

# **LEEN PONS**

**Father of the International**

**Acid Sulphate Soils**

**Symposia/Conferences**

Second Edition

A book prepared in honor of Leendert Japhet Pons, of Arnhem, the Netherlands, Emeritus Professor at Wageningen University, who died June 16, 2008.

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## Table of Contents

	Page
<b>Cover.....</b>	<b>1</b>
<b>Table of Contents.....</b>	<b>2</b>
<b>Foreword.....</b>	<b>3</b>
<b>Ch. 1. A Brief Summary of Leen's Professional Life and Notes on his Birthplace and Its Connection to Famous Art and Poetry, by Nico van Breemen.....</b>	<b>4</b>
<b>Ch. 2. David Dent's Comments, Read at Leen's Funeral, by David Dent.....</b>	<b>7</b>
<b>Ch. 3. In Memory of Leen Pons, My Teacher and Soil Science Father, by Tini van Mensvoort.....</b>	<b>9</b>
<b>Ch. 4. Leen Pons, Father of the International Acid Sulfate Soils Symposia/Conferences, by Del Fanning.....</b>	<b>12</b>
<b>Ch. 5. A Tribute to Leen Pons, by Robert Quirk.....</b>	<b>16</b>
<b>Ch. 6. An Inspiring Encounter with Professor Pons, by Markku Yli-Halla....</b>	<b>17</b>
<b>Ch. 7. My remembrance to Leen, by Ies Zonneveld.....</b>	<b>19</b>
<b>Ch. 8. Leen Pons and the art of making a difference, by Herbert Diemont....</b>	<b>28</b>
<b>Ch. 9. My Friend Leen Pons, by Mike Melville.....</b>	<b>31</b>
<b>Ch. 10. In Memoriam: Leen Pons, My Husband and My Inspiration, by Nadia Pons-Ghitulescu.....</b>	<b>34</b>
<b>More Pictures.....</b>	<b>41</b>
<b>List of Leen Pons Writings/Publications.....</b>	<b>49</b>
<b>Last Page .....</b>	<b>60</b>

## **Foreword**

**This booklet about Leen Pons was initially prepared in his honor for the 6<sup>th</sup> International Acid Sulfate Soils/International Acid Rock Drainage Conference, hosted by South China Agricultural University in Guangzhou, China, Sept. 16-20, 2008. Some of those who knew Leen as a close friend, teacher, and mentor, initially Mike Melville, Tini van Mensvoort, and Del Fanning and subsequently others, some of whom have provided chapters for this booklet, felt, after we heard of his death (June 16, 2008), that the International Acid Sulfate Soils Working Group needed to honor Leen and let the current crop of scientists, and others who deal with acid sulfate soils, know more about this man upon whose broad strong shoulders and forthright personality the science of acid sulfate soils has grown. We feel that it is unlikely that there would be international acid sulfate soils symposia/conferences had it not been for Professor Pons. He helped to enable acid sulfate soils and related phenomena, which now receive world-wide attention as the soils of some of the world's most sensitive environments, to come to soil, earth, and environmental science and technology center-stage.**

**This 2009 second edition contains several additional chapters beyond the 2008 first edition prepared for the 6<sup>th</sup> International Acid Sulfate Soils Conference. At this stage, the editor hopes that this book will expand even more by contributions from others who will be inspired to write more Leen Pons stories and other information about him and to submit more pictures for possible subsequent or updated editions. If readers would like to submit something for possible further development of this publication, please send it, preferably by e-mail, to [DelvinDel@aol.com](mailto:DelvinDel@aol.com) or [dsf@umd.edu](mailto:dsf@umd.edu) .**

**As more chapters, pictures and the list of Leen's publications have been added to this booklet, now a small book, the editor has become more appreciative of the broadness and depth of Leen's earth science and other interests, which extended far beyond acid sulfate soils, and of his deep desire for harmony between humans and the environments in which we live. The editor hopes that this book about Leen may inspire readers to do things in his memory to contribute in positive ways to expand our knowledge of the earth and its natural resources and that we will apply that knowledge to make our human/earth relationships more beautifully harmonious.**

**Del Fanning, Editor, most recent update, July 12, 2009.**

## **Ch. 1. A Brief Summary of Leen's Professional Life and Notes on his Birthplace and Its Connection to Famous Art and Poetry**

**By Nico van Breemen, [kunst@galeriewit.nl](mailto:kunst@galeriewit.nl)**

**Leendert Japhet Pons was born in 1921 on a farm in the centre of the Rhine-Meuse Delta, a few km southeast of Rotterdam. While studying at Wageningen University during the 2<sup>nd</sup> World War (when the Netherlands was invaded and came under the control of Germany), like many of his fellow students, he evaded forced labour in Germany by “going underground” on a farm. In February 1945 he met Professor Edelman, who made a virtue of need by involving underground students in the development of the survey of soil and landscapes in the relatively safe Southwestern part of the country. Here, moving around on a bicycle with wooden tires, Leen became familiar with what was to become his lifelong passion: the alluvial soils of coastal plains, in particular peat and acid sulphate soils with their specific problems for agriculture.**

**After the war he joined the newly established Dutch Soil Survey Foundation, and led the development of the classification for the country-wide 1: 200 000 soil map. Pons obtained his Ph.D. in 1957 with a study of the geology, soil formation and hydrological development of part of the Rhine-Meuse delta. He published seminal papers on soil ripening and soil classification (1965, together with I. S. Zonneveld), and on the Holocene sediments in the coastal plain of the three Guianas (1968, with R. Brinkman). His experience with acid sulphate soils in the Guiana's prompted him to focus on those soils in other tropical coastal areas, including Thailand (Pons and Van der Kevie, 1969) and in the 80's in Vietnam. In 1972 he organized the first International conference on Acid Sulphate Soils in Wageningen, which marked the beginning of widespread international attention for these soils.**

**Leen Pons acted as Professor of Regional Soil Science at Wageningen University from 1964 to 1986, where he inspired generations of students with his great enthusiasm for soils in landscapes that looked so flat, but where a foot difference in elevation meant so much.**

**Regarding his birthplace, Leen was born on a large farm in the former tiny village of Groote Lindt, a stone's throw away from the Lower Merwede, one of the distributaries of the Rhine. The farmhouse happened to be also the birthplace of the physical chemist and 1901 Nobel Laureate Jacobus van't Hoff, 1852-1911. Groote Lindt is already, for more than a century, part of the town of Zwijndrecht, across the river from the better known town of Dordrecht. The famous 17th Century painting entitled *Gezicht op Dordrecht* ("View on Dordrecht") by Jan van Goyen (<http://www.gdzgt.nl/Afbeeldingen/Gezicht%20op%20Dordrecht.jpg>) must have been done from a few km South of Leen's birth place. During Leen's funeral, one of his grandsons recited, at the request of the deceased, a famous poem ('Memory of Holland') by Hendrik Marsman (1899-1940), which starts as follows: "Thinking about Holland, I see broad rivers moving slowly through endless**

lowlands". Not surprising this choice, given Leen's birthplace and his lifelong professional passion!

**Editors Comment:** For its beauty and sentimental value in connection to Leen's birthplace, and for scenery like Leen's eyes may have viewed as a boy, a copy of the painting, *Gezicht op Dordrecht* ("View on Dordrecht") by Jan van Goyen mentioned by Nico (from the web site given above) is inserted here:



Nico was also so kind as to find a translation of the full poem, by Hendrik Marsman, entitled 'Memory of Holland' into English, which is reproduced below:

#### **Memory of Holland**

Thinking of Holland  
I see wide-flowing rivers  
slowly traversing  
infinite plains,  
inconceivably  
rarefied poplars  
like lofty plumes  
on the skyline in lanes;  
and submerged in the vastness  
of unbounded spaces  
the farmhouses  
strewn over the land,  
tree clumps, villages,  
truncated towers,  
churches and elm trees -

all wondrously planned.  
the sky hangs low  
and slowly the sun by  
mists of all colours  
is stifled and greyed  
and in all the regions  
the voice of the water  
with its endless disasters  
is feared and obeyed.

*Translation: © Paul Vincent, 2006 (taken  
from <http://www.subtexttranslations.com/drptp/hah/hah.html>)*

#### **References to Leen's papers cited by Nico:**

**Brinkman, R. and L. J. Pons. 1968. A pedo-geomorphological classification and map of the Holocene sediments in the coastal plain of the three Guianas. Soil Survey Papers No. 4, Stiboka, Wageningen, 40 pp**

**L.J. Pons and W. van der Kevie. 1969. Acid sulphate soils in Thailand : Studies on the Morphology, Genesis and Agricultural Potential of Soils with Cat Clay. [Soil survey report 81/ Land Development Department](#), Ministry of National Development, Bangkok Thailand. 65 pp.**

**Pons, L. J. and I. S. Zonneveld. 1965. Soil ripening and soil classification. International Land Reclamation Institute Publication 13, Wageningen, The Netherlands.**

The author of this chapter, Nico van Breemen, is Emeritus Professor of Soil Science & Ecopedology of Wageningen University, The Netherlands, and currently Gallery Owner (contemporary art), Gallery Wit ([www.galeriewit.nl](http://www.galeriewit.nl)) .

## **Ch. 2. David Dent's Comments, Read at Leen's Funeral**

**By David Dent, [dentsinengland@hotmail.com](mailto:dentsinengland@hotmail.com)**

**During the German occupation of Holland, Leen Pons was one of the band of young men led by C. H. Edelman who prepared for a renaissance of Soil Science. They emerged from the refuge of the Biesbosch with a clear vision and a mature methodology to lay the foundation of what soon became one of the world's most successful rural economies.**

**They completed the Soil Landscape map of the Netherlands with remarkable speed and consistency. Leen strode on with IS Zonneveld to the definitive work on ripening of alluvial soils, then he carried on van Bemmelen's great work on acid sulphate soils in the Dutch polders.**

**Polders and acid sulphate soils might have remained uniquely Dutch affairs. It was Leen Pons' leadership that introduced the nastiest soils in the world to the international stage. So often I came across him in far-flung parts of the world, always in his field gear, often in a soil pit - a real inspiration to an aspiring soil scientist like myself.**

**In partnership with Harm Dost at ILRI, he led a series of international symposia beginning in Wageningen in 1972, then over the next two decades in Bangkok, Dakar (Senegal) and Ho Chi Minh City. The proceedings were the primary source of information on acid sulphate soils for two succeeding generations of soil scientists.**

**Leen's leadership drew on profound knowledge of soils in the field, unbounded enthusiasm and energy, and a rare ability to communicate with, and encourage, young scientists (in Dutch, French and English). All the while, he discharged the duties of Professor of Regional Soil Science in Wageningen - with famous international field excursions - and maintained the broadest of international outlooks.**

**Long after retirement, he continued up to his last month as a consultant, frequently unpaid, to NGOs and governments in conservation of wetlands, most notably in the Danube delta.**

**His enthusiasm and interest never flagged but, sadly, in the end his body could not keep pace. His final reaction was not bitterness but gratitude for the opportunities that a long and active life had presented.**

**I deeply regret that I am unable to be present today, but am grateful for the opportunity to express my sincere thanks to a friend and mentor of 40 years - which I owe in equal measure to Nadia Pons-Ghitulescu.**

**David Dent**

Former Director of ISRIC - World Soil Information, Wageningen, The Netherlands.



### **Ch. 3. In Memory of Leen Pons, My Teacher and Soil Science Father**

**By Tini van Mensvoort, [vanmensvoort@t-online.de](mailto:vanmensvoort@t-online.de)**

**I started my studies at Wageningen University during the academic year 1964/65, the same year that Professor Pons was assigned the Chair of Regionale Bodemkunde (Regional Soil Science). I consider myself one of his first generation students.**

**For his students, Professor Pons was at his best during field practicals and excursions. Fortunately in the sixties there was plenty of room for that wonderful way of teaching. He always led the way, with professional enthusiasm, auger in his hands and dressed in shorts. He took us at marching speed along the river terraces, the levees, the backswamps, the peats, the sea-clays, the cover sands, the man-made soils, and all other soils of The Netherlands. In summer we needed to take part in long field practicals, up to 4 or 6 weeks, and also in two-week excursions abroad; in my case to Germany and later to England and Scotland. This often resulted in long discussions at pits. Sometimes there came a moment that Professor Pons had enough of it; he ended the discussions with a remark like “you see that everywhere”. We, his students, knew we should stop the discussions and five minutes later we saw why Professor Pons had ended the discussion; he was watching birds with his binoculars.**

**After graduation, in the early seventies, I left Wageningen for Africa and the contact with Wageningen got lost. But at the end of 1979 there was a job available in the Soil Science and Geology Department as coordinator of a development project in the Mekong Delta of Vietnam. That project, in cooperation with the University of Can Tho in Vietnam, had (among others) the objective to investigate the distribution, the properties and especially the improvement in use of acid sulfate soils in that delta. I applied and was fortunate enough to get the job. Professor Pons participated in this project and this has led to our most intensive cooperation and to my dearest memories of him. From that moment on I was allowed to call him Leen ...**

**At the start of the project, in 1980, he showed me my first acid sulfate soil during a trip to Thailand and Vietnam, the Rangsit series, the worst in all of the Bangkok Plain. Leen Pons caught me again with his enthusiasm, just as when I was a student. The way that man could teach me about that soil; whew! And no wonder, such a beautiful soil with all those mottles of spectacular colours and at the same time an incredibly fast soil forming process with catastrophic consequences, what else could I wish for a study object?**

**Together we carried out a number of missions to Vietnam. Nadia, his wife, was present during all those trips. Leen never ceased to impress me with his boundless energy. Already well into his sixties, he carried out the heaviest of fieldwork in the blazing heat of the Mekong Delta for long days without any problems. But the other aspect that impressed me was his talent to motivate the Vietnamese soil scientists, who usually had been trained in the classic zonal soils of the Soviet Union, and to**

teach them to look sharply at the landscape and at soil profiles, and not rely only on chemical and physical analyses. He taught them geomorphology; it was new to many of them.

In 1982 we taught, together with a few Vietnamese colleagues, a combined course in geology, soil survey, hydrology and land evaluation to an audience of over 200 Vietnamese agronomists and soil scientists. It happened in a steaming hot lecture hall for 10 whole days. This course was followed, according to good Dutch custom, by a field practical of a week with 130 participants. The study area had a triangular shape surrounded by canals; our students were housed in farms along those canals. They were relatively well-off as the farms provided them with a good place to sleep and good food. We, the staff, were housed in the centre of the area where mostly unused acid sulfate soils were found, on a poor State Farm. Dinner usually consisted of steamed rice, tomatoes and fried rice-field rats. The beds were not as hard as a plank; no, they were actual planks with only a mat for a mattress. We got up every morning at 05:30 with an aching back, walked through the field all day as the area had no roads, just small paths, in the blazing Vietnamese heat. Tirelessly Leen Pons went ahead. I was 37 years of age at the time but I was totally washed out at the end of the week. Leen Pons, of course, claimed to feel no tiredness whatsoever.

The course and the practicals were a great success, but not the only contribution Leen Pons made to the Vietnam project. He led the survey for the area for our experiment station. He travelled to all corners of the Mekong Delta to look at special cases of ASS that had not yet been seen before, such as the ASS derived from peaty parent materials that showed no jarosite mottles. It was during those field trips that we started discovering the wide range of land use systems that had been developed by Vietnamese farmers and that formed the basis for a number of PhD studies later in the nineties. Leen also developed a legend for the ASS of the Mekong Delta, which enabled inclusion of all the types of ASS that were discovered there. Potential acid sulfate soils were distinguished from actual acid sulfate soils. The depth of the start of the jarosite layer and the absence/presence of a peaty surface soil were included as differentiating characteristics. This legend was used by the Ministry of Agricultural Planning to make the soil map of the entire Mekong Delta. This map also formed a basis for later land evaluation work that was to follow. The Vietnam project was a success for Wageningen and Can Tho Universities. Some readers may have witnessed this for themselves during the Fourth International Conference on Acid Sulfate Soils in Ho Chi Minh City in 1992. Leen Pons was one of the fathers of this project.

It is hard to accept that this strong, enthusiastic man, who seemed built for longevity, is no longer among us. I would very much like to keep the memory of Leen Pons as this charismatic iron man who could paint landscapes with words and, by means of his enthusiasm, give us, his students and colleagues, the love for field soil science.

Editors Note: Tini wrote his memories article, July 21, 2008. He afterwards submitted two pictures, shown subsequently, of Leen working with Vietnamese students/colleagues

on acid sulfate soils – the first in the field, the second inside. Tini (August, 2008) retired from his position at Wageningen University.



**Figure 1. Leen showing an acid sulfate soil to Vietnamese students.**



**Figure 2. Leen working with Vietnamese students.**

## Ch. 4. Leen Pons, Father of the International Acid Sulfate Soils Symposia/Conferences

By Del Fanning, [DelvinDel@aol.com](mailto:DelvinDel@aol.com)

Leendert Japhet Pons, of Arnhem, the Netherlands, Emeritus Professor at Wageningen University, died June 16, 2008. Leen, born June 4, 1921, was 87. Leen's wife Nadia wrote to tell me "Leen was a wonderful man, enthusiastic, strong, a hard worker and charming. He had cancer of the stomach with metastasis on liver and surgery was not curative because the tumor was diagnosed too late. Two months after the surgery and two and a half months after diagnosis he passed away". Those who knew Leen by way of the international acid sulfate soil symposia/conferences have many pleasant memories of him. Leen participated and had a strong hand in organizing the symposia in the Netherlands in 1972, in Thailand and Malaysia in 1981, in Senegal, Gambia and Guiné Bissau in West Africa in 1986, and in Vietnam in 1992. He participated in the 5<sup>th</sup> international conference in Tweed Heads, NSW, Australia, as a special guest of the conference in 2002. Following that conference he enjoyed a field trip led by Mike Melville, University of New South Wales, to examine acid sulfate soils down the Australian East Coast from Tweed Heads to Sydney. He was missed at the 6<sup>th</sup> conference at South China Agricultural University in Guangzhou in September 2008.

Leen may truly be called the "Father of the International Acid Sulfate Soil Symposia/Conferences". The term acid sulfate soils came into use, thru his guiding influence, shortly before the time of the first symposium in Wageningen in 1972. Previously, such soils were commonly called "cat clay soils", or *Katte Klei* in Dutch. In his lead paper at that first symposium (Pons, 1973), Leen put forth a wonderfully broad definition of acid sulfate soils "as all materials and soils in which as a result of processes of soil formation, sulfuric acids either will be produced, are being



produced, or have been produced in amounts that have a lasting effect on main soil characteristics". This definition includes the potential, the active, and what are now called the post-active acid sulfate soils. Leen is especially known for concepts of the physical ripening of soft sediments/soils. The *n*-value, which was incorporated into *Soil Taxonomy* (Soil Survey Staff, 2006 and earlier versions), is used to evaluate various stages of ripening of

soil materials that constitute acid sulfate soils, especially in coastal areas. *Soil*



*Taxonomy* publications cite the paper by Pons and Zonneveld (1965) as the basis for the *n*-value concept and definition. Leen loved to do the squeeze test to demonstrate how half-ripe and softer soil materials would squeeze out between ones fingers. Participants on field tours at the international conferences used to demand that he perform the test on soft soil materials for them and he would beam a big smile as he did it before audiences of students and others that he loved to have around him when he gave a performance. The picture above shows Leen doing “the squishiness test” at a tour stop in West Africa in 1986, a few months before his 65<sup>th</sup> birthday. The next picture below shows Leen performing the demonstration again in 1992 in Vietnam, a few months before his 71<sup>st</sup> birthday, once again with his broad enthusiastic smile. Leen was also known for “bird watching”. He seemed always to have his binoculars hung around his neck and sometimes he would step away from his group in the field examining soils to admire and gaze at the birds. Leen knew that plants growing upon soft soils and sediments, by their evapotranspiration, hastened the soil ripening process. When he visited me in 1986 and I showed him how *Phragmites* reeds naturally invaded on active acid sulfate soils in sulfidic DM (dredged materials) in upland diked-in DM disposal sites in Baltimore, he told me how *Phragmites* were planted on new polders in the Netherlands to hasten the ripening process and he told me “Promote Phragmites”. That was my inspiration to try to start an organization called Phriends of Phragmites, which organization unfortunately still hasn’t gotten off the ground, although quite a few people have signed up to join this organization.



Leen contributed to the training of many students and colleagues who themselves have made many contributions to knowledge about and to improved management of acid sulfate in many places around the world.

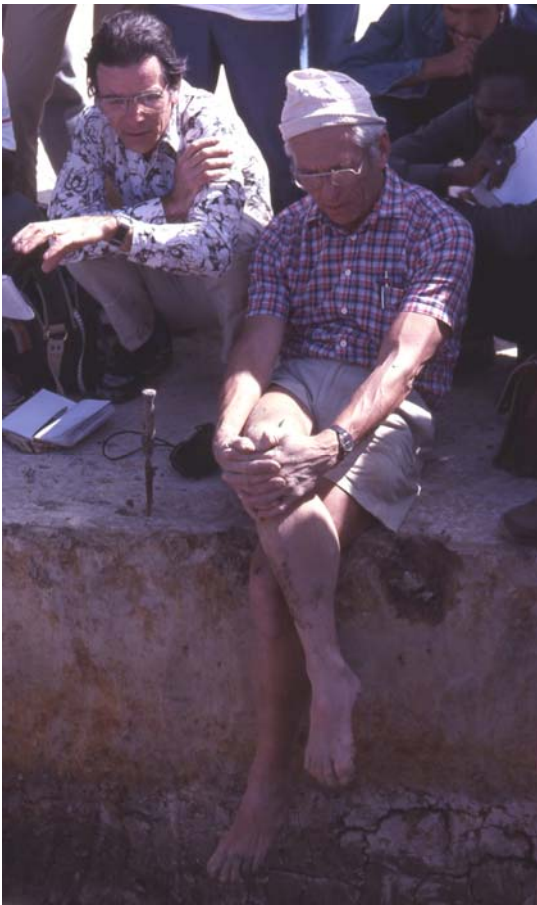
Leen was author and/or co-author of many papers dealing with various aspects of acid sulfate soils.  
Tini van

Mensvoort from Wageningen, who was a leader of the soil survey of Vietnam in the 1980’s, points out that Leen was very influential in that work, which left Vietnam

with a solid cadre of scientists knowledgeable about acid sulfate soils who continue to conduct research and contribute to the wise management of acid sulfate soils.

While Leen was in the U.S. in 1986, he visited the museums of the Smithsonian Institution in Washington, DC. There he saw the airplane called the “Spirit of St. Louis” in which Charles Lindbergh flew, for the first time anyone had done it, across the Atlantic Ocean from New York to Paris. Leen was very excited to see that plane. He told me that as a boy he remembered the exciting time (1928 I think) when that flight took place.

My final picture shows Leen with his friend and colleague and former student Robert Brinkman in Guiné Bissau, West Africa, during a tour for the third international symposium in 1986. Leen was sitting on the edge of an active acid sulfate soil pit with his bare feet hanging in the pit. Leen was thinking as Robert tried to explain something to him while other tour participants crowded around



them. The soil was barren and covered with sulfate salts with a pH most likely of 3 or less.

I am sure that everyone who knew, or now feel they know, Leen and his many contributions to acid sulfate soil science, wish to express their grief and sympathies to Nadia and all members of the Pons family.

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International Land Reclamation Institute Publication 13, Wageningen, The Netherlands.

**Soil Survey Staff. 2006. Keys to Soils Taxonomy, 10<sup>th</sup> edition, USDA-Natural Resources Conservation Service, Washington, DC.**

**[http://soils.usda.gov/technical/classification/tax\\_keys/keys.pdf](http://soils.usda.gov/technical/classification/tax_keys/keys.pdf)**

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## Ch. 5. A Tribute to Leen Pons

By Robert Quirk, [rgquirk@bigpond.com](mailto:rgquirk@bigpond.com)

**I first met Leen at the Brinks residence in Wageningen, during a visit to The Netherlands in 2002. I had made contact by telephone with Leen. He was to visit me at 1700 hrs at the Hotel where I was staying. I had no idea what he looked like but incorrectly assumed that I would have no trouble picking out an 81 year old gentleman when he arrived. When he did arrive, in his little red car, he bounced out and ran up the steps. I could only assume that this could not be him. I was wrong. The next hour was spent comparing notes on ASS, with me telling Leen about the great conference that we had planned for Tweed Heads (The 5th ASS International conference) and how we would like him to attend if possible. The rest is history.**

**Over the years working with leading International researchers in the field of ASS, I guess it was the icing on the cake to have a visit by Leen to inspect the work we had been doing into ASS remediation on my farm. As I recall he was quite skeptical at first, but when shown the results of the research he was very supportive. In his words, “it’s different”. Leen’s contribution to the 5th ASS conference could not be measured as he mingled with young and old scientists giving his time and advice freely to all who approached him, and I believe this was most of the participants.**

**The highlight of the conference dinner was the presentation of a book on Australia to Leen by Del Fanning on behalf of the conference for his contribution to ASS research. I feel very privileged to have met and had the opportunity to discuss acid sulfate soils remediation with unarguably the greatest contributor to research in that field that the world has ever had.**

Editor’s Note: Robert Quirk is a sugar cane farmer, whose farm is on acid sulfate soils on tide-affected lands along the Tweed River, Duranbah, NSW, Australia. His farm has been the site of the development of very successful programs for the management of the soils for highly productive sugar cane production and for the protection of the waters of the river by Robert working with researchers from the University of New South Wales, Southern Cross University, and many others with whom Robert has collaborated. Robert also contributes as an author of papers for the international acid sulfate soil conferences and he is very active internationally in the sugar industry.



## Ch. 6. An Inspiring Encounter with Professor Pons

By Markku Yli-Halla, [mylihall@mappi.helsinki.fi](mailto:mylihall@mappi.helsinki.fi)

Those who have been friends and co-workers of Professor Pons for a long time may wonder why someone, not being his student or a visiting scientist to the Department of Soil Science and Geology, Wageningen, and whom they may not know, wants to write about him. Let me tell you why.

After finishing the MS degree in agricultural chemistry at the University of Helsinki, Finland, my first appointment in 1984 was on a project on the environmental aspects of acid sulphate soils of my country. These soils have now been identified and studied in Finland with variable intensity over a period of several decades. Soon after I was appointed in 1984 I learned that the 3<sup>rd</sup> *International Acid Sulphate Soils Symposium* would take place in Senegal in 1986, with an associated field trip to Guinea Bissau. I managed to get funding to participate in that event. This symposium was one of my first international congresses and definitely my first visit to the African continent. Particularly the field trip was an unforgettable experience, the more so for me the longer I live. It had a great impact on my future professional development.

Being trained as a sample grabber, with little education in pedology until that time, I got an intensive short-course in the pedogenesis of acid sulphate soils during that trip. We went from Dakar to Ziguinchor, to Gambia, and finally to Caboxanque in southern Guiné Bissau. We travelled by airplanes (Air Guiné Bissau!), buses, boats and canoes (pirogues). One time, shallow water, at a low tide, forced us to jump from the pirogue to enable it to float. We had accommodations in fancy and, occasionally, in less fancy places, and were often wakened by crowing roosters at dawn. The closing dinner in Bissau was a memorable one because we had it nearly in the darkness, owing to a power failure. From the practical point of view, we saw dramatic consequences of constructing water reservoirs in mangrove areas without sufficient soil survey and we learned the principles of growing rice in acid sulphate soils, and got a glimpse of peoples' lives in remote villages of that country. We made the acquaintance of pedogenesis in various transects in the coastal areas. Professor Pons was the first to jump into the soil pits, explaining the profiles to us. He did not dictate the outcome of the classification but allowed a lively debate about the important soil characteristics in each of the pedons. "Sulfaquent or Sulfaquept?", "Sulfaquept or Tropaquept?", he was constantly contemplating. I realise that Professor Pons did not arrange the field trip just by himself but he orchestrated a large team of competent co-workers consisting of other professors, senior and junior scientists and other professionals, both local and foreign, as well as students. However, Professor Pons was the radiant top leader of the excursion. That field trip also set a standard for how a soil excursion should be organised, being carefully planned and executed, with detailed documentation of the soils and landscapes distributed to the participants. In spite of difficult conditions, everything was well organized and went on according to the schedule. The trip proceeded in a highly

professional manner in a good mood and in the company of well-known scientists whose papers I had previously been reading. That experience strongly contributed to my decision to take further studies in pedology, and, as a consequence, I now serve as the Professor of Environmental Soil Science at the University of Helsinki.

This story is an example of how a good teacher can have a decisive impact on his students' lives. It can be a result of a long companionship, like with most others writing to this memorial, or great inspiration from a short encounter, like in my case. I never actually spoke much with Professor Pons, even though we later met also in the next symposium on acid sulphate soils in Ho Chi Minh City, Vietnam in 1992. He certainly did not realise that he had any particular influence on my career, or, with no exaggeration, on soil science as practiced in Finland. This story also reminds us of our responsibility as teachers and researchers. Let Professor Pons be our role model as we who follow him bring our experience forward to the younger generation with joy and enthusiasm.



**Editor's Note:** The two pictures here were submitted by Markku to go with his chapter. The first shows part of the tour group of the 3<sup>rd</sup> acid sulphate soils symposium group boarding one of the canoes (pirogues) used to traverse the coastal rivers to examine the acid sulphate soils in



Guiné Bissau in January, 1986. The second one shows Professor Pons in one of the soil pits examined, explaining the features of the soil to the tour participants who, as was usually the case, crowded around the pit to listen to what he had to say, often switching from English to Dutch or French or Portuguese as he spoke.

**Editor's Note:** As Markku mentions in his chapter, he is presently Professor of Environmental Soil Science at the University of Helsinki. Owing in considerable measure to his influence, the next (the 7<sup>th</sup>) international acid sulphate soils conference will most likely be held in Finland.

## **Ch. 7. My remembrance to Leen**

**By Ies Zonneveld, [IesZonneveld@cs.com](mailto:IesZonneveld@cs.com)**

**The first thing I knew about Leen (Since about 1943/4) was that his shoe size was identical with that of my future Father-in-Law. This is background of my first story:**

**Leen happened to be an “onderduiker” a characteristic phenomenon during World War II. An “onderduiker” was a person who was wanted by the German occupiers and their Dutch collaborators because of not obeying their rules. This could be because of refusal to sign a locality declaration for the Nazi government (e.g. obligated if you want to study at the university), or refusal to join the, for all men older than 18 years obligated, Nazi propaganda organization “Arbeitsdienst” and /or refusal to work in the German war industry or even actively taking part in illegal resistance activities. Leen had started his study at the Wagenigen University a few years before, but he had to leave Wagenigen because of the loyalty declaration (that he refused to sign) and was now actively being searched for. He was working as an illegal farm-labourer at the farm on the polder called “Maltha” of my future father-in-law Cor Kooijck, in the Biesbosch (the since the 1421 floods, “reborn”/resurrected, semi-natural, fresh-water part of the Rhine Meuse estuary).**

**Once, during this time, when Leen had just come home from a trip on his bicycle, there was a message that a razzia, out to catch wanted “onderduikers”, soon would arrive at Maltha. Immediately Leen was put on a horse cart and he burrowed underneath a heap of rough herbage, ready for covering the grain stacks, in the fields. My, then about 15 year old, future brother-in-law took the reins and drove horse cart (and Leen) away from the farm into a field where there were grain stacks. Shortly afterwards the German police, accompanied by local “black-shirts” (para military Dutch fascists), arrived and started searching the whole farm. Finally they found a suspect bicycle in the barn with bags on it. The officer pointed to a bag: “AUFMACHEN!, make open is an English translation” he said. Cor Kooijck opened the bag.... and a pair of well-cared-for shoes appeared: Leen’s shoes. ’ANZIEHEN! Put them on -- in English”.....the policeman ordered. Cor Kooijck; without hesitation, he took a shoe and put it on. .... it**

fitted perfectly. ‘My Sunday’s shoes’ he said poker-faced. Disappointed, the police force, especially the “black shirts”, retired soon afterwards. This story was told to me by Cor Kooijck and his daughter when I visited the family somewhat later. My wife told me also about how she assisted Leen in teaching his fiancée (and future first wife and mother of his children) Willemien, swimming, which took place along the sandy shores of tidal creeks near the polder Maltha. Leen had constructed for that purpose a kind of swimming raft made of bushels of *Bulboschoenis* (*Schoenoplectus Scirpus*) *lacustris* a common bulrush of the earlier land forming stages in freshwater tidal wetlands.

I know this story of Leen’s shoes because I was also one of the “onderduiker”s in the Biesbosch. Cor Kooijck, as well as his brother Marin (op de polder (D)onderzand(e)) belonged to the group of farmers (organized as LO “Landelijke Dienst“Onderduikers”), who illegally supplied food and assistance to those people that had to hide themselves from the Nazi terror. Contrary to Leen, I did not stay on a farm, but a bit more in secret with some other guys on ark’s (boats), hidden in the network of tidal creeks, the common living place of reeds- and willows-woodcutters. Only occasionally we visited farms, on dark nights or on weekends. So, although living not far apart, Leen and I never met in those days. That happened much later, after the war and after I had finished my study in Wagenigen and became employed by the “Stichting voor Bodemkartering” of Edelman where Leen, directly after getting his Wagenigen-Ir diploma, a few years earlier, had been appointed.

In those days the soil survey was divided into two quite separate groups. Edelman with his “Stichting voor Bodemkartering ”(initiated during World War II) had the old land with the dikes. The “Dienst Zuiderzeewerken” (Organisation for the Zuiderzee reclamation and other new areas) dealt with soil survey of new land outside the dikes. It had its own soil laboratory in the city of Kampen under the well known experts on these soils Hissink and Zuur. Edelman liked to have the survey of the Biesbosch, including its not reclaimed area, under his responsibility with me as his soil scientist and ecologist to carry it out. A gentlemen’s agreement was made between Edelman and Zuur, stating that I would do the survey and accompanying research both within and outside the dikes under the condition that I would fully cooperate with the Soils lab in Kampen. So I became the trait d’union between the two types of soil science and survey.

From the start Leen and I cooperated, on the basis of our “onderduik” history in the Biesbosch, but also because of our common wide interest in nature, science and way of life. Both of us had been members of the famous NJN (Youth organisation for study of Nature), of which there is a maximum age limit, also for the steering board, of 21 years, which guarantees a permanent fresh supply of youths. It has been, and is, a cradle for quite a number of professors at Dutch and foreign universities. Our cooperation, with my partial roots in the Kampen lab, led to the integration of the outer and inner dike soil science aspects, e.g. the acceptance of the ideas of soil ripening, the n- factor etc. in soil classification. An example of our related way of life is an event I still remember from half way thru the nineteen fifties. It was at an early morning just after sunrise. I see us discussing with an angry farmer, on freshly mowed hay land at the shore of the IJssel river near Kampen, about the cost of the grass that we had destroyed, according to him, under the wheels of our Beetle VW and the tent we had put on it. In those days Leen and I used to illegally camp instead of using a hotel when we had official meetings of our institute outside Wageningen. Camping freely (illegal) was a sport. Moreover, the extremely low salaries we got in those days (the scientifically most fruitful time of our lifetime!) stimulated us to reduce travelling costs (save the travel allowance) in this way. I still see it before me: A somewhat screwy little farmer talking to three young promising scientists (Wageningen- Ir) in underwear: One a future professor in soil science (Leendert Pons), one a future (land) ecology and remote sensing professor (Isaak{Ies}Zonneveld) and one a future main director of the largest Dutch consulting/reclamation firm (Heidemij, Frits Sonneveld). After careful estimation of the surface of platted grass and the price of hay/ha, as well as the degree of destruction, a progressive estimate was arrived at, multiplied by a punishment factor (but also because of our lack of smaller currency) of ten, we arrived at the few guilders, which we paid, -- but on the condition that we might stay and sleep still a few hours, because our meeting in Kampen would start still three to four hours later.

Another illegal camping adventure at a riverside was disturbed by a heavy storm during the night with an unexpected raising water level over our camping site. When we arrived, soaked wet, at the meeting office, Leen accused me in the open, as I was supposed to know

everything about water levels. I defended myself by stating that it was not in a tidal area, but a river environment -- the main subject of Leen's promotion thesis in those days.

Leen's scientific importance goes further than soil formation - classification and -evaluation in the narrow sense. In the footsteps of Edelman he contributed highly to the knowledge of geology and physiography of the alluvial lands and peat areas of the Netherlands. This was recently a popular subject again, witnessed by the young physiographic promovenus Marc Hijma (University of Utrecht) who met Leen only a half a year before he deceased, but just in time to profit from Leen's large knowledge of this field. Also historical geography had Leen's attention. His last publication deals with the pattern of the channels and ditches of the early reclamation of the fresh water tidal area at the apex of the Rhine/Meuse estuary.

I still remember Leen, applying one more example of Edelman's statement: "Soil science is everything a soil scientist is interested in". With his characteristic enthusiasm Leen told me that he had just made a most interesting discovery: In Holland's extensive grasslands, small, square, hardly some tens of square meters sized spots occasionally can be found, surrounded with woody shrubs, often willow, planted in a coppiced way. These spots represent some relative shelter in the wide, windy plain. Nowadays they tend to be neglected and even removed by the modern land re-allotment schemes. Leen discovered that old people still had a name for them: "Huftplek" .... a place to "huft"). And "huften", as Leen learned, meant in the local dialect: "to rest". Indeed the purpose of these little, somewhat protected areas was originally to provide cattle with some shelter, or even, in case they were grazing far away from the stable, to bring the cows to, for milking. And now Leen had suddenly understood, he told me, the origin of the rough Dutch abusive word: "hufter". That is used for very rude, awkward people. It is nowadays even introduced in official governmental language such as measures to prevent "hufterig gedrag op de weg" ("hufter"-like behaviour on the road). Leen knew, as a farmer's son, very well that for a Dutch farmer, laziness is the utmost representation of EVIL. "Huften", originally "to rest", the negative of "to work" becomes, for the zealous Dutch farmer, easily associated with being lazy. Visiting a "Huftplek", in daytime, especially in the morning, becomes a synonym for avoiding work. Nothing is more evil than that. So a Hufter is an evil

man, hence an evil man is a “Hufter”, irrespective of what kind of evil he does, even being not particularly lazy.

The wide interest of Leen in treading in Edelman’s footsteps includes of course also archaeology. Also in this field we had intensive contact. He contributed via the physical geography of the site, to the important discovery of the Atlantic-Boreal/ Neolithic “Vlaardingen culture” in and around the Rhine/Meuse estuary and he brought me in contact with the archaeologists of this project. We concluded that the Neolithic Vlaardingen men were freshwater-tidal people living in a natural Biesbosch-like environment. Their followers in the Subattkanticum and the Iron-Age invented the valve-culvert (the key of the Dutch civilization as I called it in my Biesbosch dissertation). This contraption has been applied since those early times in the fresh water tidal region to reduce flooding frequency and even for drainage of permanent polders. Since the recent increase of our knowledge about the extension of the freshwater tidal wetland in the past, we have postulated the whole fresh water tidal landscape of the Rhine/Meuse estuary, an area of roughly a thousand to fifteen hundred square kilometers, to be the cradle of the Dutch(Holland’s)civilization. It developed, around the two oldest cities, Dordrecht and Vlaardingen, also Geervliet, Woudrichem, and St. Geertruidenberg, the original core of county Holland, that gradually extended and became famous because of the largest polder activities. Through this, in combination with the (later legalised) system to levy toll (and right of “stapel”) at the most suitable place for such activities: the transition of tidal and river waters. Employing the technology, the county became prosperous and also politically important. So important, even, that halfway thru the 13<sup>th</sup> century one of the sovereigns, Willem II, Count of (the fresh water tidal) Countship Holland, became elected “Roman King” (Romanum Rex 1248) of the (still feudal) “Heilige Roomse Rijk“ with Aachen as its capital. His early death (1256) prevented, however, his coronation in Rome as emperor of this “Holy Roman Empire”. The just mentioned older Dutch cities were later over shadowed by the World-Port city Rotterdam (developed from ca 1270 on around a dam in the fresh water tidal creek de Rotte, and then extending over the northern part of the Rhine/Meus/Striene(Schelde) estuary. Farm land is still left in the western, eastern and southern parts of the estuary area. It is that landscape where Leen’s and my wife’s families come from. In the Biesbosch that landscape in all its development stages has been renewed



by serious flooding of this oldest heart of Holland, during the 15<sup>th</sup> century.

It was Leens's (and my) growing grief about the general trend to undervalue, even deny, the existence of the special character of "our" freshwater estuary landscape by the common people, and even by ill-informed professional geographers and, even worse, soil scientist colleagues! This grief has been aggravated by our historical knowledge and awareness of the glorious role this freshwater-tidal area has played in Dutch history. It stimulated our crusade to recognize the freshwater part of the Rhine/Meuse/Striene estuary as an important distinct geographic unit. The denying of a special landscape that has tidal movement in a freshwater environment leads in practice to a large confusion among historians, nature conservationists, ecologists and even farmers. Reconnaissance maps use the term ZEEKLEI (sea clay) for Leen's and my wife's counties of descent as well as the Biesbosch with their clearly in fresh water deposited soils is considered as un-understandable, as Sea is commonly associated with salinity (not only with tidal movement). Fully unbelievable nonsense it becomes to incorporate, even the young land forming stages with abundant characteristic pure freshwater plants (e.g. Marsh Marigolds, Bulrushes) and even forests, in these eventual partly declared nature reserves and nominated to become part of the Netherlands largest most characteristic (freshwater tidal) national park.

The origin of these miss-understandings is that, although in (semi)natural conditions the freshwater-tidal zone with its forests and pure fresh water flora physiognomy is akin to the riverkandscaep, but the pattern of estuarine sediments are geomorphically related to the marine tidal ones. Being reclaimed, this relation becomes more obvious. The early soil scientists (Staring) distinguished in the reclaimed land between "zee klei" and "rivierklei" based on the geomorphology. Later we added the "estuarium-gronden" for fresh and brackish water deposited soils. The boundary between the subdivision, between fresh and brackish, is vague in the field based on gradual difference in salinity. More distinct is the transition from the non tidal river to the estuarine sediments, as being geomorphologic, often by catastrophic flooding of already diked land.

Leen, who got as his first task in the Stichting voor Bodemkartering, directly after World War II, to organize a new reconnaissance map,



became confronted with the problem of where in the higher legend units to put the freshwater tidal landscape, either under the other tidal influenced group, traditionally called (“Zeeklei”) or under “Rivierklei”. Later when our knowledge of among other things, the Biesbosch, expanded, Leen and I agreed to rename the so called “zeekleigronden” (the marine ones, with a saline genesis suggestion) together with the freshwater and brackish tidal ones as “Getijdengronden”gronden. On a lower level these could be separated into 1) “saline” (if dry dull grey), 2) “brackish” and” 3) “fresh” (in dry condition warm room-deer brown). So on the more global maps saline and brackish freshwater landscapes came under one legend unit, united by the tidal geomorphology but on lower legend levels separated by physico/chemical soil/profile characteristics related to differences caused by the degree of salinity during the sedimentation process.

During the absence of Leen in Suriname and myself in the opposite part of the world, among other places in Africa, our adversaries in the semantic fight reversed Leen’s decision. The term "Zeeklei" was restored and remained in use for the freshwater tidal as well as the marine lands. The confusion because of the suggestion of salinity across the board has lasted until the present day.

But then our friends, the offspring of the farmer’s families that had been so good to us during the war, asked our advice about a land lease problem. According to the then-valid law, “Zeeklei” (sea clay) soils should demand a higher lease price then “Rivierklei” (‘riverclay’) under the same conditions of drainage etc... Our farmer friends, leased their land from the state and were assessed according the norm for ”Zeeklei”. Having learned from us that the Biesbosch certainly could not be considered seawater (hence saline) sedimented material, they stated that its soils could never be called “Zeeklei”. Hence the lease assessment was too high. They were preparing a process against the state. A lawyer with experience in lease matters had been hired already and Leen and I were requested to act as expert witnesses in this court case.

This was THE chance for Leen and me to get revenge. Also this matter belonged to soil science by the definition of Edelman. One of the colleagues from the Stichting voor Bodemkartering, our friend Ir. Jo Pape, was expert witness for the state. We had great fun. The judge,

although he could not do much with Leen's and my pleadings', about the soil genesis, granted us unusually much time to plead our case. For the judge, he told us at the end, it was the most interesting session of his lease court in years. Of course the matter is much more complicated than some chemical and physical soil properties and semantic questions that we explained. But we reached a kind of compromise. Above all, it was agreed by all parties that the old term "Zeeklei" was at the roots of the conflict. The quality of the soils had to be described better in juridical text. So everybody was satisfied at the end. One of the results was also that Leen (much later remembering our court session) suggested that we should write a booklet about "chemical ripening" ('chemical initial soil formation') as a pendant of Pons & Zonneveld on the Physical ripening n-factor etc. Our pleas about the difference between sea-, river- and tidal freshwater sediments needed to be extended and deepened. The "katteklei" (Acid sulphate soil) aspect should of course, as an extreme case, have a dominate place in that book. But we never found time to execute it. Leen deepened indeed knowledge about acid sulphate soils, as everybody knows. A compilation of all relevant knowledge on the chemical part of initial soil formation we will leave to our successors.

One more subject I had in mind to involve Leen in. That was the idea of a large national park called the "New Helinium" comprising the major (semi) natural remnants of the former Rhine/Meuse/Scheldt estuary between Gorinchem/Woudrichem and the Sea, in full open contact with the rivers as well as the sea, where the natural sedimentation process and sea level rise could be in harmony and so restore within unavoidable boundaries the equilibrium that existed for some 70 centuries and only was disrupted some odd two thousand years ago by human manipulation techniques, now even exaggerated by the recent climatic change. Leen's enthusiasm and knowledge would have been helpful in realizing such ideas. Our beginning exchange of thoughts has been unfortunately interrupted by his passing away.

Rest us to remember Leen, the farmer's son, wavering during his youth between a future as a biologist or a geographer, who became a leading soil scientist and successor of Edelman, the founder of the landscape-based school. Besides that he was an excellent teacher, a stimulating colleague, and a dedicated conservationist, who never lost his affinity for the farm and the enthusiasm of his boyhood.

## **Ies Zonneveld**

Editors Note: Ies Zonnevelde is Emeritus Professor of Vegetation Survey and Landscape Ecology at the International Institute for Aerospace Survey and Earth Sciences (internationally known as ITC and Emeritus Extraordinary Professor at WUR(Wageningen University and Research Center), Wageningen, The Netherlands.

## **Ch. 8. Leen Pons and the art of making a difference**

By Herbert Diemont. [Herbert.Diemont@wur.nl](mailto:Herbert.Diemont@wur.nl)

I am Liesje, who are you? I am Leen. Two soulmates of ages of 7 (my daughter) and 67 (Leen) years, respectively, met in Bogor, Indonesia in 1988. Leen could not be stopped. A few minutes later he dived into our swimming pool. Fortunately he did not get badly hurt -- the pool was a bit shallow. Leen was an adventurous man. Two years prior he was still skating -- at age 65 - the famous 200 kilometer long Elf Steden Tocht (eleven cities trip) over the canals of the Netherlands, that he was so happy about at the time because they froze over to permit the skating that winter of 1986-87.

In the period 1987-1990 I lived with my family in Bogor and in 1987 I received a letter from Leen. There was a rumor in Wageningen, he wrote, that I was lecturing post graduate students in watershed management that erosion should be considered as a gift to Indonesia, which helped to expand its lowland areas. Quite an allegation! I wrote him back that it was a pleasure to hear that my lectures caught even attention in Holland, but also I informed him - that although probably somebody had reasons to expect the opposite -- I was still not gone mata glap (crazy). I invited him to come to this beautiful country. He just was retired. He and Nadia came even twice.

Life is about family, friends, and teachers. In my family there was only a professional vacancy left for a soil scientist, because my father had studied already forestry and my grandfather geology. Soil science was a good choice and my professors Leen Pons and Jaap Bennema became my good friends.

Leen was a remarkable man. He did not talk as much as I did, but if he made a statement, in particular related to soil profiles, he was very sure that his interpretation was the right one, which stimulated his students to challenge him and in my case this was probably the only way for me to communicate. Even 20 years later he told me once in a while what relief he felt during an excursion in Ireland when I lost my voice for at least two days.

Wherever he was, and whoever was giving a presentation, his qualification at the end was always the same - that it was "a very good presentation". My best guess is that he appreciated the effort people made in the first place, being more important than the result. Lecturing in the field and organizing excursions is what he really liked to do. His fascination for travel came from his teacher in primary school, who told the children stories about Indonesia during geography lessons.

The opportunity for me to go to the tropics was thanks to the first Acid Sulphate Soils symposium in Wageningen organized by Professor Pons. Willem van Wijngaarden and I were allowed to participate in the symposium as students -- free of charge. One of the conclusions of the symposium was that how pyrite

accumulation occurred in mangrove areas was still not well understood. We volunteered immediately to solve the problem and Leen introduced us right away to Dr. K.T. Joseph from Malaysia. Dr. Joseph got an offer from Leen, which was difficult for him to refuse as it was presented to him by the president of the symposium. We got detailed instructions from Leen including that we should look for green mottles in the soil. It took 6 months, but we found these mottles in Kuala Selangor in Perak. We had a great time driving with a van through Malaysia, studying also sea level changes, digging for Hindu temples and getting an invitation to come to Sumatra to report to the FAO on our findings. After my graduation more mangroves and acid sulphate soils followed in West Africa, the Philippines and in Indonesia during assignments I did working for what is now the green world institute Alterra, part of Wageningen University and Research. Results were published with Leen and David Dent in the Ho Chi Min City symposium. While Leen and Nadia were in Indonesia, we made excursions in Java where I studied erosion. In particular a system where farmers were actively widening the valleys in Java in order to obtain more space for growing paddy (rice). The excess soil material which came down was transported to the irrigation channels (called in Indonesian language "nagaguntur"). Nobody observed probably these farmers digging in the hill as they were too busy with science. Actually there were quite a few aid projects in Java which were completely nonsense. Such as projects learning Indonesian farmers what they did for centuries by themselves such as building terraces and planting trees on top of hills to avoid erosion, whereas paddy farmers were digging in the valley to expand the valley. I could discuss these issues with Leen. We agreed over a beer that I had not gone crazy. Leen went to China and he reported back the paddy farmers in China invented the same system. A year later Leen and Nadia came back and we went on expedition in the Inner Mahakam delta to study peat formation and of course we were also looking for acid sulphate soils in the delta of the Mahakam.

In the last 10 years we both visited expert-meetings on nature conservation and development in Amsterdam giving informal advice to the Dutch government. The working group was hosted by the Dutch chapter of the International Union of Conservation of Nature (IUCN). Leen chaired this committee also a few years after retirement. He was much appreciated in these meetings, having a wide interest and keeping an independent view on conflicts between farming and nature conservation, but also on issues related to social justice and poverty.

**Leen Pons made a difference as a professor and he inspired his students to make a difference themselves.**

Editors Note: Herbert Diemont is at Alterra, the green world research institute at WUR (Wageningen University and Research Center), Wageningen, The Netherlands. He studied soil science and plant ecology in Wageningen and did his PhD on restoration of heath-ecosystems. He worked in heathlands, mangroves, tropical peatlands and was involved in certification of tropical timber and agricultural commodities. At present he is

active in restoring multifunctional farm systems in Europe and modulation of payments in the EU Common Agricultural Policy.

## Ch. 9. My Friend Leen Pons

By Mike Melville, [m.melville@unsw.edu.au](mailto:m.melville@unsw.edu.au)

**I see this overall book and my contribution as a celebration of Leen's work, but for me, and my wife Marilyn, I particularly want to celebrate the privilege of knowing Leen and Nadia Pons and sharing with them some wonderful trips and adventures in Europe and Australia (perhaps more social than scientific). Leen and Nadia were a perfect team in sharing their knowledge of things and places we experienced on our trips, but were particularly gracious and generous hosts. I learned from Leen some profoundly important aspects of natural and human landscape evolution in Europe and we greatly enjoyed contrasting those with Australia. I only wish that I was a better student.**

**To many soil scientists Professor Leen Pons is remembered for his contributions to our understanding of acid sulfate soils and their best management. This contribution arose from his time (1947-1962) with the Institute of Soil Survey at Wageningen. Leen's CV describes this work as involving:**

**"Soil maps for practical use, development of soil classification, research in ripening of peat soils and alluvial soils, plant-soil relationships, sedimentation history of marine and fluviatile sediments, physical ripening of soils, relations between soils and geomorphology, history, archeology, land occupation, development of land evaluation systems, etc."**

**From this came his 1956 WAU PhD, titled:**

**"The geology, soil formation and history of the drainage conditions in the 'Land van Maas en Waal' and part of the 'Rijk van Nijmegen'."**

**However, as the above CV extracts indicate, Leen Pons had much broader scientific interests than just in acid sulfate soils, particularly in terms of landscape characteristics and evolution, and in the history of human occupation in many parts of the World. On a trip to Romania with Leen and Nadia Pons, Marilyn and I experienced some of Leen's enthusiasm when he explained that although the nearby south-facing hillslope had been terraced for a vineyard since Roman times, prior to human occupation many places in temperate Europe were once under wildflowers such as where we then stood (see Pic 1: P1010223).**

**Pic 1 also shows one of Leen's two tools that he always carried in the field: his trusty binoculars with which to observe birds (predominantly). What cannot be seen in Pic 1 (because it is in his pocket) is his other essential field tool; the small leather-bound notebook with its replaceable pages and its pencil. His camera and local bird book were never far away either.**



**The images and notes that Leen and Nadia compiled on their many trips and events have been transcribed into a great many volumes of albums and journals. I'm sure that some of the events and activities that others relate about Leen in this book will have been recorded by him.**

**In images provided by others, Leen is seen performing his 'n-value' assessment to test the acid sulfate material's "squishiness", to use Del Fanning's term. Following the 2002 acid sulfate soil conference in Australia, Leen joined several others from the conference and we drove over several days as an excursion from Tweed Heads to Sydney, prior to departures for home. At one stop we inspected a bituminised road section where some sulfidic mud had been included with the aggregates in the mix. This material had oxidised and developed jarosite with a pH measured at about 3.5. With some encouragement from Del, Tini van Mensvoort and the rest of the party, Leen amused us greatly by pretending to perform his n-value squeeze test on a piece of the road surface material, without success.**

**Unfortunately, Nadia was unable to accompany Leen to that Australian conference so they returned subsequently and toured in campervans over some of southeastern and southwestern Australia. Marilyn and I accompanied them at the start of their adventure and two events remain vividly in my mind, both involving various native Australian parrots. At one point when visiting a coastal National Park we fed**



parrots with seed in our hand. Leen pointed out that despite these birds' dry scaly feet, they were very warm and soft when standing on ones' hand. Clearly warm-bloodedness had evolved. The second memory I have is when visiting my brother's farm, and we watched a pair of rare and endangered Superb Parrots investigating nesting hollows. I don't know whether the birds actually made a nest but in my lifetime I have only seen these birds on a few occasions on the family farm, and never known them to nest there. Leen had an almost encyclopaedic knowledge of birds from his experiences around the World. Even their house in Arnhem, ('the Blackbird'), reflects his ornithological interest; although his correspondence with me suggested the challenge of developing a large garden also influenced their decision to purchase that property.

I understand that a list of Leen's papers is to also be published. From that it will be clear that he was involved in many parts of the World in discussing, advising, and writing about them. Often the language of these was not his native Dutch, or the English with which he was quite expert, but in French, Romanian or other tongues. In most of these in the recent two decades or more, Nadia Pons was his right-hand, both in the spoken discussions or written outputs. They have been a formidable team!!

Marilyn and I greatly appreciate the warm friendship that Leen and Nadia extended to us. We will celebrate and hold that memory dearly and continue to visit and correspond with Nadia whenever we can.

Leen Pons might best be remembered by many with just one word: "FUNTAASTIC" (my emphases). That also describes Leen's contribution to science and his fellow man.

Editor's Note: Mike Melville is a retired, emeritus, professor of the University of New South Wales (UNSW), Sydney, Australia, who, with his students and colleagues, has conducted and published much research work on properties and management of Australian acid sulfate soils. His current position with UNSW is as a Visiting Associate Professor.

## **Ch. 10. In Memoriam: Leen Pons, My Husband and My Inspiration**

**By Nadia Pons – Ghițulescu, Soil Scientist, [nadiaPons@hetnet.nl](mailto:nadiaPons@hetnet.nl)**

**I met Leen for the first time in 1973, when we were both attending the FAO workshop for the Soils Map of Europe in FAO system in Gent, Belgium. Leen was there on behalf of the Netherlands and I was representing Romania.**

**Already on holiday, I arrived in Belgium three weeks before the actual start of the workshop, and at the request of Prof. J. Amerycks – my old professor of pedology at the International Training Centre for Post Graduate Soil Scientists in Gent, where I got my degree of Master of Soil Science in Soil Survey – I helped to prepare the work-shop and the fieldtrip for this event.**

**Leen arranged things in such way that he ended up sitting next to me for the duration of the trip. After this encounter, he wrote to me nearly every week for almost seven years: about his teaching, about field practicals, excursions, symposia and many related things.**

**On his way to and from Vietnam in 1979 he stopped for a few days in Bucharest, where I was living, and we made several trips in the Bucegi mountains. To my surprise, during one of our long talks about Vietnam, he suddenly told me that he wished I had accompanied him. At the time this sounded like a childish and unrealistic wish to me. But in May 1980 he came back to Romania for a week and asked me to marry him, restating his wish to have me at his side in Vietnam and for the rest of his life. In a realistic perspective this was the beginning of a struggle for an impossible dream: getting me out of communist Romania and to be accepted by the Calvinistic society to which Leen belonged. But despite all odds, we got married on August the 31<sup>st</sup> 1981. And on February 24<sup>th</sup> 1982 we were landing together at Ho Chi Min Airport in Vietnam. Two days later we were in Can Tho at the start of a ten-days combined course in soil survey, hydrology, land evaluation and geology -- organized for no less than two hundred Vietnamese agronomists and soil scientists. The course was followed by a week of field practical with 130 participants and several days of visiting state farms in different corners of the Mekong Delta.**

**The field practical took place in Lang Bien, deep in the heart of the delta. Our “hotel” was a three-room hut made of palm leaves: one room for Leen and myself, one for Tini (van Mensvoort) and the “dining room” in the middle. Our wooden bed was covered only by a mat. No mattress, no pillows, no bed sheets. But we had a mosquito net. The floor – a fresh layer of mud just taken out of the canal – was the play ground of the rats. “Rice field rats”, Leen reassured me. “Nice and clean animals, and very tasty too, we’ll certainly feast on them!”**

**Work began early, at half past five in the morning, when the day was still cool. In front of us a huge field covered by *Xiris indica*, a plant totally unknown to me. It thrives on acid soils and is indicative of their presence. Its yellow flowers, that**

resembled small dianthus, opened around ten in the morning in the already soaring heat and closed around four in the afternoon, when the heat tempered. So I discovered that “la plaine des joncs”, as the French used to call it, was not covered by *joncs* and “the plain of reeds” of the Americans was not covered by reed. Only the higher grounds on the banks of the marigots escaped the invasion of *Xiris indica*, and there one could see small rice fields and microscopic vegetable plots near the huts of the people.

We used to take a break between eleven and two in the afternoon and when we returned, under the blazing sun, the narrow paths overcome by weeds seemed even more difficult. Our drenched clothes glued to our bodies, sweat running down our faces, we walked as in a trance followed everywhere by the stinging sun. But not Leen, he always seemed fresh and not a bit tired. He looked like one of the elements belonging to this endless plain, like its God.

Although sixty-years old, he seemed the youngest of us all. Always enthusiastic and tireless, he taught us to look closely at the landscape and at the morphology of the profiles. He had an unusually keen eye for these things and a profound understanding of the geomorphology, which enjoyed his unabated attention. For the Vietnamese, educated in the spirit of the Russian soil classification, this was a novelty, and for myself, having worked until then only in temperate areas with well-defined relief, it was a difficult enterprise -- especially when Leen took us walking through water and mud, sometimes up to and over the waist. It was there that I understood how a teacher can become an inspiration for his pupils, how he can make them love their work.

In successive trips to other places in the delta, Leen identified a whole range of acid sulphate soils and created the Soil Legend of the Mekong Delta. Thanks to him the common project of the Universities of Wageningen and Can Tho became a success and he is probably responsible for the Vietnamese authorities accepting the idea that land in private property encourages initiative and brings about higher production.

For the Second and Third International Symposia on acid sulphate soils in Bangkok in 1981 and Dakar in 1986, I worked together with Harm Dost, editor of *Proceedings*, for which I made the French translation of circulars and summaries and I wrote the booklet “Livret Guide de l’Excursion en Guinée-Bissau” for one of the post symposium excursions in 1986. For the preparation of the post-symposium excursion, Leen and I took two trips to Guinée Bissau and there I learned from him how to understand soil genesis in coastal regions. It was as if he opened my eyes. And not only mine. The same can be said about all those who had the chance to work with him in the field. I remember well the enthusiasm of David Vera Cruz who worked with us not only on this occasion, but also in 1987, for the project Euro-Consult “Projet de développement risicole de Tombali” in Illa de Como Caiar, an isolated island where we had to endure the difficulties of the tropical forest amidst

**the rainy season and primitive conditions. But how attractive and exciting it was to work with Leen!**

**Along the years I accompanied him to Africa, Indonesia, Malaysia, Sri Lanka, China. I was his interpreter, his secretary and his workmate. “*Mijn goede maat*” (my good buddy), as he tenderly called me in Dutch. But first and foremost, I was his wife and his mother, because he was a boheme, divert, the forgetful professor and I felt he needed protection.**

**From 1951 to 1986, Leen did about 20 short missions to developing countries for advising and research on alluvial soils, acid sulphate soils, peat soils, saline soils and other wetland soils. He promoted 19 dissertations on various subjects in relation to soil science and, after retiring, he was a consultant in Soil, Land Evaluation and Planning of Agricultural Land Use. After 1990 he was increasingly involved in East European Agriculture and Nature Conservation (Danube Delta ).**

**Beyond Soil Science, Leen had a large field of interest: birds (we were many times in Falsterbo in Sweden, in the Danube Delta in Romania, and in Kenya for watching birds), orchids (he had a green house with about 250 orchids plants), painting. In his last university lecture on March 26, 1987 “Bodem, Land en Landschap “ he spoke also about landscape and soils in painting with wonderful examples from Middle Ages (De gebroeders van Limburg- Les tres riches heures du Duc de Berry; Breugel de Oude - The fall of Icarus), Flemish and Hollandish School (Rubens, Ruysdael ), the 19 Century School (Corot, Courbet, Andreescu ), the Impressionisme (Cezanne, Gauguin, Van Gogh).**

**Now that my inspiring, enthusiastic and tireless husband is no more, I hope that we will all remember him as our mentor who taught us love for our work and the important place it takes in our lives.**

Editors Notes: The following four pictures (see succeeding pages) were submitted by Nadia for inclusion here with her Chapter about Leen. Several additional pictures pertaining to Leen’s scientific career submitted by Nadia are presented in the “more pictures” section at the end of the book.

Nadia Pons Ghițulescu did her professional soil science work at the Geological Institute and the Research Institute of Pedology in Bucharest, Romania and at ISRIC, Wageningen, The Netherlands.



**A formal picture of Leen, Professor Pons, presiding at an event of the Third International Acid Sulphate Soils Symposium in Dakar, Sénégal, 1986.**



**Leen showing a soil morphological feature, the ripeness and probably jarosite on a ped face, of the Sequence de Oussouye, near the Casamance River in Sénégal on field trip of the Third International Acid Sulphate Soils Symposium, January, 1986.**



**Examining soils in a rice paddy, Illa (Isle) de Como Caiar, Guiné Bissau, 1988**





**Selangor – Malaysia, 1988**



## MORE PICTURES



**This photo was contributed by David Dent of ISRIC, with the following note: photo taken during the field excursions of the Ho Chi Minh City symposium on acid sulphate soils, March 1992, shows Leen, seated for once, in a muddy pit.**



**Photo from Nadia. Leen receives recognition Award (see next page) in Vietnam for his work on the VH 10 Project**

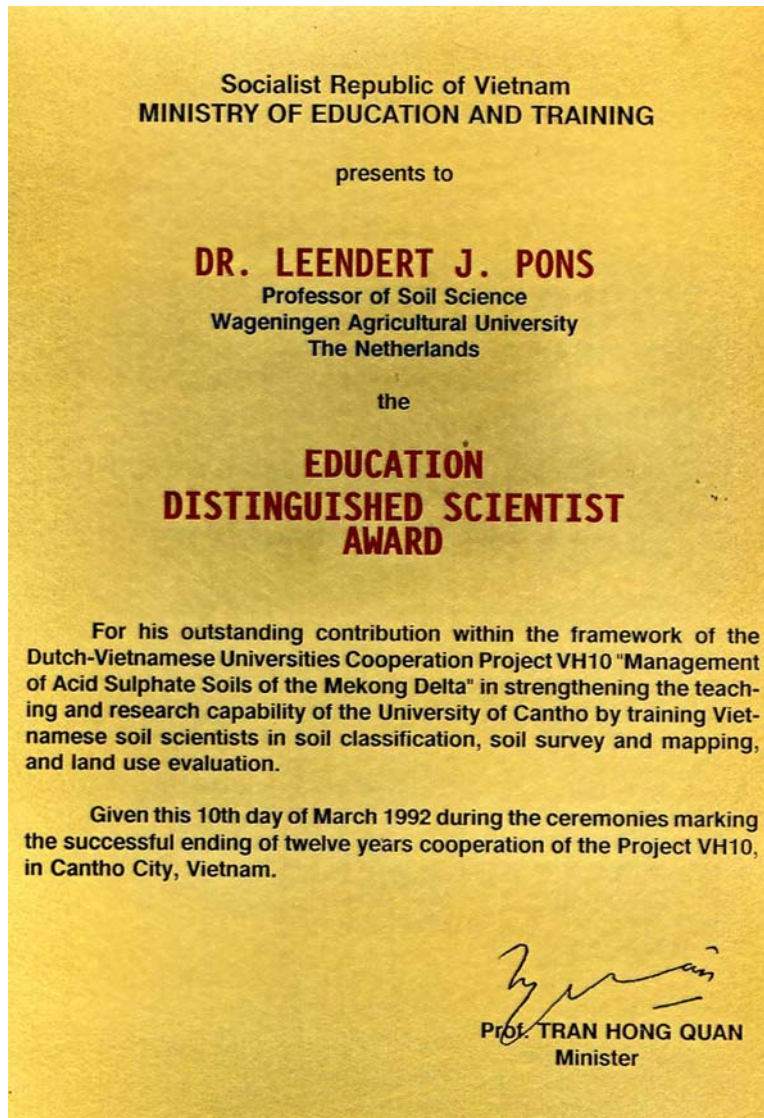


Photo from Nadia shows Education Distinguished Scientist Award Certificate that Leen received March 10, 1992, see picture on previous page, at the completion of the VH 10 Project, at time of the 4<sup>th</sup> International Acid Sulphate Soils Symposium in Vietnam.



**Picture from Nadia. Leen on the Mekong River, Can Tho, Vietnam, 1992**



**Picture from Nadia, Leen steers boat on Mekong River, Cantho, Vietnam, 1992.**





**Picture from Nadia. Nadia with Leen to her left and other attendees at Sino-European Conference in Guangzhou, China, 1988.**



**Picture from Nadia, Leen in middle of others of Project of Wageningen University on acid sulphate soils in Kalimantan, Indonesia in 1989.**



**Picture from Nadia. Nadia and Leen at site of experiments with different trees and shrubs on saline acid sulphate soils, Estuaire de Siné Saloume, Toubacunda, Sénégal, 1987.**



**Picture from Nadia. Leen with hands raised in explanation on field trip of Third International Acid Sulphate Soils Symposium at Casamance, Oussouye, Sénégal site, Jan. 12, 1986. Book editor recognizes himself on left side by Claude Marius (bag over shoulder) – a trip leader.**





**Picture from Nadia. Leen, squashing/squishing the soil to demonstrate the ripening situation. Field trip for Third Int. Acid Sulphate Soil Symposium, Jan. 12, 1986, Casamance, Oussouye, Sénégal site.**



**Leen teaching course in soil survey, Can Tho University, Vietnam, February, 1982.**

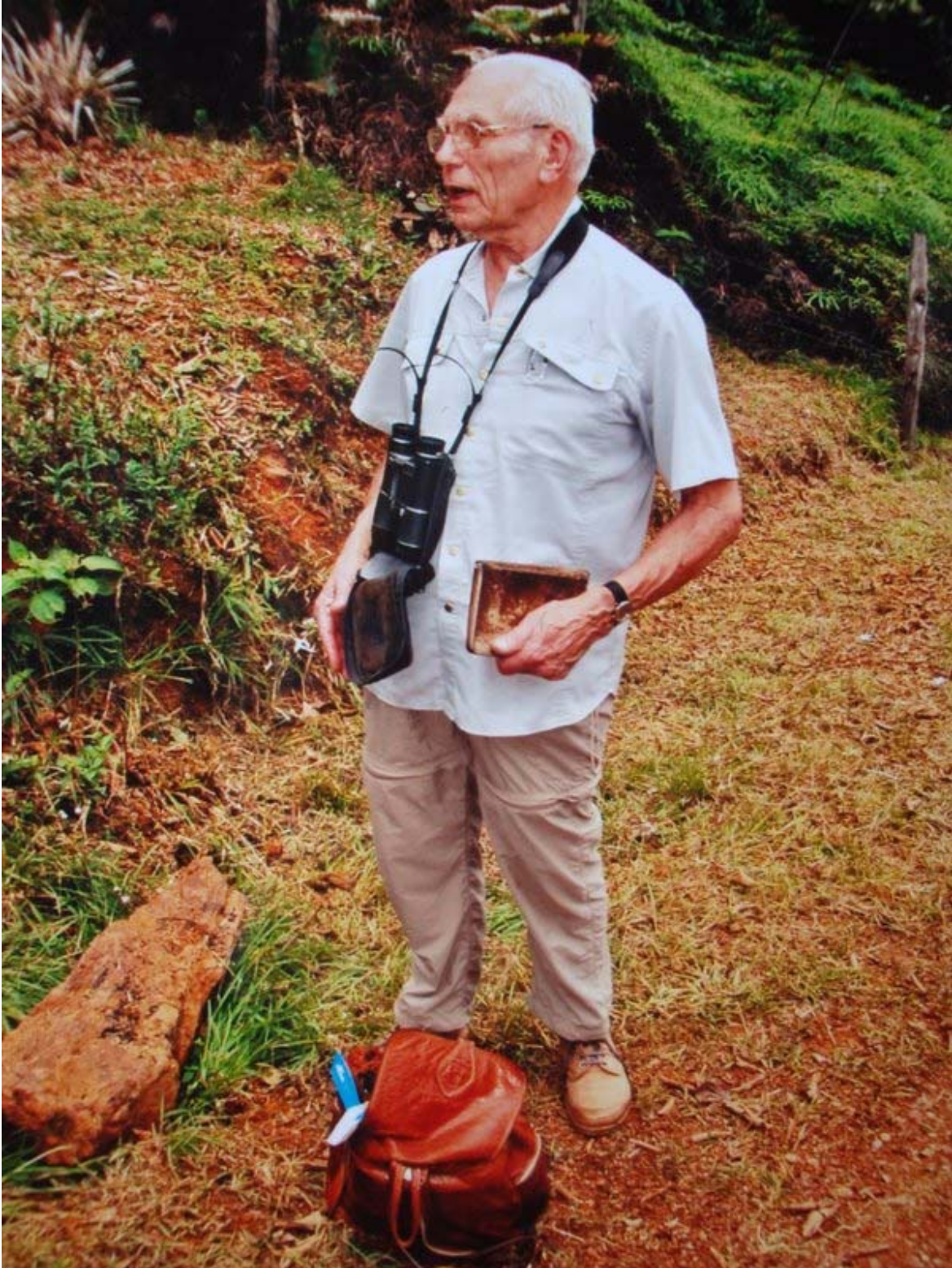


**Picture from Nadia. Soil survey, acid sulphate soils, Lang Bieu, Mekong Delta, Vietnam, March 1982.**



**Picture from Nadia, Leen writing notes in Danube Delta, Romania. Leen was on the UICN Commision – Foundation of Nature Biosphere in the Danube Delta.**





**Picture courtesy of Nadia and Mike Melville, taken, according to Nadia, during an excursion for Tresor, a foundation of Utrecht University, in French Guyana in 2006, probably in Kaw Mountains. Leen is shown in his characteristic posture with his ruksak, his field glasses, and his notebook.**

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