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Photo by T. INOUE. (Pedon 3, See Page 2)

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ESAFS

EAST AND SOUTHEAST ASIA FEDERATION OF SOIL SCIENCE SOCIETIES

EAST AND SOUTHEAST ASIA FEDERATION OF SOIL SCIENCE SOCIETIES

THE FIRST ESAFS WORKSHOP

**“Correlation of the National Soil Classification
Systems for Agro-Technology Transfer”**

**November. 11-15, 1991
Osaka, Japan**

Introduction:

According to the general rules of ESAFS the office holder of ESAFS should make its best effort to hold at least one workshop or symposium during the 2 years of the office period. Being the first office holder, the Japanese Society of Soil Science and Plant Nutrition held the above workshop in the Osaka region, Japan. This is a brief report of the workshop recorded by Malaysian delegate, Dr. Lim Jit Sai and Dr. K. Kyuma.

Objective:

The primary objective of the first ESAFS workshop was to correlate national soil classification systems in the ESAFS region with a view to facilitate and expedite agro-technology transfer among the member countries.

Organization:

The workshop was held for the period of November 11 - 15, 1991. It was divided into 2 parts;

- (i) Pre-workshop field excursion (Nov. 11 - 13),
- (ii) Workshop proper (Nov. 14 - 15).

The field excursion covered the southern part of Hyogo Prefecture, the Kojima Bay polder land of Okayama Prefecture, and the northern plain of Kagawa Prefecture. The workshop proper was held at the Osaka International House.

Participants:

More than 45 participants from 9 countries attended this workshop. The nationalities of the participants included Korea, China (mainland), China (Taiwan), Thailand, Malaysia, Philippines, India and U.S.A. besides Japan. Of the 45 participants 15 were from abroad; 3 from Korea, 2 from China (mainland), 5 from Thailand, and one each from China (Taiwan), Malaysia, Philippines, India, and U.S.A. Indonesian Society had accepted invitation but for some reasons its delegates could not come. Two Chinese (mainland) delegates also cancelled the trip.

Field Excursion:

Three pedons were examined in the southern Hyogo area, 3 in the Kojima Bay polder land and 2 in the northern Kagawa plain.

In the Hyogo area, the 3 pedons shown were found on a high terrace (Meimi I) landscape which is characterized by red soils with tiger-like mottling patterns known as *tora-han* (tiger-stripe mottles). Discussion on these 3 pedons was lively especially on the *tora-han* mottling. Pedologists in the humid tropics recognized this material as a kind of plinthite, while those in colder climate regions preferred to refer to it as mottlings. The controversy on the *tora-han* mottling expressed weaknesses in the definition of the plinthite in the Soil Taxonomy. This is to be expected as little is known about plinthite. More work is obviously needed on such materials.

In the Kojima Bay, 3 pedons (No. 4 - 6) on marine clay deposits, which had been reclaimed for 27, 87 and 277 years, were examined to study soil development due to polder reclamation. Pedon 4 was a young profile as it had an A/C profile, while pedons 5 and 6 were more matured profiles with A/B/C horization. However, according to the Soil Taxonomy, all these soils should be classified as Entisols as the organic carbon at the depth of 1.25 m was expected to be >0.2%. Thus, even the pedons 5 and 6 having a well-developed B horizon could not be classified as Inceptisols. There was strong disagreement on the over-emphasis on the organic carbon content and a disregard for morphological characteristics. The participants called for a refinement on the criterion on the organic carbon.

The last 2 pedons were on alluvial fans of granitic origin. The concepts of anthraquic, endo-aquic and epi-aquic soil moisture regimes were introduced and discussed. Pedon 7 had epi-aquic characteristics. Some participants were not happy to classify this pedon as having an aquic moisture regime. Pedon 8 was controversial as there was a dark surface horizon which had all the characteristics of a Mollic epipedon. However, no conclusion was made as there was no data on the P₂O₅ content. If the phosphate content is less than 250 ppm, the soil should be a Mollisol. Pedologists working on paddy soils were unhappy with this classification.

Workshop:

The proceedings of the workshop carry 16 titles, of which 2 papers each from Indonesia and China (mainland) were cancelled. Thus, twelve papers were presented. The national classification systems of Malaysia, Thailand, China (mainland), Korea, and Japan were presented. There were great variations among these systems. These differences would hinder agro-technology transfer and point to the need to have a common channel of communication.

Correlation of the 8 pedons investigated in the excursion:

This discussion was held to examine how the 8 pedons could be correlated with the various national systems of soil classification. The discussion again revealed the wide differences in the various national classification systems, as shown in the following table:

Classification of soils on field trip based on national systems of ESAFS member countries

Pedon	China (Main Land)	China (Taiwan)	India	Japan (MAFF)	Japan (Pedologist)	Korea	Malaysia	Philippines	Thailand
Pedon1	Argillic yellow brown soil	Red Soil	Typic Paleudult	Yellow soil with mottles	Pseudogleyed Red-Yellow soil	Paleudult	Typic Paleudult	Aquic Hapludult	Typic Paleudult
Pedon2	Aquic yellow brown soil	Red Soil	Plinthaquic Hapludult	Yellow soil with mottles	Pseudogleyed Red-Yellow soil	Hapludult	Typic Plinthudult	Aquic Hapludult	Typic Paleudult
Pedon3	Argillic red soil	Red soil	Plinthaquic Paleudult	Yellow soil with mottles	Pseudogleyed Red-Yellow soil	Paleudult	Plinthic Paleudult	Typic Paleudult	Typic Paleudult
Pedon4	Haplic gley soil	Low Humic Gley Soil	Typic Hydraquent	Strong Gley soil	Unripened Gley soil	Hydraquent	Typic Hydraquent	Typic Hydraquent	Typic Hydraquent
Pedon5	Moist gley soil	Low Humic Gley Soil	Typic Fluvaquent	(Weak) Gley soil	Typic Gley soil/ Aquic Grayized Paddy soil	Fluvaquent	Typic Hydraquent	Typic Hydraquent	Typic Hydraquent /Typic Fluvaquent
Pedon6	Gleyic paddy soil	Low Humic Gley Soil	Typic Fluvaquent	Gray Lowland soil	Typic Illuvial/ Aquic Grayized Paddy soil	Fluvaquept	Typic Fluvaquent	Typic Fluvaquent	Aeric Fluvaquent
Pedon7	Bleached paddy soil	Alluvial Soil	Epiaquic Udipsamment	Brown Lowland soil	Bleached Illuvial Paddy soil	Haplaquept	Aquic Udipsamment	Aeric Haplaquent	Aquic Udifluent
Pedon8	Hydragric paddy soil	Alluvial Soil	Mollic/ Typic Haplaquept	Gray Lowland soil	Typic Grayized Paddy soil	Hapludalf	Typic Argiaquoll/ Typic Umbraqualf	Anthraquic Haplaquept/ Haplaqualf	Typic Argiaquoll /Aquic Argiudoll



Group photo at the Field Tour

General discussion and conclusions:

At the end of the workshop a general discussion and conclusion session was held to summarize the first workshop of ESAFS and to discuss what the future directions of the ESAFS endeavor should be. The general conclusions are summarized below.

- (1) There was a consensus about the need to further the effort along the line of the theme of this workshop, that is the correlation of the soil classification systems for agro-technology transfer.
- (2) It was generally agreed that we have now a common language for correlation, that is, the U.S. Soil Taxonomy, but we still lack a common methodology. Of course, Soil Taxonomy specifies the methodology of soil description and soil analyses, but there is a variety of methodologies which have traditionally been followed in the respective countries and are, thus, very difficult to be replaced by any of the new ones. Fully recognizing the difficulty, we still thought that it is inevitable to make an effort to standardize the methodology within the ESAFS region so that we can correlate soil classification and expedite agro-technology transfer. As a simple, initial step there was a proposal that we should better exchange among the member societies the information on the field and laboratory methods being used by each country.
- (3) As exemplified in the discussions during the excursion, Soil Taxonomy has still many weaknesses in dealing with the soils in the ESAFS region. This is particularly true with paddy soils. Although the effort of the ICOMAQ with regard to the definition of aquic soil moisture regime in general and anthraquic regime in particular may throw light on some of the problems of paddy soil classification, there would still remain problems in the use of taxonomic classification as the basis of agro-technology transfer. The family criteria have little to say on the use potential of soils on alluvial sediments. Some sort of fertility capability classification (FCC) will have to be devised to supplement such shortcomings of Soil Taxonomy. Therefore, we thought it essential that more active contribution from the ESAFS region should be made in identifying and overcoming the weaknesses of Soil Taxonomy.
- (4) There was a proposal that taking advantage of being a regional organization that covers East and Southeast Asia a more positive contribution should be made by ESAFS to the global environmental issues, through, for example, monitoring various soil characteristics by formulating a regional network.
- (5) There was also a proposal that ESAFS member societies should strive for dissemination of scientific knowledge to the public through translation of technical terms into peoples' language.



Participants at the Symposium

Epilogue:

The first ESAFS workshop is over. The Japanese Society of Soil Science and Plant Nutrition fulfilled its responsibility as the first office holder and set a pattern of activity of ESAFS in the future. Of course, much more could have been desired in many respects but we should be content with that ESAFS did something meaningful for the regional community of soil scientists. There are some tasks left for ESAFS for implementation (cf., conclusions). Although the present financial state of ESAFS does not seem to allow implementing a costly thing, it should try to do whatever it can through promotion of solidarity and mutual communication among the member societies.

The workshop participants would like to extend their most sincere thanks to the Japanese Society for its generous funding, the Japanese Society members in Hyogo, Okayama, and Kagawa Prefectures for their effort in preparing for the field excursion and the Organizing Committee members for their devotion to the success of the workshop.

REPORT OF THE OFFICIAL MEETING OF ESAFS AT OSAKA

Nov. 14, 1991

At Naniwa Kaikan, Osaka, Japan

The following Society Representatives designated by the respective national societies got together to hold the official meeting of ESAFS, according to the general rules, on the occasion of the workshop held at Osaka on Nov. 14, 1991.

Prof. Gong Zitong, China (Mainland)

Dr. Shin Jea Sung, Korea

Dr. Chen Zueng-Sang, China (Taiwan)

Dr. Lim Jit Sai, Malaysia

Dr. S.S.K. Nanda, India

Mr. V.V. Babiera, Philippines

Dr. K. Kyuma, Japan

Mr. Lek Moncharoen, Thailand

Dr. T. Inoue attended the meeting as a representative of the Secretariat. The meeting was chaired by Dr. K. Kyuma, President of ESAFS. The followings are the report of the Official Meeting.

(1) Dr. Inoue reported on a change in the membership and activities of ESAFS since August, 1990. Soil Science Society of Indonesia became the 11th member of ESAFS. Newsletters No. 1 and 2 were published and a workshop on "Correlation of National Soil Classification Systems for Agro-technology Transfer" was held.

(2) Plan of the ESAFS activity for the next term, 1992-1994, was discussed: The Chinese Society (Mainland) will hold the office for the next term. According to the rules, Prof. Zhao Qiguo, the president of the Chinese Society, will be the President of ESAFS for the period of 1992 - 1994. Upon the request of the Japanese Society, the Chinese Society agreed to take over the office from April, 1992, on the condition that the Japanese Society will issue the Newsletters No. 3 and 4.

The Chinese Society has already decided to hold a symposium on "Nutrient Cycling, Soil Fertility and Management in Sustainable Rice-Based Cropping Systems" during Sept. 15-19, 1992 in Nanjing, China. This will be the 1st ESAFS symposium on paddy soils cum the 3rd symposium of the ISSS Working Group of Paddy Soil Fertility. Already 70 foreign scientists mainly from the ESAFS region have expressed their interest in participating in the symposium. There will be two post-symposium field tours.

(3) The office holder for the term after next, 1994-1996, was discussed: As there is possibility for the 4th symposium of ISSS Working Group on Paddy Soil Fertility to be held in Malaysia in 1994, the Secretariat asked the Malaysian Society to consider holding the ESAFS office during the period of 1994-1996. Dr. Lim promised to consult on this matter with the officers of the Malaysian Society and inform the result at his earliest convenience to the Secretariat. There is a high probability for the Malaysian Society to become the 3rd office holder of ESAFS.

(4) Following the two previous discussions the officers for the next term are expected to be as follows:

President:

Prof. Zhao Qiguo

Vice-President:

President of Malaysian Society (?)

Secretary General:

To be nominated by the Chinese Society

(5) Others: No particular agenda were proposed. The Secretariat called for news to be carried by the forthcoming issues of the Newsletter from the member societies.

SECOND ANNOUNCEMENT

INTERNATIONAL SYMPOSIUM ON PADDY SOILS

(THIRD SYMPOSIUM ON PADDY SOIL FERTILITY

AND

FIRST SYMPOSIUM ON PADDY SOILS IN

EAST AND SOUTH EASTERN ASIA)

SEPTEMBER 13 - 19, 1992

NANJING PEOPLE'S REPUBLIC OF CHINA

Sponsored by

Chinese Academy of Sciences

People's Government of Jiangsu Province P.R. China

Soil Science Society of China

Organized by

Paddy Soil Fertility Working Group, 1555

East & South Eastern Asia Federation of Soil Sciences

Societies

Institute of Soil Science, Chinese Academy of Science

Supported by

Potash and Phosphate Institute of Canada

and number of national and international organizations

(to be declared in the final announcement)

1. General information

Up to date there, 63 participants and 8 accompanies from 20 countries and 3 International Organizations overseas and around 80 participants from China have been registered.

2. Calling for papers

Proceedings of the Symposium including full text of the papers for oral presentation and the extended summary for the poster papers will be delivered at the time of registration at the commencement of the symposium.

Therefore, the full text (for oral presentation author or the extended summary (for poster author) should be typed on A4 paper according to the format instructions enclosed herein. The original copy should be arrived to the Secretary General of the Organizing Committee by 31 March, 1992.

For facilitating editing, the full text or the extended summary copies on a floppy disk compatible to the IBM micro-computer is highly preferable. And please send the disk along with the original copy to us.

Length limitation for the papers for oral presentation is 8 pages including text, figures, tables and references. The extended summary for poster papers with 2 pages.

3. Poster display format

1.6 m (height) × 1.1 m (width)

The poster should be read clearly 2 meters away.

4. Presentation equipments available

Overhead projector and slide projector.

5. Payment

Fees should be paid in US dollars by 31 July 1992 in the following account:

Institute of Soil Science,

Bank of Communications of China, Nanjing Branch,

Nanjing China

Account No. 20140149003

Late payment will be charged by 10% more.

Note: Please send us a copy of your payment when you remit.

6. Weather

In mid-September weather in Nanjing is pleasant with daily maximum 25 - 30°C.

7. The third (final) announcement with detailed program of the symposium will be sent to a all participants by 15 June 1992.

8. For additional information and correspondence please contact

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Contribution to the ESAFS-Newsletter
are invited and should be sent to the
above address. We heartily expect
further societies joining to us.

ESAFS