least one sub-project should be conducted in an aimag with a large language minority population (e.g., a Khazak-speaking aimag in the West) in order to determine how feasible/costly it will be to produce special language materials for relatively small groups of participants in the future. Undoubtedly, some consideration should also be given to whether or not an aimag is involved (or was involved) in one of the currently on-going (or recently completed) DL projects that have targeted aimags selectively.

telecommunications companies for bulk purchase of telecommunications, nor does it subsidize such costs for educational purposes. Even if such policies were in place, it will take many years for the Internet network to reach into most rural areas. Therefore, until such infrastructure and government policies are in place, the Internet cannot be used as a base technology to support the implementation of RDL.

RDL Content Prepared in Digital Format. As the cost of curriculum instructional materials development is a significant portion of the overall project costs, it is important to standardize content formats to maximize the flexibility and potential use of the available content. For this reason, it is recommended that all content be developed using an acceptable, international digital format standard. The use of digital formats would allow for wide flexibility and reuse of materials though all the above mentioned technologies. **Furthermore, as the Internet becomes more readily available, low cost upgrade/transition can be easily be made, both with the selected technologies and the instructional content.** Within the project, all curricula and instructional materials would be cataloged and stored in a library maintained by the National Center for Non-formal and Distance Learning. All project developed instructional content would be made available (free of charge, or at a low price covering only the marginal costs of reproduction) for educational purposes, to any organization or project within Mongolia.

Also, it should be noted that the proposed technologies would allow for use that is significantly different from the more commonly seen, "mass media mode of distance education," where all students receive the same instructional materials, which are centrally developed and delivered. New developments in the digital production of low-cost CDs and DVDs, computers with DVD/CD drives, digital cameras, desk-top publishing, digital printing and copying, digital radio, digital audio and video production, and low-cost, portable community radio stations and transmitters will enable low cost instructional program production (at the local and national level) and the delivery of quality services to relatively small groupings of learners. In more remote rural areas, these are important issues. This is arguably a revolutionary concept in distance learning. **The proposed approach, if proven viable, would mean that distance learning could be produced and delivered to small, remote populations at a high levels of instructional quality, with a lower cost per student learning hour than previously experienced in most traditional approaches to distance learning**.

Where instructional materials are to be used nationally, economies of scale can still be applied. The project will, therefore, aim to balance local identification of needs and local collection and adaptation of materials with centrally produced, low-cost/high-quality production and national distribution.

Initial Project Description (Demonstration)

The project will be implemented under the authority of the National Center for Non-formal and Distance Education (NCNFDE) under the Ministry of Science, Technology, Education and Culture. It will be designed as a demonstration project, that could be replicated into a national delivery system to provide non-formal distance learning to the entire country.

Proposed Technologies for RDL

For the above reasons, the mission proposes that the following technologies be used for this project:

- print (used in conjunction with other technologies at all levels);
- CD players at the bagh level;
- computers with DVD drives at the soum level;
- community radio as an experiment in one aimag at the soum to bagh level; and
- Internet for communication between the National Centre for Non-Formal and Distance Education (NCNFDE) and participating aimags

Why not the Internet?

It is commonly recognized that the Internet and computers have a very important role to play in Mongolian education. Over the last five years, the Government of Mongolia has developed several policies to develop IT infrastructure in education. The Second Education Development Project (SEDP) will provide 5-12 computers in 300 secondary schools and Internet connectivity in 88 schools. In 2003 there were 2,041 computer in 518 schools (out of 3,000 nationally, an average of four per school). There are one or two projects that provide a small number of rural schools with Internet access (e.g., the IIREM project). There are 12 aimag centers connected to the digital Internet, and there are plans to extend this network north and south of Ulaanbataar through the Railcom fibre optic lines.

In the most of the soum and bagh level schools and communities, the required telecommunications infrastructure is not yet available. Where it is available, there is insufficient bandwidth to effectively support a distance learning effort. The Government has yet to refine a strategic plan for the use of the Internet in rural schools, or for the provision and maintenance of IT equipment in schools on a national basis when donor contributions end. As a result, there are few computers in schools outside the larger aimags, and the use of the Internet is quite limited. Furthermore, there is little if any baseline funding for the purchase, maintenance or replacement of computers and ISP connectivity. Where computers have been located in rural schools, they are used primarily for the teaching of IT skills. Use of IT by teachers for teaching other subjects is minimal, and we found hardly any students using computers for study purposes other than for IT skills training.

It is understood that the Internet will eventually reach into most parts of Mongolia, but at the moment, the only connection to the outside world (out from Mongolia to other countries) for the Internet is by satellite, which results in high user charges and limited capacity. Where schools can already connect to the Internet (almost entirely in urban areas), Internet charges are very high (between US$80-150 a month for a single dial line connection), and the connection fee and equipment costs (where not provided by donors) are the responsibility of the connected school, which in most cases has no budget allocation for this purpose. Few soums have digital telephone lines, and these are essential to support the level of traffic generated by educational use of the Internet. The Government has not negotiated any agreements with ISPs or

- learning as an "apprentice" or "student", working with a more experienced worker, supervisor, or instructor;
- working as an instructor, supervisor or more experienced colleague for other less experienced colleagues.

The same person may find themselves in each of these roles within a single working day. Learners will also need to be able to work from home, or from a work-site, or while traveling. They will need to be able to do the following:

- find information as needed;
- select, analyze and apply information to the task at hand;
- directly communicate with teachers, more experienced colleagues, and other learners;
- think critically, solve problems, and learn collaboratively.

If one takes this as a design requirement for teaching and learning for those out of school, there is then a need to build systems that support this. In Mongolia, traditional teaching methods have not addressed these issues, but have focused mainly on the transmission of information as a teaching method, and comprehension and understanding as the learning task. The mission has been warned several times that teaching rural Mongolians at a distance will be difficult as a result, because traditional teaching methods have made Mongolians dependent on a study discipline enforced by the routine of classroom teaching and the close monitoring of a face-to-face teacher.

If the project seeks to develop the skills needed by rural Mongolians in a market economy, there will be a need for alternative approaches to these traditional classroom methods. In particular, the teacher of rural adults must become a facilitator/manager of learning rather than a source of knowledge as seen in traditional education. Associated with this, there are several other approaches that can also loosen the rural adult's need for direct oversight and monitoring by the teacher:

- choice of relevant subject matter
- regular group meetings
- use of local 'mentors' or facilitators
- ensuring active learning through feedback and group activities
- regular assessment of learning
- use of project work that relates to the context and needs of the learners
- use of interactive technologies
- well-designed learning materials
- clear expectations of learners: what to learn, how to learn, and why

Rationale for the Choice of Learning Technologies

The project will achieve its objectives by establishing a sustainable (over time) education delivery system using low cost technologies, delivered through existing central and local government agencies, MOSTEC's non-formal education infrastructure, and local communities. The project will work with, and share, as much existing materials and previously established infrastructure as possible.

- good communication skills (reading/writing/speaking/listening);
- ability to learn independently;
- social skills: ethics; positive attitudes; responsibility;
- teamwork ;
- ability to adapt to changing circumstances;
- thinking skills: problem-solving; critical/logical/numerical skills;
- knowledge navigation: where to get/how to process information (including basic IT skills).

In Mongolia, it is evident that these trends are occurring. The shift to a market economy has impacted dramatically on rural areas, leading to increasing migration from rural to urban areas, on the assumption that this is where the new jobs will be. However, if rural activities such as herding and farming are to be competitive in a free market, the rural workforce needs not just to be educated, but educated in ways that will enable such people to survive and prosper in a market economy. This means ensuring that the rural workforce is educated in ways that will develop the general skills listed above, as well as knowledge in specific content areas, such as the operation of markets and animal husbandry. Thus, the requirements of this new market for learning are very different from those in the traditional formal education system.

Learning in the 21st Century

Modern learning theory sees learning as an individual quest for meaning and relevance. Once learning moves beyond the recall of facts, principles or correct procedures, and into the area of creativity, problem-solving, analysis, or evaluation (the very skills needed in the work-place in a market economy, not to mention life in general), learners need the opportunity to communicate with each other as well as their teachers. This of course includes the opportunity to question, challenge and discuss issues. Learning then is as much a social as an individual activity.

These changes in the workforce highlight the gap between the way educational services are currently provided, and the needs of employers and working people. Working people are unable or cannot afford to give up jobs or move house to become full-time or even part-time campus-based students again. They are increasingly looking for more flexible and more responsive forms of education and training where they are. Learning in the workplace is initiated by individuals as part and parcel of their working and leisure lives. It is informal (i.e. not necessarily linked to any formal qualification), self-directed, and piece-meal (broken into small chunks of learning, some as small as a few minutes a day). It is driven as much by short-term needs as by any conscious plan of study. Thus, it is not determined by some master teacher, but by the task at hand.

The learning context needs to include the following:

- learning alone, interacting with learning material (which may be available locally or remotely);
- learning collaboratively (and in an equal relationship) with fellow workers at different remote sites;

Core target groups. Choice of teaching and learning approaches will depend on the target groups to be reached. The mission has examined the following possible target groups for the project:

- individual adult learners (e.g. herdsmen, mothers, farmers);
- in-service rural teachers;
- supplementing classroom teaching in schools;
- out-of-school children;
- rural migrants to urban areas;

Primary Focus. The mission recommends that the projects' primary focus be on **individual adult learners**. The rationale for this recommendation comes from the lessons learned by the previous UNESCO and other RDL-related projects.

In particular, the 'Gobi Women' and 'Learning for Life' projects showed that there is high demand for programs targeted at rural adults in Mongolia. These projects also established an administrative infrastructure for RDL to support this target group. The mission estimates that there are approximately 800,000 adult learners in rural areas of Mongolia.

As the project's needs assessment tools become more refined, it may be possible to include other core groups as mentioned above. This may be more possible in the proposed second project (national) than in the initial demonstration project where technologies and methodologies need to be piloted in a carefully controlled environment.

It should be noted that this assumption of primary focus, on adults and their families living in the more remote rural areas, will drive the projects' choice of teaching and learning approaches.

Relationship between education and the economy

It will not be enough just to deliver materials to rural learners. It will also be necessary to develop methods of teaching and learning that are appropriate for rural Mongolians, and in particular that provide the learning needed in a market-based economy.

As mentioned earlier, sources of employment have rapidly changed in Mongolia over recent years, due to the move to a market economy, and the growth of new industries and services, such as telecommunications, information technology, and financial services. Traditional agricultural and manufacturing industries are shedding labor due to higher productivity from new methods and the use of technology. Most new jobs are being created in private sector service industries, and in companies employing less than 20 people. Many of the new jobs being created require people with higher levels of education. The majority of those already unemployed, and a good proportion of those already working, will need to learn new skills every few years, to adapt to changes in the labor market.

The "new" skills needed in the work-force are:

Project Objectives

The proposed first (demonstration) and second (national) project will both provide the basis for a self-sustaining program of rural distance learning (RDL) in Mongolia. In particular, theses projects will be designed to provide non-formal education and training services to the following target groups (in order of priority):

- herdsmen and their families
- farmers and other agricultural workers and their families in remote rural areas
- out-of-school children in remote rural areas
- students and teachers in remote rural schools requiring specialist provision
- specialist support staff (e.g., agricultural extension workers, health workers, non-formal education coordinators) in remote rural areas

Priority for programming will be determined at the aimag level but is likely to include:

- business skills for herdsmen and farmers
- child rearing programs for mothers (including pre-school preparation)
- animal husbandry and agriculture
- life skills, including local crafts and culture
- establishing and sustaining small businesses in remote rural areas
- civics, including how democracy operates, the rights and obligations of citizens, and civil law
- public health education, including fitness, cosmetics and nutrition
- functional literacy, innumeracy and problem-solving skills
- formal education for out-of-school children
- specialist programming for remote rural schools (e.g., physics, mathematics, English, and special education for disabled children or children with learning difficulties)
- English language
- computer and IT skills

Pedagogical Considerations

Preparing learning objectives

Although the above recommended project objectives and proposed programming are derived from data collected by the mission, it is understood, that these recommendations should be validated and regularly updated though detailed needs assessments, conducted on a regular basis at aimag and soum levels, and accumulated and prioritized by the National Center for Non-formal Education.

Once the above tasks are complete, detailed learning objectives for each program need to be established. Before doing this, some consideration needs to be given to differences in teaching and learning needs in a market-based economy.

education spending having to go for "non-productive" items such as heat and boarding, and with more being siphoned off for higher levels of education, there are growing quality concerns at the primary and lower secondary levels.

The result of all these changes has been a deterioration in participation at the compulsory education level,[3] in rural environments, as well as a significant (and perhaps growing) proportion of children entering school who never complete the compulsory education cycle. This has led to a growing deficiency in basic cognitive skills (e.g., numeracy, literacy, problem solving skills) for young adults in rural areas. Moreover, the transition from a nationally-oriented, command economy to a more globally-oriented, market economy places new demands on workers. The traditional system of education, which emphasized rote learning and the ability of learners to follow instructions, served well the needs of workers in the past, who were told what to produce, how much to produce and how to produce it, but it is less well suited to the current situation, which is more service- and knowledge-based (less concentrated on the production of primary and industrial products) and requires workers to be more creative, more adaptable, and more willing and able to make decisions on their own.

Even rural herdsmen, whose lifestyle may seem to have been less affected by Mongolia's transition to a global environment, need to acquire new skills and access to information. To be very successful and to provide opportunities for their children to succeed either as herders or as labor migrants to more settled, urban environments, herdsmen families must be able to adapt rapidly to changing conditions including, importantly, fluctuations in market prices and unpredictable weather conditions. These changing conditions require a more flexible and effective pedagogical approach to education in both the urban and rural areas. Unfortunately, even the introduction of modern approaches to traditional education will unlikely meet the needs of the rural populations in Mongolia. The problems of distance, lack of infrastructure, lack education (government) resources, low level of family incomes, and small populations disbursed over varying terrain, limit the use of traditional school based education approaches. Other ways must be sought to deliver education services to rural populations.

A Distance Learning Approach. It is the view of the mission that these special learning conditions will be best met through the provision of some form of Rural Distance Learning (RDL). If effectively implemented, RDL is an educational approach that can be delivered to small, scattered and diverse populations, at low cost. As such, RDL may be expected to effectively address most of those special conditions in Mongolia that make traditional, face-to-face learning difficult to implement with quality and quite costly. In addition, it surely promotes (and selects for) those characteristics most needed for individual success in the new market economy. Fortunately, there is already a strong foundation in place of distance learning (DL) and non-formal education (NFE) in Mongolia on which to build (*See Annex 1 for a discussion of the legacy of distance learning in Mongolia*).

[3] Although figures from different sources differ, it seems certain that the net enrollment rate in Grades I-VIII is now below 90% (having recovered somewhat from the late 1990s when the enrollment rate reached its lowest point in recent times, probably reaching 85%). The policy of the Ministry of Science, Technology, Education and Culture (MOSTEC) is for all compulsory school age children (ages 7/8-15/16) to be enrolled in formal education.

This document will provide a rationale for the above mentioned recommendations and a more detailed description of the two proposed projects.

Rationale for the Proposed Projects

As an economy in transition, Mongolia has experienced many radical changes and reforms over recent years. Under the previous, centrally planned system, education was given a high priority, with education receiving a larger share of government spending than any other sector. In the 1980s, enrollments in "compulsory education" (Grades I-VIII, for children between the ages of 7/8 and 15/16) and adult literacy rates approached 100 percent. The Government has, in recent years, worked hard to protect public spending on education. Although education's share of the total government budget fell to a low of 16% in 1997, by 2000 it had recovered to 20% (about 5.5% of GDP). In 2004, education spending was 19.4% of the state budget (and 8.5% of GDP).

Despite the priority given to education in terms of government spending, a number of sector-specific issues have emerged or worsened during the economic transition. The privatization of animal herds gave rise to a higher opportunity cost of school attendance, especially for boys, and dropout rates rose. According to UNESCO's global education statistics, Mongolia's net primary enrollment rate fell from 90.0% in 2000 to 86.6% in 2001 – still higher than the world-wide average for low-income countries (79.5%), but lower than the East Asian average (92.2%) and much lower than Mongolia's historical levels. Moreover, the progression rate from primary education (Grades I-IV) to lower secondary education (Grades V-VIII) was only 82.0% in 1995.

In addition to the labor demands on school-age children, the allocation of resources within education is inefficient in several respects. To a large extent, the skewed spending patterns reflect the country's unusual climate and demographics. A large part of what educational institutions now spend is not spent on educational activities. Heating accounts for a large part of institution budgets (with figures we have seen ranging from 30% to estimates much higher than this). Because of Mongolia's very sparse population density[1] (and also as a result of recent policy, which has involved the closing of many four-year schools at the bagh level[2]), much is also spent on boarding facilities (dormitories) for rural children who live too far from the nearest soum school to commute from home on a daily basis. Finally, enrollments at the post-compulsory and tertiary levels have soared in recent years, and while tuition fees (cost recovery) at these levels have risen and are higher (as a proportion of total costs) than at the compulsory education level, subsidies for post-compulsory education have been rising as a proportion of the total state budget for education. With so much of

[1] Fewer than one person per square km in 2003 in the country's 19 most rural aimags (which account for 1.555 million sq. kms out 1.564 million sq. kms in the entire country). In Ulaanbaatar City and Darkhan-Uul and Orkon Aimags (which account for the remaining 0.9 million sq. kms), the average population density was almost 120 persons per square km.

[2] Mongolia is divided into 19 "rural" aimags and 3 "urban" aimags or cities. Beneath this level of government, there are 340 rural soums and urban districts, which are further divided into 1,671 rural baghs and urban khoroos.

January 11, 2011
Confidential Draft

Mongolia

Low-Cost Rural Distance Learning Project

Project Feasibility and Proposal

Introduction

During July and August, 2004, the World Bank in cooperation with the Ministry of Science, Technology, Education and Culture, sent a mission to Mongolia to explore the potential of **low-cost rural distance learning (RDL).** The Mission was led by Dr. Robert McGough (Technical Education Specialist). The remaining members included Drs. Peter Moock (Education Economist), and Tony Bates (Rural Distance Learning Specialist). Ms Elizabeth De Leon-Jones (Research Assistant) also participated in the mission. The mission was charged with several objectives:

(a) During the first two weeks, the mission would collect and organize information regarding the potential use of RDL in Mongolia. This effort included discussions with national-level government officials, aimag officials, soum officials, representatives from bi- and multi-lateral lending and donor organizations, NGOs, school officials, and individuals representing rural populations including herders, etc.;
(b) The mission would introduce the use of the Bank/DIFID developed P*lanning Toolkit for RDL* in a five day workshop of Government selected participants;
(c) The mission would provide specific training in the planning and preparation of RDL projects to the same workshop participants; and
(d) Using the information and the materials identified above, the mission would prepare (and document) a proposed RDL investment concept document suitable for consideration by the World Bank, the Government of Mongolia, and other interested donors/lenders. This document would outline an investment program, wherein, one or more projects would be recommended with the inputs and consensual agreement of the workshop participants (including Bank, government officials, and representatives of other interested organizations).

Following the above mentioned activities, the mission and the workshop participants have decided to recommend that the investment program constitute two interlinked RDL projects. The first project would be a three-year demonstration project to pilot various low-cost RDL approaches in five aimags. The second project would be a nation-wide project that would reflect the lessons learned from the demonstration project. The second project would fully establish a national, low-cost delivery system for non-formal RDL in Mongolia.

Both of these projects would be non-formal education projects and would be established under the authority of the Ministry of Science, Technology, Education (MOSTEC). The National Center for Non-formal and Distance Education, a MOSTEC organization would be designated as the Implementation Agency for both projects.