

Cornelis Johan 'Kees' Stigter

Lifetime And Achievements

Of a Passionate Scientist who Devoted his lifetime for Poor Farmers Welfare

A Devoted Down to Earth Scientist and A Prolific writer with A+ A+
(Ambitions) (Accomplishments)



Cornelis Johan 'Kees' Stigter - The Founding President of INSAM

- 'Kees' was born in Amsterdam in February 19, 1940, just a few months before the start of five years of occupation of The Netherlands during the Second World War. His father was a cashier at a colonial bank and his mother was a piano teacher. He went to primary and secondary school in Amsterdam.
- In October 1962, he decided to take meteorology at the Free University as a two-year minor option (in those days, it was not possible in the Netherlands to study meteorology as a major) and continued his work in experimental physics at the Van der Waals Laboratory in Amsterdam.
- Even as a youth, he wanted to do something useful, to alleviate the suffering of people in the developing countries

Cornelis Johan 'Kees' Stigter – Early Accomplishments

- 'Kees' worked under Dr.C.T. De Wit for his Ph.D . Together with another Ph.D. student, Jan Goudriaan, Kees started his research to quantify the **microclimate of fodder maize**
- but wrote his thesis in the mean-time on “the design, calibration and use of a ventilated porometer” and was **awarded the WAU University Research Prize** for the first part of his research.
- He Obtained his Ph.D from Wageningen in 1974
- In 1975, he, met his old French colleague, Dr Charles Baldy some 20years later. Soon they wrote a book together entitled **“Agrometeorology of Multiple Cropping in Warm Climates”**.

Work and Achievements of Prof. Kees Stigter (1975-1985)

- Later he moved to Dar es salaam, Tanzania in 1975 where he worked together with the renowned Prof. Paul Vita and **he developed a great interest concerning the 'value of traditional knowledge as a starting point' for assisting farmers in developing countries.**
- **With financial support from Netherlands to Tanzania which continued later for 30 years, he started organizing courses in environmental physics, for both undergraduate and postgraduate levels**
- Some of his later works have appeared in the most prestigious publications and journals. **In October 1983 he was nominated as Tanzanian candidate for the Sasakawa Environment Prize**

Work and Achievements of Prof. Kees Stigter (1975-1985)

contd.....

- During the period 1979-1985, he established the Research Group of Agricultural Physics in Tanzania. It specialized in collecting and physically quantifying examples of indigenous knowledge and traditional techniques of microclimate management and manipulation.- **A turning point in his life.**
- In August 1985, he started as Project Supervisor for the Traditional Techniques of Microclimate Improvement(**TTMI**) Project – implemented in **Sudan**, Nairobi(Kenya) and Dar-Es-Sallam with Nigeria joining in 1990- 1997 in its 2nd phase “**Picnic Model**”. **During this period He made 41 missions to Africa as a visiting professor (in Sudan).**

His Achievements during the 15 year period(1985-2000) in Africa include :

- Protecting irrigated land from wind-driven sand encroachment by shelterbelts
- Assessment of alley cropping (contour hedgerow) agroforestry solutions in SA areas
- developing design rules, and determination of **water waste by traditional and newly developed irrigation methods** in the Gezira scheme, Sudan
- heat protection of crops between multiple shelterbelts grown to **combat desertification (northern Nigeria)**
- improving the microclimate of sorghum grain **traditionally stored underground** and **extending its safe storage periods** in Central Sudan(and many more)
- There was praise **for the obvious socio-economic relevance of this kind of work** but some had doubts about its suitability for research education and scientific training
- **His Answer to this was : we have published some 50 such papers in more than 25 different scientific journals on these success stories.** This approach may be different from the traditional one, but **it is functional and practical**, since it takes the farmers' needs into consideration.

Prof. Kees Stigter- Success stories of relevance

- Early successes of the TTMI Project, such as showing that “ **alley cropping was largely unsuitable on flat land in semi-arid climates but could be useful on sloping lands”, -- According to him- the Impact of this finding was no less than a miracle.**
- In Sudan, he **quantified water waste** of “laissez-faire” irrigation. He was the first to **quantify sand capturing in a shelterbelt** and by single trees and grasses. He was the first (and so far only) to **quantify wind reduction in savannah woodland as a function of tree density**.
- **Design improvements of Multiple shelterbelts** for improved crop protection in African Drylands
- **“end-to-end” conceptual diagnostic framework** on generation and transfer of agrometeorological services and information **for improving the livelihoods of poor farmers**

Agricultural issues and solutions - Africa

- The vicious circle of **poverty and inability to cope with environmental degradation and disasters** is the most obvious problem in African agriculture, forestry and livestock production. The **absence of well organized but decentralized leadership and efficient governance** makes it impossible to break this circle.
- He had succeeded in parts of Africa to provide some useful solutions with agrometeorological approaches but felt that the scale of intervention is much too small to have adequate impacts (**needs Upscaling**)

His definition of agrometeorological services—which need to be developed further through participatory pilot projects—ranges from:

- Agrometeorological characterization to response farming;
- **Microclimate management decisions** tailored to focused interannual, seasonal or other climate forecasting and specific weather forecasting;
- Monitoring and early warning approaches, for validation of new adaptation strategies relating to environmental degradation and other changes.

Visits to **Asia** by Prof Kees Stigter

- Between 1988 and 1993, He came to Pune, India, for UNDP/FAO/WMO/ICAR work, six times (about a month trips). The main purpose of these missions was the establishment of the **Centre for Advanced Studies in Agricultural Meteorology (CASAM)**. Prof. Varshneya was its first Head.
- He also made visits to **Viet Nam**, in 2000, 2001 and twice in 2003, working on joint workshops and projects. Lectures at **ADPC, Bangkok** (2002) and **Beijing** in 2003. He also promoted the **picnic-type model of Sudan** in the **Asian** countries and the South-West Pacific, particularly in **China, Indonesia and Viet Nam as APMP**. He **thus succeeded** in bringing his African experience and that of CAgM- to China and have also used experience from China for the benefit of Africa.
- As he was **visiting Indonesia**, for considerable periods **since 1994**, he got associated with the Dept. of Geophysics and Meteorology (**DGM**), of the Institute Pertanian Bogor (**IPB**) in West Java, through which he **continued lecturing in DGM and in a consortium of (5) universities in Indonesia**.

Prof. kees Stigter's Visit to our Institute, Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad, India on 28th January, 2004



Prof. Stigter

Dr. Radhakrishna from ANGR Agri. University, Hyderabad

Dr. P. Vijaya Kumar, Former Project Coordinator, Agromet, CRIDA

Dr. G.G.S.N.Rao, Former Project Coordinator, Agromet, CRIDA

Prof. Kees as a Visiting Professor (Ag.Met)

Meeting Farmers needs for Ag.Met services

(2010- Brazil)

Languages
Dutch · English · French · German

Skills & expertise

Disciplines
Forestry Environmental Science Agrophysics

Skills and expertise
Extension Education Research Agrometeorology Water Conservation
This ... publication to ... 3 Food Security Evapotranspiration Water Balance
Irrigation Soil ... Conservation Soil Physics Environment Agronomy
Water ... Management Environmental ... Assessment Soil Climate Change
Micrometeorology Maize Climate Wind Thermal Conductivity Evaporation
Environmental Physics Soil Erosion Bioclimatology Rainwater Harvesting
Agriculture Biometeorology Soil Fertility Sustainable Agriculture Sustainability
Spatial ... Properties Soil Conservation Land Degradation Crop Management
Carbon Sequestration Climate ... Agriculture Crop Production Land Use
Sustainable Development Climate ... Adaptation Meteorology Crop Modeling
Forestry Drought Stress Climatology Drought Climate Variability Agroecology
Rural Development Weather Specific Heat Climate Modeling View less

- As a visiting Professor of Agricultural Meteorology, Prof.Kees Stigter annually visited South Africa (University of the Free State) and Indonesia (Universitas Indonesia) besides lecturing in other Indonesian Universities.
- Occassionally he also gave Roving Seminars of one week also in Iran(6), Zimbabwe (4), Sudan (3) and Swaziland, Zambia, Lesotho and Ghana on ` **Agrometeorological Services- Theory and Practice**'- Towards developing Ag.Met services for a variety of Farming Systems.
- Total : **30 in 13 countries**

He was editor and main author of the book [Applied Agrometeorology](#), published by Springer. The book offered a combination of the theoretical background of agricultural meteorology with practical problem solving and case studies. As such, it has appealed to scientists, end users (farmers) and policy makers.

- Reviews on the Book on Applied Agrometeorology -
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- **“The book could be named as the ‘bible’ of ‘how to do in applied agrometeorology’** ... useful for farmers and the welfare of people presents valuable and in-depth information and enormous background knowledge for practical applications in agrometeorology and related services. **J. Eitzinger**, Journal of Agricultural Science, Vol. 149, February, 2011
- "The impetus for this book comes from the **desire of the editor to bring together the many years of his experiences of working in Africa and Asia**, and asking others who share his vision and/or experiences, to write chapters in their areas of expertise." The **key concept is** that **‘ there must be a bottom up approach to supply useful information to farmers** in these countries." (**Prof. Albert Weiss**, University of Nebraska)
- **Prof. Kees was the author/co-author of more than 850 publications**, of which **145 appeared in peer reviewed journals** and **235 invited/selected articles in books/monographs/ CD-ROMs**.
- Many of these were related to **agriculture in semi-arid and arid areas, fighting land degradation** and **combating desert encroachment**

1st edition. 2010



Applied
Agrometeorology

Academic achievements of Prof. Kees Stigter

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- **He was Lead author of :**
- **CAGM Report (Nr. 25, WMO/TD-No 228) on “Microclimate management and manipulation in traditional farming” and**
- **CAGM Report (Nr. 43, WMO/TD-No. 499) on “Application of microclimate management and manipulation techniques in low external input agriculture” (1992).**
- **Sole author of a CAGM Report (Nr. 104) on “Agro meteorological services: Reaching all farmers with operational information products in new educational commitments” (2011).**
- **Leader of the CAGM Expert Team and Editor-in-Chief for the third edition of the WMO ‘Guide to Agricultural Meteorological Practices’ (GAMP, WMO134), on which he worked with 180 people.**
- **Nominated by Netherlands Govt. for the WMO ‘IMO Prize’ during 2011-2013**

Some of the Most Referred Citations of Kees Stigter's Publications



Kees (C.J.) Stigter

VOLGEN

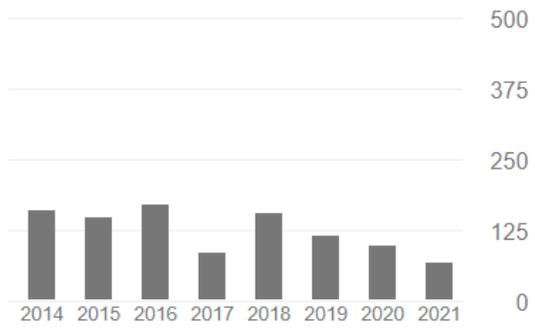
Affiliated professor, University of the Free State, Bloemfontein, South Africa
 Geverifieerd e-mailadres voor usa.net - [Homepage](#)
 Agrometeorology Agroclimatology Tropical Agriculture Climate Change

MIJN EIGEN PROFIEL MAKEN

Geciteerd door ALLES WEERGEVEN

Alles Sinds 2016

Citaties	3702	689
h-index	31	11
i10-index	113	19



TITEL	GECITEERD DOOR	JAAR
A comparison of methods to determine the onset of the growing season in northern Nigeria OF Ati, CJ Stigter, EO Oladipo International Journal of Climatology: A Journal of the Royal Meteorological ...	213	2002
Agrometeorological adaptation strategies to increasing climate variability and climate change MJ Salinger, CJ Stigter, HP Das Agricultural and Forest Meteorology 103 (1-2), 167-184	152	2000
Using traditional methods and indigenous technologies for coping with climate variability CJ Stigter, Z Dawei, LOZ Onyewotu, M Xurong Increasing Climate Variability and Change, 255-271	150	2005
The conservative ratio of photosynthetically active to total radiation in the tropics CJ Stigter, VMM Musabilha Journal of Applied Ecology, 853-858	85	1982
Agroforestry solutions to some African wind problems CJ Stigter, AE Mohammed, NKN Al-amin, LOZ Onyewotu, SBB Oteng'i, ... Journal of wind engineering and industrial aerodynamics 90 (10), 1101-1114	69	2002
Contour hedgerows and grass strips in erosion and runoff control on sloping land in semi-arid Kenya	66	2007

- Characterization of rainfall in the central and South African region was done to assess the Water harvesting potential of the region, to improve the agricultural production
- To cope up with extreme meteorological events he had designed vulnerable solutions for crop plans , multiple cropping strategies, suitable forest species, animal husbandry and aquaculture for sustainable income from farm lands, in various African countries
- Conducted numerous capacity building programs through roving seminars in various countries in Africa, Asia and in Latin American countries through “Agro met Vision” project
- Established various agricultural learning schools for farmers in Indonesia in improving their skills for better management of agricultural crops and livestock production
- Improved the existing strategies to cope up with weather and climate risks in agricultural production through use of crop insurance approach in African countries.
- Reviewed the syllabi of various international training programs organized by different agencies in developing countries in Africa and in Asia

Major Services of Prof. Kees Stigter

- **He was a member of staff of Wageningen University, the Netherlands (1966 –1975; 1985 – 2005);**
- **Associated for 25 years with WMO of which-He served as Vice-president (1986 – 1991) and president (1991 – 1999) of the WMO Commission for Agricultural Meteorology (CAgM); and was also the Dutch principal delegate in CAgM (1985 – 2007).**
- **He was associated for 13 years (1985-1997) as member of the National Advisory Board of the Netherlands Ministry for Development Cooperation, and Member of numerous assessment committees for collaboration proposals between Dutch Universities and Universities in Developing Countries**
- **He was the Founding President of the International Society for Agricultural Meteorology (INSAM), since 2001. Since 2003 Kees wrote the quarterly homepages of the INSAM web site (www.agrometeorology.org).**

Some other Affiliations of Prof. Kees Stigter

- **C. (Kees) J. Stigter, Member- Group Agrometeorology, Department of Soil, Crop and Climate Sciences, University of the Free State (UFS),**
- **Faculty of Agriculture, Bloemfontein, South Africa and**
- **Cluster Response Farming and Climate Change, Department of Anthropology University of Indonesia besides**
- **Agromet Vision, Groenestraat , Bruchem/The Netherlands –**
- **The one man consultancy bureau “Agromet Vision” (The Netherlands, Indonesia, Africa) through which he offered Roving Seminars of two to five days for university staff, students in agriculture, professional agrometeorologists and extension intermediaries since 2005.**

Last years of Prof. Kees Stigter



- During his last years, he was working on 'connecting agricultural sciences, environmental sciences, social sciences, and extension services' in various countries.
- He advocated using new educational commitments -- such as **Science Field Shops and Climate Field Schools** -- for farmers and extension agents to assist them in responding to climate change through their own innovations.
- He continued his involvement in **project evaluation** and other missions in agricultural meteorology, higher education and institutional matters, **including invited lectures, in 20 African countries since 1969 to January 2014**
- He unfortunately passed away on **20 May 2016 in Indonesia**
- **His Aims and Ambitions:**
 - How to make better use of the existing Agrometeorological information and to disperse the knowledge to the farm level-
 - Create awareness in the farmers on the agroclimatic issues and make them strong in identifying the possibilities, choices and options that are available to them in solving their problems
 - *Agrometeorological services to prepare farmers for climate extremes and climate use" – i.e*
 - preparing farmers for environmental resilience and solving farmers' problems of sustainable development, with agrometeorological and agroclimatological components

His Parting Thoughts.....



If one day I happen to see that my "end-to-end" conceptual diagnostic framework on generation and transfer of agrometeorological services and information has received recognition and has had effects in the domain of the livelihood of the farmers, then I will know that my 40 years of service in agrometeorology has been fruitful. **This is unforgettable to any scientist.**



'Kees' Stigter' Signing off.....

Handing us the Mantle and the Flame of Passion to Carry on his Dreams Forward
Thank you

