

Package Learning Materials on Environment (PLANET) 3 “Waste Management”

Production and Utilisation Scheme in Mongolia

Implemented by

**National Centre for Non Formal and
Distance Education
Ministry of Education, Culture and Science
and**

**Asia/Pacific Cultural Centre for UNESCO
(ACCU)**

Supported by

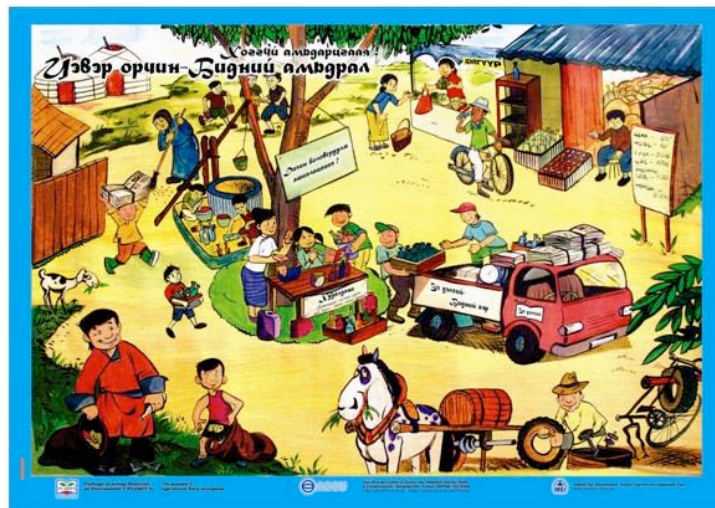
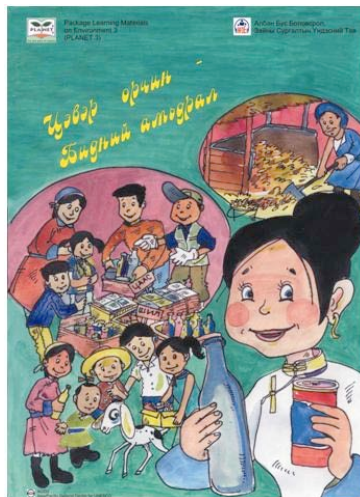
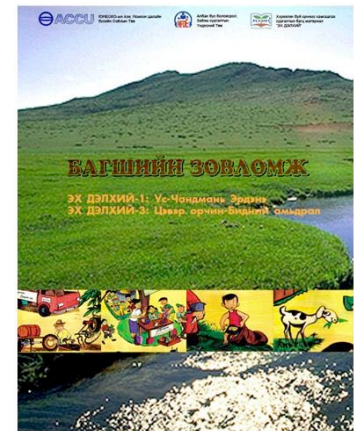
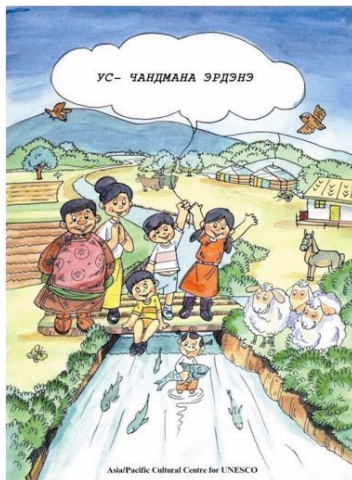
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Report on Adaptation, Dissemination and Utilization of Local Version PLANET 1 and 3 into Mongolia



Ulaanbaatar 2006

I. INTRODUCTION

a) Brief introduction about NFDE/LRC Gegeerel

Mongolian National Commission for UNESCO has been made survey to establish LRC in Mongolia with ACCU since 1997 and had chosen National Centre for Non Formal and Distance Education (NCFNDE) as a Partner Organization of LRC. The National Centre for Non Formal and Distance Education is a governmental organization under the Ministry of Science, Technology, Education and Culture of Mongolia (MECS).

Objectives of LRC in Mongolia are:

- ② Acting as a documentation and data base centre for literacy of the population and continuing education and disseminating information on non-formal education particularly for promotion literacy
- ② Designing and developing suitable NFE teaching / learning materials for different target groups
- ② Increasing capacity of literacy and NFE personnel
- ② Improving information and research on theory and methodology of NFE
- ② Ensuring networking and coordination between government and non-governmental organisations in the field of literacy and NFE
- ② Sustaining international networking and support to national programmes and projects
- ② Promoting innovation and best practices to improve a delivery system and NFE curriculum

b) Project proposal on Local Adaptation of PLANET-1 & 3 on Environment

Using of PLANET materials has never seen in Mongolia since the establishment of LRC but idea for adaptation and modification of PLANET-1 “Water Pollution” was created during the 20th Workshop for Capacity Building of NFE Facilitators in Myanmar in Dec 2002. And in 2003 PLANET-1 “Water Pollution” booklet’s pictures were draft-adapted for the Mongolian daily life condition, and was used in several NFE Facilitators and methodologists’ training workshop “how to prepare teaching and learning materials, and their features for adaptation” for introduction purpose. Then in 2004, along the discussion at the Regional Workshop of LRC held in April in Chongqing, China, we received an advice and comment for developing the project proposal from ACCU.

However, as following the LRC/ACCU experiment we submitted the project proposal on “LRC establishment in Mongolia”. While this project implementation in 2004 and due to activities with technical shortages we couldn’t publish PLANET-1 “Water Pollution” booklet. Then in early 2005, a new project proposal for PLANET-1 “Water Pollution” as well as PLANET-3 “Waste Management” was developed and submitted to ACCU.

After several discussion, comments and revising the first draft on project proposals, the finally project on “Adaptation and Utilization PLANET-3 “Waste Management” was approved by ACCU in August of 2005 and the contract between NFDE/LRC and ACCU was done in 2005 September. [Adaptation of PLANET-1 “Water Pollution” partly supported by the Koishikawa Rotary Club in Tokyo, Japan and contract signed with ACCU in January 2006.](#)

II. ADAPTATION PROCESS OF LOCAL VERSION “PLANET 1 & 3”

Project on “Production and Utilization Scheme of Planet 3” was implemented by the following steps:

1. Baseline Survey and Data base collection
2. Adaptation booklet
3. Field testing
4. Adding reading materials
5. Final editing
6. Adaptation poster
7. Translation and voicing video
8. Printing and Copying video
9. Follow-up workshop for NFE facilitators

1. Baseline Survey on Adaptation Prototype Materials

Before adaptation, we conducted a small-sized baseline survey, which used a following ways:

a) Face to face survey

The survey was involved a following targets (*Table 1, Figure-1*):

- ② Secondary school students in Ulaanbaatar city,
- ② Learners of NFE “Enlightenment” Centres in Songino Khairkhan district in Ulaanbaatar
- ② NFE Methodologist and facilitators from grassroots level who attended at the training workshops in Ulaanbaatar city.

Answers of surveyors were processed and were given points from 1 to 4 (by H.Hemmer’s method: *1-very insufficient, 2-insufficient, 3-medium, 4-good enough*).

Table 1. Survey results

Survey participants	Surveyors	4 score	3 score	2 score	1 score
Methodologists of NFE	30	4	6	15	5
Facilitators of NFE “Enlightenment”	70	10	17	35	8
NFE students	62	3	12	43	4
Secondary school teachers	16	2	3	9	2
4-8 th grade students of secondary school	89	12	19	33	25
Women with household works	17	2	2	10	3
Total	284	33	59	145	47

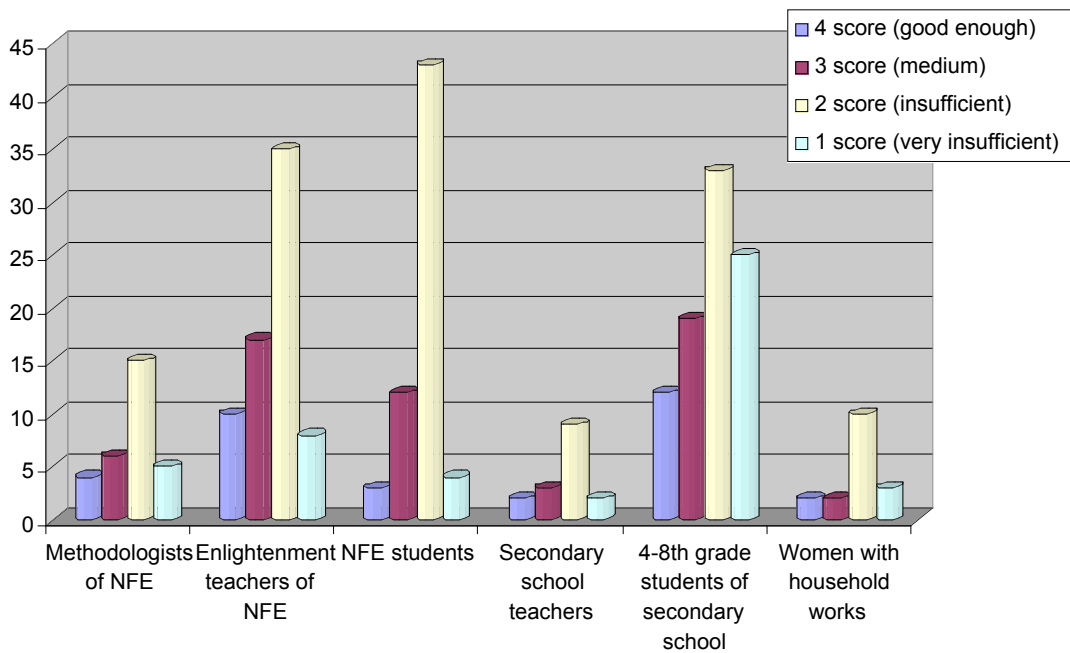


Figure 1. Survey results by graph

During survey there were occasional incidents of participant who didn't take the survey seriously or was too shy to participate. Formal education's teachers said that environmental education had to be taught in special courses. And another interesting fact revealed was that participants from countryside knew more about water pollution then the participants of city.

After the survey we organised a planning workshop and discussion based on the survey result and contents of local version. Survey questionnaire was slightly different for teacher, student, and household women participants. [Each questionnaire included 10 questions:](#)

Questionnaire for teachers and methodologists:

1. Have you ever involved in the EE related trainings?
2. How is your knowledge about water pollution? 1 2 3 4
3. How is your knowledge about waste management? 1 2 3 4
4. Are you ready to teach about the waste management?
5. What is the dioxin? What do you know about it?
6. Have you ever washed your car in the river? If yes why? If not why?
7. Which kind of materials are relevant your teaching needs?
8. Please note (x) types of the wastes from followings: an organic and dangerous (with pictures)
9. Do you separate your waste? If yes, how? If not why?
10. Do you recognize the recycled materials sign?

Questionnaire from students:

1. From which subject do you get an information about environmental issues?.
2. What is the main reason of waste increasing in your local area?
3. Do you know what is the waste management?
4. What is the main factor for water pollution?

5. Do you drink un-filtered water? If yes why? If not why?
6. Do you separate your waste? If yes, how? If not why?
7. Make an example of waste that takes longest to decompose (with pictures)?
8. Do you recognize the recycled materials sign?
9. What is the dioxin? What do you know about it?
10. Have you ever wash your clothing in the river? If yes why? If not why?

Questionnaire from women with only household wives:

1. How many times do you clean your house?
2. What kind of waste is produced from your home?
3. Do you separate your waste? If yes, how? If not why?
4. Where do you get a drinking water?
5. How many packages of washing detergent do you buy/use per month?
6. What is prefer, a soap or washing detergent for your washing
7. How do you reuse the old non-wearable clothes?
8. Make an example of waste that takes longest to decompose?
9. Do you recognize the recycled materials sign?
10. How often do you wash in the river?

b) Focus group discussion

The main objective of this conversation was to uncover the general attitude of participants, which mostly included the secondary school students and women with household works.

c) Discussion with salespersons of grocery stores.

In Mongolia, plastic bags were rear before 1990s, customers used to come with their own bags because there were almost no bags and packages. Then as the number of grocery store increased so is the competition increased and one of the methods to get the customers' attention was to offer free plastic bags. Luckily, since the 2004 the stores started to charge money for the plastic bags so that overall usage of plastic bags is dropping. Now plastic bags cost 50-100 MNT.

d) Previous survey materials

- ② Result of needs assessment survey made in 2004 in the framework of "Literacy through distance learning" UNESCO funded project was used as well. Result of this survey showed that learning materials for environmental education was insufficient and people's knowledge about this issue was not enough as well. Especially, environmental education was one the subject that is not included in the NFE's "Enlightenment" centre's trainings.
- ② Result of survey made by WWF (World Wildlife Fund) was used. It showed that secondary school student's knowledge about environmental education was poor.

e) Contents of Education Standards and Curriculum

Education Standards and Formal schools curriculum, which related to Environmental Education were analysed. A new Education Standards has been used in Mongolia since 2004-2005 academic years. As competence-based standards there are many concepts related to the

environmental education, however, it was not an independent subject. Secondary school students are able to study these materials-PLANET-1 & 3 outside the school classes, for example in class work or project lessons.

2. Adaptation Points

a) Booklet adaptation

The formats of the booklets were not changed, but its illustrations were completely redone in local version according to original format and content.

Adaptation period of materials were planned in the project. While adapting and translating PLANET-3 “Waste Management”, we could not find direct translation of the “3Rs” concept, which began with same initials in Mongolian. Hence, we decided to choose the words ASHIGLAKH (Reuse), BAGASGAKH (Reduce), and BOLOVSRUULAKH (Recycle) (ABB) in Mongolian. These scripts “ABB” are as same as scripts of NFE (Alban Bus Bolovsrol-ABB=Non Formal Education) in Mongolian version.

A lot of time spent on preparing the booklet and redrawing of the pictures after translation of content. The original pictures could not good relevant in Mongolian condition. For example people’s outfits, landscape, houses, some fruits and plants described on the original picture were very different. Our main target is people in the countryside so making the pictures familiar to their daily life was necessary, is what we have decided on the first planning workshop discussion. NFDE/LRC doesn’t have own artist so after several vote we hired Mr. Amarsanaa Galmandakh who is a professor of Culture and Art University. Apparently, artist has made some modifications in the pictures yet the booklet was ready.

According to the result of feedback test, the booklet text was quiet easy, designed for small children, there were extra information was needed to put in order to meet the adults needs. The text was translated into Mongolian and more information about water pollution and waste management in local situation were added in last pages 16-19 of the PLANET-1 and PLANET-3 booklets. So on the both booklet the additional materials of 4 pages were added.

We worked along with several specialized organisation such as Ministry of Education Culture and Science, Ecological Department of Humanitarian University and WWF to add the additional information.

Themes of additional materials in PLANET-1 “Water Pollution” are:

- ② Three states of water and water cycle
- ② Earth water resources and components of hydrosphere, pure water source
- ② Water supply in Mongolia
- ② Water consumption in Mongolia
- ② About the use of bottled water, that has become popular lately
- ② Case studies and examples water pollution in Mongolia
- ② Main water polluting factors
- ② Facts of water pollution in UB city
- ② Celebration of Earth Water Day

Themes of additional materials in PLANET-3 “Waste Management” are:

- ② Differences of wastes, about household, toxic, dangerous, infectious wastes.

- ② Ulaanbaatar city's trash places
- ② Picture and table is put to show the decomposition speed.
- ② About the trash produced mostly
- ② More information about Reuse, reduce, recycle in case of Mongolian's daily life

b) Poster adaptation

The posters were completely adapted in local version following terms of format. Content and illustration showed local characters and local-specific examples of water pollution and waste management in soum's center (local village).

The following principles were considered while adapting the poster as well as booklet in local version:

- ② Illustration, colour, and design to be attractive and relevant for local/community people
- ② Presentations of the characters to be represent all age and occupation of people. For example, the man who loading garbage in a truck represents a worker of the Department of UB city Enhancement.
- ② To re-illustrate vegetables, fruits, and field. For example, illustration some tropical fruits in page 3 of PLANET-1 was changed into local situation (mushrooms).
- ② To change illustration of types of housing into traditional types.
- ② Illustration of some animals to be changed
- ② To present both of urban and rural people
- ② All of the characters will be presented as lively and amused.

c) Animation video

There was no adaptation of visuals. Firstly, PLANET-3 "Waste Management" was translated and was voice recorded. Text of video was re-checked and had few edits. The original text was translated and modified according to the features of the Mongolian language and added of necessary local credit such as "young goat" was changed into "young sheep". Because of the animal was mostly similar to a "young sheep" in local situation. Design of original cover for CD was changed in local characters and illustration of booklets. The specialists did voice recording from National TV and Channel TV9 with contract. Test results proved that Mongolian voice recording was excellent. Voice recording expressed the funny, laughs, happy emotional states that made the movie more valuable.

Presently, the families have mostly VCD players in rural and urban areas. In this way, the animation video was recorded only in VCDs.

d) Adaptation of Facilitators' Guide

After all above, it was felt that this would play an important role in the effective use of the Package. There was no facilitators' guide for PLANET-1 "Water Pollution", hence, we had decided to include guideline on "Water Pollution" in the Facilitators' Guide for "Waste Management". And after several discussions through e-mail with ACCU, ACCU agreed to combine the both guides in one Facilitators' Guide. All of goals, features, poster and booklet of PLANET-1 and PLANET-3 "Waste Management" were explained separately.

The contents of the local version are based on the English draft of “Waste Management”-Facilitators’ Guide and additional ideas and guides for “Water Pollution” were included. However, the local version includes a note to the Facilitator on how to introduce the booklet and poster with reference to the introduction of the characters of Mina’s soum centre in the Booklet, and Mina and friends in the posters and the animation videos. The guide also includes a few additional activity ideas for formal schooling teachers to use while using the Package with school children in the Preface.

Generally, all names of the characters of the booklets, posters, and animation videos are same as in original English drafts; even the illustrations of the booklet, and poster had been changed into local version.

3. Field Test and Validation

Test was made in the remote districts of the Ulaanbaatar city, such as *Songino Khairkhan*, *Bayanzurkh*, *Nalaikh*. Because many poor families mostly migrants from countryside live in these districts and their waste in the open. Families who live in the Ger throw away their waste in the open as well, and their non-proper usage of fuel has become the main reasons for Ulaabaatar city’s air pollution. In the NFE centres “Enlightenment” of these districts, children of immigrants from countryside study a lot.

Nalaikh is one of the main coalmines in Mongolia and it supplies not only Power Plants in UB but the whole *Ger* district as well. During the transition period, the mining factory was closed so now days people mine privately by almost with their bare hands. Former mining workers have now turned into a poverty line. Also many immigrants from Bayan-Ulgii aimag have come there most of them are Kazakh people. Kazakhs are the only ethnic group in Mongolia. Their lifestyle and tradition has made them easier to get accustomed in this particular area.

4. External Support

The external support that we took for this project was that of translators for the video and booklet, and an artist to make the illustration for the posters and booklets. For the dubbing of the animation video we took the help of a professional production house.

5. Follow-up Workshop

The Follow-up workshop for NFE Facilitators on the PLANET-1 & 3 Packages held in Ulaanbaatar 21-24 February 2006.

The objectives of this workshop were:

- to build capacity of the NFE personnel’s on the waste management and environmental conservation through the PLANET-1 & 3 package materials
- to introduce them how to use the local version of PLANET-1 & 3 booklet, video



and posters as well as a Facilitator's Guide

-to distribute the lessons learnt and best practice on the waste management

After training and introducing of PLANET-1 & 3 materials participants were filled a final evaluation list.

6. Dissemination and Utilization

Adapted materials of PLANET-1 & 3 have started to be disseminated. First of all, it has been delivered to NFE's "Enlightenment" centres in every soum, formal schools through Education and Cultural Departments in each aimag. NGO's and other organisations with same purpose such as WWF as well as through the NFDE/LRC.

As a working plan planning several workshops will held in aimag centres on the utilization of PLANET 1 & 3 and NFDE will be a leading role to all kind of NFE workshops and formal schools teacher training on the environmental education as well. Currently, NFDE has been participating with introduction of the PLANET 1 & 3 materials at the joint meeting between Ministry of Education and Ministry of Environment and two workshops, which involved formal schools 140 teachers in Ulaanbaatar, supported by the WWF "Environmental Education Project in Mongolia".

7. Future Plan

- ② To be distributed to all NFE "Enlightenment" Centres, schools and decision makers as well
- ② To be advocate for all age people, school drop-out children, even for school children about this easy understanding materials on the environmental education through the possible "channels"
- ② To set up possibility to conduct training through NFE "Enlightenment" Centres based on local examples
- ② To increase public awareness, understanding knowledge of environmental education, ESD and decrease environmental pollution
- ② To set up ESD Network and training materials production

III. APPENDIXES:

(i) Number of organizations/individuals involved in the process and their roles

A total of 12 staffs of NFDE/LRC and personnels from other organizations were involved in the adaptation process of the PLANET 1 and 3 materials are following:

- ② Coordinator-1: Director, Dr.Batchuluun Yembuu
- ② Consultant and Material Developer-3:
Dr.Gundegmaa Dorj, Senior Researcher
Ms.Undral Sukhbaatar, Researcher NFDE/LRC,
Ms.Dorjnamjin Batmunkh Researcher NFDE/LRC
- ② Translator (booklet)-3 Mr.Khantulga Togoontumur, Researcher
Mr.Boldbaatar (Video translator)
- ② Writing to additional materials: Ms: Navchaa Tugjamba
- ② Illustrator-1 Mr.Amarsanaa Galmandakh
- ② Designer-2 Mr.Otgonbat, Ms.Togtokhmaa Zagir
- ② Audio Visial Experts –2 Ms.Ganmyagmar
Mr.Gantushig
- ② Layout-2: Ms.Purevsuren, Mr.Ulziisaikhan

(ii) Adaptation calendar

Activities	Sep '05	Oct '05	Nov '05	Dec '05	Jan '06	Feb '06	Mar '06
PLANET-3							
Baseline Survey							
Video translation							
Video producing & copying							
Translation & adaptation booklet and poster							
Developing the additional materials							
Editing booklet							
Printing booklet & poster							
Distribution							
PLANET-1							
Adaptation Poster							
Printing booklet & poster							
Video production							
Distribution							
Layout and editing FG including PLANET-1							
Follow-up workshop on PLANET-1, 3							
Final reporting							

(iii) Some displays for using at the Follow-up workshop





(taken by P. Batkhuyag)



Examples of land degradation in gold mining places in Uvurkhangai aimag



Three levels of living standards in Ulaanbaatar (Apartments, houses and Ger district)

Source: Human Development Report 2004, Ulaanbaatar