

# Contract

between

Institute of Applied Ecology,  
Chinese Academy of Sciences

and

Research Institute for Humanity and Nature  
Inter-University Research Institute  
Corporation  
National Institutes for Humanities

on

Research on the Distribution of Soil  
Chemistry in Sanjian Plain for 2006

Contract  
between  
Institute of Applied Ecology,  
Chinese Academy of Sciences  
and  
Research Institute for Humanity and Nature  
Inter-University Research Institute Corporation  
National Institutes for Humanities  
on  
Research on  
the Distribution of Soil Chemistry in Sanjian Plain  
for 2006

The Amur-Okhotsk Project of The Research Institute for Humanity and Nature (RIHN) hereinafter to be called CUSTOMER in the person of Prof. Yoneo Ishii, Director of Inter-University Research Institute Corporation, National Institute for Humanities, on one side, and Institute of Applied Ecology, Chinese Academy of Sciences (IAE-CAS) hereinafter to be called EXECUTOR in the person of Professor Chen Xin, Assistant Director of IAE-CAS, on the other side, concluded the present contract for the following.

1. Subject of the Contract

1.1 The CUSTOMER is to be charged with and the EXECUTOR is to be taken the responsibility for the continuation of the research project entitled "Research on the distribution of soil chemistry in Sanjian plain for 2006".

1.2 The EXECUTOR is to be responsible for following works in 2006:

- to conduct, from May 2006 to March 2007, research on soil profile of iron and other soil properties with different soil types and different utilizations in Sanjiang plain including chemical analyses and measurements of soil samples (total iron, other forms of Fe, organic carbon, and other important components related to iron dissolution in soil as described below).
- necessary procedures to ship the samples to CUSTOMER for specialized analyses in Japan.
- to submit the final report and analyzed data to the CUSTOMER by 15 March, 2007.

1.3 The CUSTOMER is to be responsible for following works:

- to provide necessary tools, determine methods and make observations with

Chinese colleagues for the research.

- to make specialized analyses in soil samples in various institutions in Japan.
- to provide the Japanese members with the transportation (including payment of customs taxes) between Japan and China.
- to provide shipping cost of necessary equipments and samples between Japan and China.
- to prepare the expenses for the EXECUTOR's works noted in item 1.2.

## 2. Technical conditions

- 2.1 The program of the work noted in items 1.2 and 1.3 is given in the schedule of the Study (Supplement 1).
- 2.2 The period of implementation is from 19 May 2006 till 15 March 2007.
- 2.3 The EXECUTOR and the CUSTOMER are to make copies of observation records and results obtained within the framework of the work program (Supplement 1) and are to provide them to each other.
- 2.4 The CUSTOMER and EXECUTOR have equal rights on the results of work and are to use them for the joint investigations within framework of the Implementation Arrangement between IAE-CAS and RIHN.

## 3. Costs

- 3.1 The EXECUTOR is to provide Quotation to the CUSTOMER on expenses of EXECUTOR's works noted in the Item 1.2 prior to the conclusion of the Contract.
- 3.2 The CUSTOMER is to pay in US Dollars 17,544 to the EXECUTOR for the work noted in item 1.2 in accordance with the calculations for individual stage of the works, given in Supplement 2.
- 3.3 Japanese members who will participate in the work noted in items 1.2 and 1.3 are to pay for the following expenses (these expenses are not involved in the amount above): air, and train fares between Japan and the research fields and personal fees such as accommodations.
- 3.4 Expenses of the surface transportation in the local research area are to be involved in the amount above and are to be paid by the EXECUTOR.
- 3.5 The payment is to be made as follows:
  - The first payment of US Dollars 14,035 (80 %) being just after the conclusion of the Contract;
  - The second (final) payment of US Dollars 3,509 (20%) being just after the receipt of Final Report.
- 3.6 All payments to the EXECUTOR are transferred through the bank on the account of the EXECUTOR (See item 6) according to Supplement 3.

- 3.7 The EXECUTOR is to submit Final Report including all results of works before March 15, 2007.
- 3.8 On termination of the work at March 15, 2007, the EXECUTOR is to submit the Document about the accomplishment of the work to the CUSTOMER in two copies. The Contract is considered to be over after signing of the Document and final payment is done by both sides.
- 3.9 If the CUSTOMER has well based motives to reject the accomplishment of the work it has to prepare and send to the EXECUTOR list of necessary improvements, dates and conditions of their implementation.

#### 4. Other conditions

- 4.1 The both sides bear responsibility for safety measures of their representatives, taking part in the field experimental works.
- 4.2 In case of destroying of habitable premises, devises and equipment due to natural disaster (fire, earthquake, lightning etc.) the schedule of the work and calculations are to be corrected taking into account an occurred damage.
- 4.3 The equipment, tools and other properties obtained for the implementation of the Contract are to be belonged to the side, which purchased them.
- 4.4 The CUSTOMER shall not be liable for any losses or damages occurring to the equipment belonging to IAE-CAS or for any loss, cost, injury or damages to any third party during the research activity.
- 4.5 The EXECUTOR shall not be liable for any loss or damages occurring to the equipment belonging to the CUSTOMER during the research activity.

#### 5. Effective period of the Contract

- 5.1 The Contract is to be effective after the signing by both sides, and is to terminate at the time of signing of the Document by both sides.

#### 6. Legal Address and Signs of sides

##### CUSTOMER

Research Institute for Humanity and Nature (RIHN)  
Inter-University Research Institute Corporation  
National Institutes for the Humanities  
457-4 Motoyama Kamigamo, Kita-ku, Kyoto 603-8047, JAPAN  
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EXECUTOR

Institute of Applied Ecology,  
Chinese Academy of Sciences

P. O. Box 417

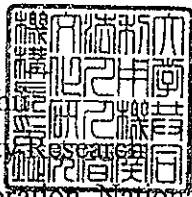
Shenyang 110016, CHINA

Phone: +86-24-83970318; Fax: +86-24-83970300

Bank requisites: China Bank: Shenyang subsidiary bank 60982708094014

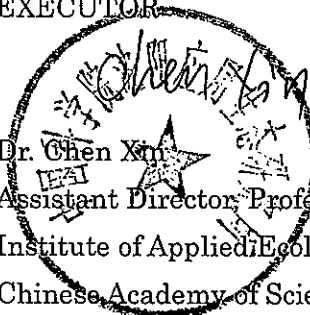
CUSTOMER

Prof. Yoneo Ishii  
Inter-University Research  
Institute Corporation, National  
Institute for Humanities  
(Tokyo, Japan)



EXECUTOR

Dr. Chen Xin  
Assistant Director, Professor  
Institute of Applied Ecology  
Chinese Academy of Sciences  
(Shenyang, CHINA)



DD, MM, 17, 5 2006

DD, MM, 15, 5 2006

The Contract is made in two copies in English

Detailed contents of “The Research on the Distribution of Soil Chemistry in Sanjian Plain for 2006”

1. Soil sampling for a study on soil profile of iron and other soil properties with different soil types and different utilizations
  - 1) Soil sampling is conducted in several locations between Naoli River and Nonjiang River, having various land cover types including natural wetlands, paddy field, upland field and forest. The study along this transect also compares regions of different soil types (marsh soil, albic soil), which have been classified in an existing soil map. Soil sampling is to be carried out in duplicate per each location basically.
  - 2) Soil samples are collected consecutively down to more than 1 meter at each site to clarify the profile of chemical properties.
  - 3) Appropriate measures are to be carried out to soil samples against microbial deterioration and oxygenation during the transportation and storage.

2. Analytical items and treatments

Soil samples are to be measured for the items shown in Table 1 by the EXECUTOR.

Table 1 Items to be analyzed

No.	Items	Soil treatment	Analytical method
1	Fe <sup>2+</sup>	Fresh	Phenanthroline colorimetry
2	Mn <sup>2+</sup>	Fresh	Potassium periodate colorimetry
3	TOC (Total organic carbon)	Drying, sieving	Determined directly on the TOC autoanalyzer
4	pH (H <sub>2</sub> O)	Air-dry, sieving	Potentiometric method
5	pH (KCl)	Air-dry, sieving	Potentiometric method
6	Ferric chelate	Drying, sieving	Sodium pyrophosphate extraction method
7	Free iron oxide	Drying, sieving	Sodium hydrosulfite - Sodium citrate - Sodium bicarbonate extraction method (DCB)
8	Ca <sup>2+</sup>	Air-dry, sieving	EDTA complexometric titration
9	Mg <sup>2+</sup>	Air-dry, sieving	EDTA complexometric titration
10	Cl <sup>-</sup>	Air-dry, sieving	Silver nitrate titration
11	SO <sub>4</sub> <sup>2-</sup>	Air-dry, sieving	EDTA indirect titrimetric method
12	K <sup>+</sup>	Air-dry, sieving	Flame photometry
13	Na <sup>+</sup>	Air-dry, sieving	Flame photometry
14	Fe	Drying, sieving	Sodium carbonate fusion—Flame atomic absorption spectrophotometry
15	Mn	Drying, sieving	Sodium carbonate fusion—Flame atomic absorption spectrophotometry
16	Al	Drying, sieving	Sodium carbonate fusion—Potassium fluoride substitution—EDTA volumetric method
17	Si	Drying, sieving	Sodium carbonate fusion—Mass metrical method
18	water content		

### 3. Shipping items to Japan:

EXECUTOR is to send soil samples to CUSTOMER for specialized analyses of organic matter and isotopes in Japan (fluorescence spectra, size exclusion chromatography, stable isotope ratio of Fe).

### 4.. Data transformation:

EXECUTOR should send all data of chemical analyses and measurements in the research activities to CUSTOMER. These data should be shared among EXECUTOR, CUSTOMER and associated researcher in China and Japan. All authorities of these data should be preserved against third parties.

Calculation of "The Research on the Distribution of Soil  
Chemistry in Sanjian Plain for 2006"

1. Wage for faculty and graduate	
Wage for faculty staff (\$ 511/month/person x 1 person x 2 month)	\$ 1,022
Wage for graduate (\$181/month/person x 2 person x 10 month)	\$ 3,620
2. Sampling of water and other materials (travel expenses, transportation, accommodation, compensation fee for the resource and others)	\$1,507
3. Sampling devices	
Soil sampler	\$2,755
4. Chemical analyses (2 land type x 4 regions x duplicate x 6 layers x 15 items x 6 dollars)	\$8,640
Total	<u>US\$ 17,544</u>

**Document**  
on the cost of work  
According to the Contract between IAE-CAS and RIHN for 2006

Project title: "The Research on the Distribution of Soil Chemistry and Fe Dynamics in Sanjian Plain for 2006".

We, undersigned Prof. Yoneo Ishii, on behalf of the Inter-University Research Institute Corporation, National Institute for Humanities, hereinafter to be called CUSTOMER, on the one side, and Prof. Chen Xin on behalf of Institute of Applied Ecology, Chinese Academy of Science, hereinafter to be called EXECUTOR, on the other side, concluded the agreement about the cost on the above mentioned research in sum in US Dollars US Dollars 17,544 (Seventeen thousands five hundreds forty four).

This Document is the basis for the calculations and payments between CUSTOMER and EXECUTOR.

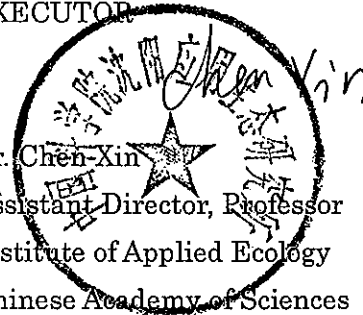
CUSTOMER

Prof. Yoneo Ishii  
Inter-University Research  
Institute Corporation, National  
Institute for Humanities  
(Tokyo, Japan)



EXECUTOR

Dr. Chen-Xin  
Assistant Director, Professor  
Institute of Applied Ecology  
Chinese Academy of Sciences  
(Shenyang, CHINA)



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