CIGR First Section 5th Interregional Conference

on

CHALLENGES OF WATER MOBILIZATION AND SOIL CONSERVATION

IN BETTER ADAPTING TO CLIMATE CHANGE

and

2nd Conference of the Pan African Society for Agricultural Engineering (PASAE - AfroAgEng) on

"THE ROLE OF AGRICULTURAL ENGINEERING IN MEETING THE CHALLENGES OF GLOBAL FOOD SECURITY"

From 10 to 13 September 2019, IAV Hassan II

Rabat - MOROCCO
INVITATION

ANAFIDE, is pleased to organize in collaboration with Hassan II Institute of Agronomy and Veterinary Medicine (IAV), the international Comission of Agricultural Engineering (CIGR) and the Panafrican Society of agricultural Engineering (AfroAgEng) a joint international meeting composed of the two following important conferences; (i) 5th Interregional Conference on "challenges of water mobilization and soil conservation in better adapting to climate change" in collaboration with CIGR First Section and (ii) 2nd conference of the pan african society of agricultural engineering (AfroAgEng) on"the role of agricultural engineering in meeting the challenges of global food security".

ANAFIDE was established in 1970 and is the official representative of Morocco within CIGR. It is very active both nationally and internationally in the fields of rural development, irrigation, drainage and environment. ANAFIDE is also emmber of the the Panafrican Association of Agricultural Engineering (AfroAgEg). It is a Non-Governmental Organization recognized formally as Public Utility Association in 1988. ANAFIDE members include individuals or institutions from public or private sectors. ANAFIDE’s Board includes members from public and professional sector including engineering companies, contractors and academic institutions, etc. ANAFIDE has been conducting various activities to promote debate about policies and programs to enhance sustainable development of irrigated agriculture and water management related activities in the country. The National Committee has organized the 13th International CIGR Congress in Rabat in 1998 and also several other joint activities with CIGR technical sections 1, 2, 3 and 4. I am very happy o invite you to attend this joint meeting, meet and exchange with other participants from other countries and horizons and visit the city of Rabat and other imperial towns proposed during the post conference tours.

Aziz FERTAHI

President of ANAFIDE
Scope and Objectives of the 5th Interregional Conference

The 5th inter regional CIGR conference as agreed between ANAFIDE and CIGR Section I will be organized in Rabat Morocco from September 10 to 12th - 2019 on the main theme of “challenges of water mobilization and soil conservation in better adapting to climate change”. It comes after a series of previous conferences held respectively in China in 2014, Uruguay in 2015, Denmark in 2016 and Mexico in 2017.

Securing water and conserving soil resources for food under climate change is a concern not only in the arid and semi-arid zones but also for many other regions of the world. Climate change is one of the most serious and urgent issue for human society and global environment. It is to be recognized as an added stress on the increasingly complex and interlinked issues of rural, agricultural development and food security under demographic changes, overstretched environmental and natural resources. This is particularly true for Africa. During the last COP22 in Marrakech, the 3 A initiative (Adaptation of African Agriculture to CC) was launched.

Challenges to the climate change could be another driving force to improve water mobilization systems, irrigation and drainage schemes, soil conservation techniques, policy measures. They have to be factored in all processes of planning, design, implementation, operation and maintenance. We need to understand processes and impacts of climate change, what we can predict and how we can sustainably adapt in climate change. This implies revisiting Design and Operation Criteria for hydraulic, irrigation and drainage facilities, land planning as well as approaches of management not only frequent floods and droughts but also extreme events. Improving water mobilization and soil conservation will play a key role in achieving the rural water and food security under impending climate change, especially in the developing countries.

Many researches have been carried out with useful outcomes in different regions of the world. The 5th inter regional will be an opportunity to identify, exchange about what adaptation measures are to be developed urgently and implemented efficiently with the present available information including infrastructure and land improvement and institutional reorganization and management strategy for the extreme events. ANAFIDE, the Moroccan national CIGR committee welcomes you to take part in this conference and enjoy visits to historical and cultural sites during the technical visit and post conference tours.

Scope and Objectives of the 2nd Conference of the Pan African Society for Agricultural Engineering (PASAE - AfroAgEng)

The environment and livelihood conditions in developing countries have been, in part, enabled by investment in agriculture. This investment generated great improvements in agricultural yield and efficiency, which reduced the cost to the consumer, and enabled investment to occur in areas far beyond agriculture. Similar growth and opportunities will face significant challenges, particularly while world populations grow at unprecedented rates and more food production is needed. In developing countries, the challenges are most dire; it is precisely in these regions where production increase is needed and the effects of climate change are expected to be the most severe. There is a critical need to identify new approaches for providing food security for the world of the future.
Engineering solutions will undoubtedly play an integral role in ensuring a secure food supply. At minimum, there is a need to further improve our efficiency. Worldwide it is estimated that one third of food is lost on average, although estimates have been reported to be as high as 50%. In developed countries, losses primarily occur at the retail outlet and with the consumer due to exceedingly high quality requirements, whereas in the developing countries, significant losses occur at the producer, storage, and transit stages. New engineering solutions in supply chain logistics will target key opportunities for reducing these losses, delivering these foods to consumers, and keeping costs low. During production, precision use of external inputs, like irrigation, fertilizer, and pesticides, can be managed more efficiently to minimize applications in areas where they are not necessary, while reducing cost, managing risk, and improving yield. Engineers will need to provide technology and practices to improve yields by growing crops in new environments, including indoor and underutilized outdoor environments, with affordable cost and minimal environmental impact. The crops themselves can be reengineered to be tolerant to temperature and water stress or for reduced nutrient or pesticide requirements, improving yields, even in adverse conditions. The pressure to feed growing populations, or to turn a profit, can lead to pressure to take risks with the distribution and consumption of unsafe foods. New sensing and tracking technology will provide the capability to ensure that our food supply is not only sufficient in quantity, but also safe to consume.

The conference will offer an opportunity to cover many of the challenges and opportunities for engineers addressing food availability and security in the context of not only the developed and developing countries, but also in rural and urban settings, using physical and biological technologies, and many others.

### TOPICS OF THE 5TH INTER REGIONAL CONFERENCE

I) Water mobilization

- I.1) Geospatial technologies as tools for decision support
- I.2) Techniques for implementation, management and maintenance of conventional and unconventional water mobilization infrastructures
- I.3) Mechanisms for financing water mobilization infrastructures
- I.4) Impacts of climate change on water resources and hydraulic structures.
- I.5) Risk analysis models related to climate change: flood, flood, drought, erosion...

II) Soil conservation

- II.1) Conservation agriculture in rainwater harvesting
- II.2) Soil conservation constraints in irrigated
- II.3) Conservatory techniques in forestry
- II.4) Techniques for improving pastoral routes
- II.5) Tools for planning, managing and monitoring soil quality
III) Cross-cutting themes

III.1) Impact of climate change on the conservation of water and soils
III.2) Development of adaptation approaches to climate change: design of rural infrastructures, hydraulic structures, watershed management, agricultural planning, etc.
III.3) Improving the effectiveness of water and soil monitoring systems, warning and response to extreme events
III.4) Public-private partnership for hydro-agricultural development projects and water resources management
III.5) Governance, regulation and community and transboundary management of water resources.

TOPICS OF THE 2ND CONFERENCE OF Afro-AgEng

The conference organizers hereby invites the submission of abstracts on or more of the following topics:

(i) Challenges of population growth and fluctuating demands, water shortages and temperature changes,
(ii) Development of irrigation as a sustainable approach to increase food production
(iii) Increasing productivity while reducing environmental impacts, and maintaining food safety and quality assurance.
(iv) Building environmentally aware watershed models, considering the balance of food, water, and energy usage in developing countries seeking to adapt to climate change.
(v) Provide infrastructure, logistics and institutions needed to reduce post-harvest losses
(vi) Applications of precision agriculture in rural communities.
(vii) Engineering controlled environments for agriculture for a sustainable future.
(viii) Quality assurance and food safety.

Contributions are invited to address the above topics in one of the following fields:

• Energy conservation and sustainable energy
• Food processing, preservation and post-harvest losses
• Soil and water engineering, including irrigation, hydrology and water management
• Agricultural structures
• Agricultural machinery and mechanization
• Development and applications of precision agricultural technologies
• Environmental engineering

TARGET PARTICIPANTS
A wide range of participants, including policy decision makers, professionals, academicians and researchers from Africa and beyond working in irrigation and drainage or closely related fields are encouraged to submit abstracts. About 400 participants (150 national and 60 international) are expected to attend this conference.

**PAPER SUBMISSION**

The abstract should be submitted electronically as a word file to the following email: anafide.ma@gmail.com with a copy to bartali.h@gmail.com. The abstract template and paper submission form can be downloaded from the conference website.

Deadlines dates for the submission and processing of the paper are provided hereunder:

- Submission of abstract: April 1st; 2019
- Notification of acceptance: April 30th, 2019
- Submission of full paper: July 1st, 2019
- Notification acceptance (oral/poster) of papers: August 1st, 2019

**CONFERENCE LANGUAGES**

During the conference, English and French will be used. Simultaneous translation will be provided during all sessions.

**IAV Hassan II - RABAT : Venue of the conference**

The conference will be held in the capital city of Rabat characterized by a mild climate and where participants can visit historical places such as 12th Century old Hassan Tour, and old city shopping streets. The meeting place is Hassan II Institute of Agronomy and Veterinary Medicine (IAV). This is one of the outstanding academic and research institutions in Africa having very broad cooperation links with several universities in Africa, Europe, North America and Asia. It offers very convenient conference equipped for simultaneous translation as well as meeting rooms with Wi-Fi connections suitable for parallel sessions and committee meetings. Its large campus is very convenient to accommodate side exhibitions.

Participants can fly directly to Rabat or to Casablanca and continue by shuttle train (1hour and half). The conference place is also easily accessible from most hotels of the city by Tram lines.

Participants can fly directly to Rabat or to Casablanca and continue by shuttle train (1hour and half).

They can also fly to Tangiers (gate of Morocco from Spain) and take Fast speed train to Rabat.
IAV Hassan II: meeting place for the conference.

The conference place is easily accessible from most hotels of the city by Tram lines.
TECHNICAL VISIT AND OPTIONAL POST-CONFERENCE STUDY TOURS

❖ Tour1: to Haouz Irrigated area (south of Morocco) and visit to imperial town; (2 days)
❖ Tour 2: to the Saiss irrigated area (Center of Morocco) and visit to imperial city of Fes; (2 days)
❖ Tour3: to Gharb irrigated area north of Morocco; (1 day)

The detailed programs of this visit and study tours will be announced later on.

Other Partners:

National level: Directorate of Irrigation and Agricultural Land Planning; Directorarte of Research and Planification of Water Resources;, Moroccan Association of Agricultural Engineers (AIGR), Moroccan Inter Professional Network for Drip Irrigation(REMIG), Regional Boards for agricultural Land Valorisation (ORMVA); Hydraulic Basin Agencies...

Other potential partners on international level:

Food and Agriculture Organization (FAO), International Center for Advanced Mediterranean Agronomic Studies (CIHEAM), UNESCO, ICARDA, BADEA, ADB, World Bank (WB), etc.
REGISTRATION FEES

Registration fees cover: the conference proceedings (Extended abstracts document and full papers on USB key), welcoming reception, coffee breaks, fare well dinner and 1 day technical tour.

WITHDRAWAL / CANCELATION POLICY

Withdrawal will be accepted only up to 30 days prior to the event and a 30% penalty will be levied at the time.

<table>
<thead>
<tr>
<th>Category of participants</th>
<th>Registration fee in (US $)</th>
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<tbody>
<tr>
<td>Members of ANAFIDE</td>
<td>150.00</td>
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<tr>
<td>Members of PASAE</td>
<td>300.00</td>
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<tr>
<td>Other Delegates</td>
<td>400.00</td>
</tr>
<tr>
<td>Young Professionals (foreign) - less than 25 years old</td>
<td>175.00</td>
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<tr>
<td>Young Professionals (local) - less than 25 years old</td>
<td>100.00</td>
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<tr>
<td>Retired Professionals</td>
<td>150.00</td>
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<tr>
<td>Accompanying persons</td>
<td>150.00</td>
</tr>
<tr>
<td>Post conference study tours/Voyages d’études post conférence</td>
<td>150.00</td>
</tr>
<tr>
<td>Exhibitors/exposants</td>
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Mode of payment of REGISTRATION FEES

By Money Transfer to ANAFIDE

Bank Adress: AWB AGENCE ANGLE AVENUE D’ALGER ET RUE D’ORAN- RABAT - MAROC
RIB 007 810 000 594 5 000 301 919 95
SWIFT BCM AM AMC XXX

ACCOMODATION

List of potential hotels in Rabat and Indicative Fares

Agdal Hay Riad district: SOFITEL, 5*; Hotel View 5*;  ATLAS, 4*; IBIS, 4*; le MIHAD, 3*, SMARTS Hotel, 3*

City Center: Hotel RABAT 5*, la Tour Hassan, 5*; TERMINUS 4*, Hotel DIWANE, 4* Hotel La CAPITALE; Hôtel Royal 3*
<table>
<thead>
<tr>
<th>Category of Hotel</th>
<th>Tarifs US $ per day</th>
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<tbody>
<tr>
<td>A (5*)</td>
<td>120.00</td>
<td>200.00</td>
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<tr>
<td>B (4*)</td>
<td>75.00</td>
<td>95.00</td>
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<tr>
<td>C (3*)</td>
<td>50.00</td>
<td>65.00</td>
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<tr>
<td>Other Moderate price accommodation</td>
<td>30.00</td>
<td>40.00</td>
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*There is very near tram line to take to reach conference site from all hotels proposed*

The conference place is easily accessible from most hotels of the city by Tram lines.

**Post-conference study tour in the Marrakech region**

First day : Visit of the city

- Second day : Visit to the perimeter of Tessaout Amont: water mobilization structures and irrigated land using drip irrigation- Visits to Farms, Commodity storage and Agro processing units

- [Lunch in the tent next to the irrigated area](#)

**Post-conference study tour in the Fez region**

- First day: City tour
- Second day: Visit to the Project aiming at safeguarding the water table of the Saiss area- Visits to Farms, commodity storage and agro processing units
The main objective of the Project is to provide an alternative to the current overexploitation of the aquifer and local surface water resources of the Saïss Plain.

Direct withdrawals are around 769 Mm3 / year, of which 22% for drinking water supply, and 78%, for private Irrigation in particular. The overall groundwater balance of the basin is therefore a deficit of 100 Mm3 / year for the aquifer of Saiss (Fès-Meknes). This project involves 135 km of a water transfer pipe from the M'Dez dam to the Saïss plain and provide water to irrigate an area of 30,000 ha.

The project will allow:
- Adoption of a water-saving irrigation system;
- Valorization of the m3 of water consumed by the increase of the areas of high value added crops;
- Intensification of agricultural development;
- Improved income for farmers in the project area.
Program for accompanying persons

The program of Visits scheduled includes:

✓ Mohamed VI Museum for Modern Arts
✓ New impressive Salé Theater
✓ Potterycomplex in Loujja
✓ Souk of Rabat, street of consuls then Oudayas and Café Maure
✓ Hassan Tower and Chellah
Updated information on the conference can be found on either one of the following Web pages:

www.anafide.net and/et: www.iav.ac.ma

CONTACT

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