

## Personal Data

**Awad Osman Mohamed Abusuwar**

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**Date of Birth:** January 1956

**Nationality:** Sudanese

**Marital Status:** Married with six children.

**Religion:** Moslem.

**Mother Tongue:** Arabic

**Other Languages:** English and Italian.

**Academic Status:** Associate Professor.

**Passport No.:** C0185881

Permanent Address: As above.

## Qualifications

- B.Sc. (Agric.) Hon.- Agronomy option, University of Khartoum, 1977.
- MSc. (Agric.)- Irrigated Pastures, University of Khartoum, 1982.
- Ph.D. (Agronomy-Range and Pastures), University of Arizona, Tucson, U.S.A, 1986.

· Diploma in Water Resources Management, Water Resources and Documentation Centre, WARREDOC, University of Perugia, Italy, 1991.

## Employment Record

Period	Job	Institution
1977 – 1978	Manger of Agric. Section	Kenana Sugar Company
1978 - 1986	Teaching Assistant	Faculty of Agric., Univ. of Khartoum
1987 – 1992	Assistant Professor	Faculty of Agric., Univ. of Khartoum
1992 – 1995	Head of the Agronomy Department.	Faculty of Agric., Univ. of Khartoum
1995 – 1996	Assistant Professor	El-Fateh University (on Sabbatical leave)
1997 – to date	Associate Professor	Faculty of Agric., Univ. of Khartoum
2000 – to date	Coordinator of Range Management	Desertification and Desert Cultivation Studies Institute (on Secondment).

## Teaching

### 3.1 Undergraduate

Course	Period/ University
Practical agronomy classes	1978-1982, University of Khartoum
Practical forage classes	1983 – 1986, University of Arizona
Introduction to agriculture and Forestry (first year students)	1987-1995, University of Khartoum
Production of irrigated forages (4 <sup>th</sup> year students)	1987- to date, University of Khartoum 1987-2004 University of Gadarif
Production of Oil Crops	1988 – 1992, University of Juba
Sugarcane and Root Crops (for Agronomy Option Students)	1987 – to date, University of Khartoum
Principles of Range Management	1988 – to date, Faculty of Animal Production, University of Khartoum - University of Juba, University of Gadarif.
Range Management ( 5 <sup>th</sup> year of agric. Students, 4 <sup>th</sup> year of forestry students)	1987 – 1995, University of Khartoum, University of Gadarif

Range Management (Students of Animal Production)	1995 – to date, Faculty of Animal Production, University of Khartoum.
Forage Production (Students of Animal Production)	1993 – to date, Faculty of Animal Production, University of Khartoum.

### 3.2 Postgraduate

Course	Period/ University
Range Management	1990 – to date, Faculty of Animal Production, University of Khartoum.
Range Management	1995 – 1996, El- Fateh University, Tripoli, Libya.
Range and Forest Ecology	1995-1996. El Fateh University, Tripoli, Libya
Management of Arid lands	1996-to date, Faculty of Agriculture, U. of K.
Dry land Farming	1996-to date, Faculty of Agric., University of Khartoum
Range Management (MSc.)	2000- to date, Desertification and Desert Cultivation Studies Institute, U of Khartoum

## Research

**4.1 Focus:** My research focuses on forage production and range management with special interest in:

i- Re-vegetation of arid and semi-arid rangelands through the use of different water harvesting techniques and selection of adapted species that can survive harsh environment.

ii- Utilization of marginal lands such as salt affected soils in forage production.

iii- The use of different cultural practices to maximize forage productivity and improve forage quality.

iv- Improvement of the carrying capacity in dry rangelands.

V-Desertification control.

\* Many graduate students worked under my direct supervision had graduated with Master and Ph.D. degrees.

\* I have been an internal and external examiner for many graduate students at the University of Khartoum and other Sudanese Universities.

\* Currently I'm supervising six graduate students.

#### **4.2 Funded Research Projects:**

\*Promotion of irrigated forages in Khartoum State; a - 4year (2004-2008) project intended to increase forage quality and quantity in Khartoum State. Funded by the Ministry of Higher Education. Chief investigator of the project.

\*Rehabilitation of rangelands in Khartoum state to augment livestock production and halt desertification- A3-year project (2008-2011) soliciting funding from University of Khartoum Directorate for Scientific Research and Cultural Relations. Chief Investigator.

\*Utilization of Red Sea water in Plant production. A-5 year project Funded by Higher Education and University of Khartoum Directorate for Scientific Research and Cultural Relations (Team member).

#### **4.3 Postgraduate Students' Research:**

**(a) Graduated MSc. Students**

	Name of student and title of Thesis
	<b>Mohamed, S. Saeed (1988)</b> . <i>Studies on the Effect of Nitrogen Fertilization and Irrigation Practices on the Yield of Forage Sorghum</i> . Faculty of Agric., U. of K.
2	<b>Gobair, G. Mohamed</b> (1990). The effect of nitrogen and phosphorus fertilizers on growth and yield of some grasses and leguminous forages, Faculty of Agric., U. of Khartoum.
3	<b>Neimat A. El Gabri</b> (1990). Utilization of industrial waste water in forage production. Faculty of Agric., U. of Khartoum.
4	<b>Osama E.El Tayeb</b> (1991). Effect of sowing methods and fertilization on the productivity of fodder sorghum ( <i>Sorghum bicolor</i> (L.) Moench) in a saline-sodic soil. Faculty of Agric., U. of Khartoum.
5	<b>El Rasheed M. El Magrabi</b> (1991). An integrated sylvo-pastoral system in El Rawashda Forest Reserve, Eastern Sudan, Faculty of Forestry, U. of Khartoum.
6	<b>Abdel Rahman S. Mohamed</b> (1994). Effect of phosphorus application, Rhizobium inoculation and cultivars on forage yield, quality, and seed production of alfalfa. Faculty of Agric., U. of Khartoum.
7	<b>Fathel Rahman A. Mustafa</b> (1996). Effect of sowing methods and phosphorus application on the performance of two alfalfa cultivars. Faculty of Agric., U. of Khartoum.
8	<b>Medani, A. Osman</b> (1997). Effect of tillage and cover treatments on the improvements of the Butana Ranges, Eastern Sudan. Faculty of Agric., U. of Khartoum.
9	<b>Botram Gordon</b> (1997). Effect of sowing methods and phosphorus levels on the yield and quality of Maize ( <i>Zea mays</i> ). Faculty of Agric., U. of Khartoum.
10	<b>Khairi H. Khairi</b> (1997). Effect of cutting interval and fertilizers levels on yield and quality of some tropical legumes and grasses. Faculty of Agric., U. of Khartoum
11	<b>Abdalla, A. A</b> (1999). Effect of seedbed types and phosphorus levels on forage and seed yield of clitoria ( <i>Clitoria ternate</i> L.) Faculty of Agric., U. of Khartoum
12	<b>El-bashir, T. Z.</b> (2000). The effects of enclosures in the re-vegetation of deteriorated rangelands in Sudan. Case study: Salamat Wad Nayel, Khartoum State. Institute of Desertification and Desert cultivation Studies

13	<b>Ahmed, S.A.</b> (2000). Effect of Rhizobium meliloti and V.A.Mycorrhiza on forage, seed yield, and quality of two alfalfa cultivars. Faculty of Agric., U. of Khartoum
14	<b>Osman,M. A.</b> (1998). Range improvement by re-seeding grass-legume mixture and water conservation techniques in the semi-arid Butana area- Eastern Sudan. Faculty of Agric., U. of Khartoum
15	<b>Abdella, S.A</b> (2001). Effects of sowing methods on growth and yield of two alfalfa cultivars. Faculty of Agric., U. of Khartoum
16	<b>Abdel Rahman, E. M.</b> (2002). Effect of seeding rates on growth and yield of two alfalfa cultivars, Faculty of Agric., U. of Khartoum
17	<b>Adam, S. M. A.</b> (2002). Effect of protected grazing allotments on rangeland rehabilitation and recovery in the semi-arid area of North Kordofan, Western Sudan. Institute of Desertification and Desert cultivation Studies
18	<b>Abdel Rahman,L.A.</b> (2003).Effect of enclosures on vegetation composition in Abu Zaid Forest. East Nile Area, Khartoum State. Institute of Desertification and Desert cultivation Studies
19	<b>Masaad, N. E.</b> (2003). Effect of enclosures on range productivity in Abu Zaid Forest, East Nile Area, Khartoum State. Institute of Desertification and Desert cultivation Studies
20	<b>Mohamed, A. S.</b> (2003). The effect of enclosures protection on rangeland improvement in Dar El Salam grazing area (North Darfur State). Institute of Desertification and Desert cultivation Studies
21	<b>Elawad, Gamar eldin, A</b> (2004). Effect of chicken manure and urea fertilizer on growth and yield of Teff (Eragrostis teff.Zucc.). Faculty of Agric.,, University of Khartoum.
22	<b>Murtada Adam Yousif</b> (2000). Effect of seeding rates and nitrogen on growth and yield of teff grass (Eragrostis teff. Zucc.). Faculty of Agric., U. of Khartoum
23	<b>Ebada Abdel Gadir</b> (2007). Evaluation of the performance of seven forage sorghum cultivars in Khartoum State,Sudan, Faculty of Agric., U. of Khartoum
24	<b>Abulgasim,Abdel Fadeel khalafalla</b> (2006). Effect of Sowing Methods, Seeding Rates and cutting Managements on Growth and Yield of Alfalfa ( <i>Medicago sativa</i> L.).Faculty of Agric., U. of Khartoum
25	<b>Mustafa, Sally</b> (2008). Effect of treated and untreated manure and urea on growth and yield of Sudan grass ( <i>Sorghum sudanense</i> ) forage. Faculty of Agric., U. of Khartoum
26	<b>Martin Seaser</b> (2007). Effect of spacing between plants on growth and forage yield of two maize ( <i>Zea mays</i> L.) cultivars. Faculty of Agric., U. of Khartoum
27	<b>Jamal Abbakar</b> (2008). Effects of different concentrations of sea water on germination and growth

	of different forage species. Institute of Desertification and Desert cultivation Studies
28	<b>Fathi Ibrahim Braima</b> (2007). Effect of seed rate and NPK fertilization on growth, yield and forage quality of Rhodes grass ( <i>Choloris gayana</i> Kunth). Faculty of Agric., U. of Khartoum
29	<b>Enas Abdella</b> (2007) Effect of chicken and farmyard manures on the performance of two forage Sorghum cultivars. Faculty of Agric., U. of Khartoum
30	<b>Fisal M. Ismaiel</b> (2007). Effect of different rates of chicken manure on growth and yield of forage Sorghum ( <i>Sorghum bicolor</i> L. Moench). Faculty of Agric., U. of Khartoum
31	<b>Mohamed Osman Abbaker</b> (2008). Effect of water harvesting techniques in range improvement in Kordofan state. Institute of Desertification and Desert cultivation Studies, U of K.
32	<b>Ashraf Karam Eldin</b> (2008). Effect of seed pelleting of some forage species in the re-vegetation of arid rangelands in the Sudan. Faculty of Agric., U. of Khartoum
	<b>Amel Ali Darag (2008).</b> <i>Some intervention Techniques to Revegetate Rangelands in Khartoum State.</i> , Institute of Desertification and Desert cultivation Studies
	U. of K.
34	<b>Yousif El Nour Yagoub (2008).</b> Assessment of Rangeland and tree cover degradation, and means of improvement. A case study of El RawashdaNatural Forest Reserve, Gadarif State, Sudan. <b>Faculty of Forestry, Univ. of Khartoum.</b>

#### (b) Graduated Ph.D. Students

	Name of student and title of Thesis
1..	<b>El -Zilal, Hala A. (2002).</b> <i>Effect of Chicken Manure and Season on the Performance and HCN Content of two forage Sorghum Cultivars.</i> Faculty of Agric., U. of K.
2	<b>Tahir, A.M.</b> (2003). Rangeland improvement by inter-seeding and water conservation in the semi-arid zone of the Sudan: South Darfur, Neyala Province. . Faculty of Agric., U. of K.
3	<b>Zaied, G.A.</b> (2003). Effect of Sulphur and Nitrogen fertilizations on growth ,yield, quality and nitrate ion and cryogenic acid concentrations in two forage sorghum cultivars. . Faculty of Agric., U. of K.
4	<b>Abdel Nur, T.M.</b> (2004). Effect of Treated Sorghum Straw and Groundnut Hull Residues on the Utilization of Nitrogen and Energy under Sudan Conditions. Faculty of Animal Production, U of K.

5	<b>Abdella, Abdel Nasir.A.</b> (2005). Effect of chicken manure and urea fertilizer on growth and yield of Clitoria ( <i>Clitoria ternate</i> ) and Rhodes grass ( <i>Choloris gayana</i> Kunth) under two types of soils. Nile Valley University, Atbra
6	<b>Amasaib, Elsammani,O.</b> (2008). Effect of Lablab purpureous-Rhodes grass mixture on the performance of local bred rams. Faculty of Animal Production, U of K.
7	<b>Abdel Azziz, Azza, A.</b> (2008). Effect of Rangeland Burning and Mechanical Treatments on the Improvement of a Desertified Rangeland in the Blue Nile State, Sudan. Institute of Desertification and Desert cultivation Studies U. of K.
8	<b>El Hassan, Bekri, M.</b> (2008). Effect of Water quality and weeding on the performance of Three Alfalfa ( <i>Medicago sativa</i> L) Cultivars. . Faculty of Agric., U. of K.
9	<b>Al Hadi Omer Ahmed</b> (2008).Pattern of range use and forage quality and quantity with seasonal advancement in Dar Rezaigat Area, Southern Darfur, Sudan Higher Academy of Sciences, Ministry of Sciences and Technologies
10	<b>El Tahir Abdall Omer</b> (2008) Effect of intercropping of grass-legume mixture on yield and quality of forages. Faculty of Agric., U. of K.
	<b>Ahmed, Suleiman Adam (2008).</b> <i>Range Improvement Through Reseeding in Semi-arid Area of Southern Darfur State.</i> Faculty of Agric., U. of K.

### (c) M. Sc. Students under Supervision

Four MSc Students are currently working under my supervision

### (d) Ph. D. Students under supervision

Two PhD students are currently working under my Supervision

## Administrative Experience

1- Agricultural Section Manager: Kenana Sugar Company (1977-1978).

2- Director of the Demonstration Farm: University of Khartoum (1990-1992).

3- Head of the Agronomy Department: University of Khartoum (1992-1995).

4- Range management program coordinator at the Institute of Desertification and Desert Cultivation Studies, University of Khartoum, Sudan (2003 –to date)

## **Activities at the University Of Khartoum**

- 1- Member of the Faculty of Agriculture Board (1989 to 1995).
- 2- Member of the Examiners Board (1987 up to now).
- 3- Secretary of the Departmental Board (1990- 1991).
- 4- Secretary of the Faculty of Agric. Board (1991-1992).
- 5- Member of the Faculty Research Board (1990-1995).
- 6- Academic tutor of the Agronomy Society, University of Khartoum (1990-1992).
- 7- Director of the Faculty of Agric. Demonstration Farm (1991-1992).
- 8- Member of the University of Khartoum Farm Board of Directors (1992-1995).
- 9- Member and/ or convener of many task force committees at the University of Khartoum.
- 10- Member of the University of Khartoum Examinations and Prizes committee (1992-1995).
- 11- Member of the University of Khartoum Senate (1992-1995).
- 12- Head of the Agronomy Department (1992-1995).
- 13- Member of the central library committee (1995-1999).
- 14- Co-ordinator of the re-vegetation unit at the Institute of Desertification and desert cultivation studies (2000- to 2003) .
- 15- Member of the Animal Export Promotion Institute Council, University of Khartoum since its establishment.
- 16- Coordinator of the Range Program at the UNESCO Chair on Desertification, University of Khartoum (2003 up to now).

## **Activities outside the University**

1- Member of the committee on quality control of forage production and processing -Ministry of Industry, Sudan.

2- Member of the relief committee of the Northern State during the 1985 floods.

3- Co-founder of the (Green Hope) Organization- a non-profit organization dealing with the re- vegetation of degraded rangelands in the Sudan.

4- Part-timer with the University of Juba: Teaching classes on Range Management, Forage crops, and other Agronomic classes since 1987.

5- Part-timer with the Faculty of Animal Production, University of Khartoum in teaching classes related to forages and range management for both graduate and undergraduate Students.

6- Member of the Committee that set the examination regulations and curricula for the college of Natural Resources, University of Kordofan, Sudan.

7- Member of the committee that set the agric. curricula for the college of Agric., University of El Sherig, Sudan.(Now University of Kassala)

8- Member of the committee that established the curricula for the College of Agriculture, University of Darfur, Sudan( Now University of Al Fashir)

9- Member of the committee that set the curricula for the College of Agricultural Technology and Fishery Sciences ,University of El Neelain, Khartoum, Sudan.

10-Member of the IGAD eight scientist team in a project dealing with combating desertification and salinity problems in the IGAD countries.

11- Contributing with many consulting groups in conducting feasibility studies.

12-Member of the applied research committee for The Arab Authority for Agricultural Development and Investment (AAAID).

13-Forage Production Consultant for The Arab Company for Agricultural Production and Processing(ACAPP).

14- Head of the committee set by Khartoum State Ministry of Agriculture to promote irrigated forages for export

## **Conferences**

I had attended and/or participated in the following International conferences:

1- The ASA (American Society of Agronomy) meeting held in Las Vegas, Nevada, USA. (1985).

- 2- SRM (Society for Range Management) meeting held in Salt Lake City-Utah, USA (1986).
- 3- Crop Science society (Southwest Section) meeting held at the University USA (1986).
- 4- Second International Conference in Range Management. KISR, Kuwait (1990).
- 5- 8th advanced course on water resources management, Perugia, Italy (1991).
- 6- A seven- day workshop in Damascus, Syria on land use mapping hosted by ACSAD (July, 2006)
- 7- A 4-day conference on water crisis and desertification held in Tripoli, Libya (July 14-17, 2008).

#### **10-MEMBERSHIP OF SCIENTIFIC SOCIETIES:**

I hold the membership of the following international bodies:

- 1- Society for Range Management (SRM), USA.
- 2- American society of Agronomy (ASA), USA.
- 3- Crop science Society (CSS), USA.
- 4- Agronomy Society, Sudan.
- 5- Gamma Sigma Delta Society, USA.
- 6- The African Academy of Sciences, Nairobi, Kenya.

## **Awards**

\* In 1985 I have been honoured the membership of the (Honour Society of Agriculture, USA) as a recognition of high scholarship and outstanding achievement for agricultural sciences.

\* In 1986 I have been honoured the City of Tucson (USA) MAYOR AWARD for contribution in communal activities.

## **References**

- 1- Professor Mohamed Osman Khider, Dept. of Agronomy, Faculty of Agric., University of Khartoum, Sudan.
- 2- Professor MUKHTAR A. Mustafa, Chair holder of UNESCO Chair on Desertification, University of Khartoum
- 3- Professor Hamid O. Burhan. Consultant at the AAAID, Khartoum, Sudan.
- 4- Professor Robert, M. Dixon, USDA, Tucson, AZ 85719, USA

# **Publications**

## **5.1 Scientific papers for promotion to Associate Professor**

1-Abu Suwar,A.O, R.M. Dixon and M.H. Schonhorst (1993). Imprinting inter-seeding to re-vegetate arid rangelands: Effects on soil moisture and seedling growth. Univ. Khartoum J. Agric. Sci. Vol.1 (2): 59-80.

2-Abu Suwar, A.O., M.H. Schonhorst, and R.M.Dixon (1993).Imprinting inter-seeding to re-vegetate arid rangelands: Effects on growth and biomass production. Univ. Khartoum J. Agric. Sci. Vol.1 (2): 81- 98.

3-Abu Suwar,A.O.(1990) Land imprinting as an effective way of arid rangeland re-vegetation. Proceedings of the Second International Conference in Range Management, KISR, Kuwait, 1990. In: Range Management in Arid Zones, pp 271-284.

4-Abu Suwar,A.O.(1991) Use of Industrial and Sewage Waste Water in Forage Production in the Sudan(1991). Case study: 8th International Advance Course on Water Resources Management., WARREDOC, Perugia , Italy.

5-Abu Suwar,A.O.(1982).High lights on Kenana Sugar Scheme.Agricultural Magazine, Sudan.Vol.16: 10-14.

6-Abu Suwar, A. O. (1994). Effect of nitrogen and manure application on the performance of forage sorghum grown on a saline-sodic soil. Univ. Khartoum J. Agric.Sci. Vol. 2(1): 28-45.

7-Abu Suwar, A. O. and G.G. Mohamed (1996). The effect of nitrogen and phosphorus fertilizers on growth and yield of some leguminous forages (1996). Emirates J. of Agric. Sci. Vol.8: 73-83.

## **5.2 Scientific papers after promotion for Associate Professor**

8-Abu Suwar, A.O. and A.S.Mohamed (1997). Effect of phosphorus application and seed inoculation on plant density and seed production of two alfalfa cultivars. Univ. Khartoum J. Agric. Sci. 5(1): 12- 23.

9-Abu Suwar, A.O. and A.S. Mohamed (1997). Effect of phosphorus application and rhizobium inoculation on growth and yield of two alfalfa cultivars under the semi-arid climate of the Sudan. University of Khartoum J.Agric. Sci. 5(1): 1-11.

10-Abu Suwar, A.O.and G.G. Mohamed (1997). Effects of nitrogen and phosphorous fertilization on growth and yield of some graminaceous forages. Univ. Khartoum J. Agric. Sci. 5(2): 37-55.

11-Abu Suwar, A.O., E. E. Ali, and F.A.Mustafa (1997). Effect of sowing methods and phosphorus levels on plant density and seed production of two alfalfa cultivars. Journal of Natural Resources and Environmental Studies (JONARES). 2(1): 1-6.

12-Abu Suwar, A.O. and A.S. Mohamed (1997). Effect of phosphorus application and Rhizobium inoculation on forage yield and quality of two alfalfa cultivars. Journal of Natural Resources and Environmental Studies (JONARES). 2(1): 7-12.

13-Abu Suwar,A.O., E.E. Ali, and F.A. Mustafa (1997).Effects of sowing methods and phosphorus levels on yield and quality of two alfalfa cultivars. Univ. Khartoum J. of Agric. Sci.6 (1): 96-106.

14-Abu Suwar,A.O. and O.E. El Tayeb (1997). Effects of sowing methods and fertilization on the performance of forage sorghum grown in a saline-sodic soil. East African Agric. and Forestry J.

15-Abu Suwar, A.O. and O.E. El Tayeb (1997). Effects of sowing methods and fertilization on yield and quality of forage sorghum grown in a saline-sodic soil (1997). University of Juba J. of Nat. Res. Management.

16-Abusuwar,A.O. and Abdella, A.A. (2000). Effect of Phosphorus Fertilizer and Types of Seedbeds on Growth, Dry yield, and Seed yield of Clitoria (*Clitoria ternata* L.). University of Khartoum Journal of Agric. Sciences 9(1): 29-45.

17-Abusuwar,A.O. and Abdella, A.A. (2004). Effect of Seedbed Types and Phosphorus Fertilizer on Growth and Yield of Clitoria (*Clitoria ternate* L.).Journal of Agric. Investment (JAI), Arab Authority for Agric. Investment and Development (AAAID). Vol.2: 63-65.

18-Abusuwar, A.O. and S. A. Ahmed (2003). Effects of Rhizobium melilotus and VA-mycorrhizae on plant density and seed production of two alfalfa cultivars. Journal of Agric. Investment (JAI)-AAAID. Vol. 1: 73-77.

19-Abusuwar, A. O, and S.A. Ahmed (2003). Effects of Rhizobium bacteria and VA-Mycorrhizal fungi on forage yield and quality of two alfalfa cultivars. University of Qatar J. of Agric. Sci. vol. 23:117-133

20-Abusuwar,A.O., Dougarchy,B. and K. Abdel Razik (2002).Community based Rangeland rehabilitation for carbon sequestration and biodiversity. Terminal evaluation report (TER)-UNDP and GEFF.

21-Abusuwar, A.O. and Darrag, A. (2002). Pan Arab integration in forage production and processing. Case study: Sudan. Arab Organization for Agric. Development (AOAD), Khartoum, Sudan.

22-Abusuwar, A.O., Al Shinnawi, M. and Baashar,M.(2003). Pan Arab Integration in Forage production and Processing. National Study-Arab Organization for Agric. Development (AOAD), Khartoum, Sudan.

23-Abusuwar,A.O. and Darrag ,A. (2004). Research Strategies and Priorities in Range management to combat Desertification. A paper presented at the workshop entitled (Research Strategies and Priorities to combat Desertification). Proceedings of the National Forum for Scientific Research on Desertification in the Sudan, Sharga Hall, University of Khartoum, Sudan, March,16-18. 2004.P :91-111.

24-Abusuwar, A.O.*et.al.* (2002). A quarter Century National Strategy (2002-2027) in Natural Resources. Ministry of Agriculture, Khartoum- Sudan.

25-Abusuwar, A.O. (2002). Cultural practices aspects in forages for seed production. A paper presented for the participants in the training course entitled (Training course in forage and range seed production). Dept. of Seed Propagation, Ministry of Agric. and Forestry, Khartoum, Jan.6-13, 2002.

26-Abusuwar, A.(2004).Making of good quality silage. A paper presented in workshop entitled (Introduction and transfer of technologies in the Agric. Sector: range management). Sponsored by State of Sennar and the Ministry of Science and Technologies. Sennar, June 2004.

27- Abusuwar, A.(2004).Adoption of ranching systems in the Gadarif State.A paper presented in a workshop entitled (Introduction and transfer of technologies in the Agric. Sector: range management). Sponsored by State of Gadarif and the Ministry of Science and Technologies. Gadarif, July, 2004.

28-Abusuwar,A., Darrag, A. and E.E. Ali (2004).A report on Agricultural Development in The Arab Countries: Range Sector (Development and improvement of the RANGE Sector).

29-Abusuwar,A. and Abdel Rahman,M. Tahir (2006).Effect of tillage treatments on soil moisture conservation and plant growth in a semi-arid rangeland of the Sudan. University of Khartoum J. of Agric. Sci. Vol 14(2):238-251.

30-Abusuwar,A.O. and Abdel Rahman,M.Tahir (2005).Effects of tillage and crop treatments on pasture productivity and carrying capacity in a desertified semi-arid rangeland of the Sudan. A paper presented in the Regional workshop on desertification held at Sharga Hall by the UNESCO Chair on Desertification and the Institute of Desertification and Desert Cultivation Studies , University of Khartoum (22 to 25 Nov. 2005).

31- Abusuwar, Awad (2008). Desertification in the Sudan: Risks and possible Solutions. A paper presented in a regional workshop Entitled (Water crisis and Desertification Threat). Tripoli, Libya (July 14-17, 2008). Sponsored by the Islamic Educational and Cultural Organization (ISESCO)

32- Abusuwar,A. and Hala,A. Elzilal (2006). Effect of Chicken Manure on The Performance of Two forage Sorghum Cultivars in Khartoum State. University of Khartoum Journal of Agric. Sciences vol.14 (2):227-237.

34-Abusuwar,A.O. and El Wakeel ,A.S. (2008).Sustainable use of dry lands for forage and range production in the Sudan. Proceedings of the National Symposium on sustainable use of dry lands in the Sudan. Hosted by The UNESCO Chair on Desertification. Al Sharga Hall, June 17-18, 2008 –Khartoum, Sudan. pp: 171-192.

35-Abusuwar,Awad, Omer Abdelrahim El khider and Afaf, Mubrook (2008). Forages and their role in augmentation of livestock production in the Sudan. The International Scientific Conference on Animal health, Production, Fisheries and Wildlife. Friendship Hall, Khartoum, Sudan, August 17<sup>th</sup>-21<sup>st</sup>,2008.

36- Abusuwar,A. and Hala,A. Elzilal (2008). Effect of chicken Manure on Prussic Acid content of two Forage Sorghum Cultivars. University of Gezira Journal of Agricultural Sciences. ( submitted for Publication)

37- Abusuwar, Awad and Jamal Abbaker (2008). Dilution of Red Sea water for Production of Forages in the Red Sea State. Technical paper presented in a workshop in the Red Sea State in July 2008, Sponsored by the UNESCO Chair on Desertification.

38-Abusuwar,A. and Hala,A. Elzilal (2008). Effect of Chicken Manure on Yield and Quality of Two Forage Sorghum (*Sorghum bicolor* L. Moench) Cultivars. Journal of Agricultural Investment, Arab Authority for Agricultural Investment and Development (AAID). (Accepted 2008).

### **5.3 Books (after promotion to associate professor)**

1-Production and processing of alfalfa in the Sudan for export (AAID-2003).An investment Guide-In Arabic.

2-Technologies of production and preserving of alfalfa. University of Khartoum Printing Press(2004) –In Arabic.

3-Production of Forages in the Sudan. University of Khartoum Printing Press (2004)- In Arabic

4-Range and Forages. Sudan Open University (2004) –In Arabic.

5- Range Management (2007). Published by UNESCO Chair on Desertification, printed by Khartoum University Press –In English.

6- Range Management (In Arabic) .Published by the University of Khartoum Printing Press, 2008.

7- How to Maintain our Rangelands Productive on a Sustainable Basis. (2008). A technical booklet published by the UNISCO Chair on Desertification and The Institute of desertification and desert cultivation Studies, University of Khartoum (In Press).

#### **5.4 Consultation experience:**

1-The Range Management Specialist member of the Comatex Nilotica Consulting Group who carried out the feasibility study dealing with livestock/ range improvement project in the Rahad- Butana area for Mr. Abu Gahdi Enterprise (1999).

2-The range management specialist of the international team who conducted and prepared the terminal evaluation report for the project (Community based rangeland rehabilitation for carbon sequestration and bio-diversity in Northern Kordofan State. Supervised by the UNDP and funded by Jeff(2001).

4-The forage specialist of the committee set by the Arab Authority for Agric. Investment and Development (AAAID) to conduct feasibility study regarding the production of alfalfa forage for export to the Gulf States (1999).

5-The range management Specialist of the IGAD team that developed strategies to combat desert encroachment in the IGAD countries (1996).

6-Member of the AAAID team that reviewed and evaluated the feasibility study provided by the AOAD dealing with alfalfa production in the Nile State for export (2001).

7-Team leader of the group conducted the feasibility study entitled (Technical packages for production of Pannar forage for export purposes) for Mr. Shatta enterprise (1998).

8-Member of the national team set by the AOAD to conduct a case study (Sudan) about Pan Arab integration in forage production and processing (2002).

9-Member of the international team set by the AOAD to conduct a regional study about PanArab integration in forage production and processing (2003).

10-Team leader for the study made in Al Rajaa Project (White Nile State) for alfalfa production and baling for export (2000).

11-Permanent member of the University of Khartoum ConsultancyHouse.

12-Team member of Alzawaia Consulting Group who formulate the feasibility study ( Protected houses for growing vegetables and fruits off season for export in Khartoum State).

13-Team leader of Alzawaia Consulting Group who formulated the feasibility study for the State of Khartoum Vet. Association entitled (Production of alfalfa and Rhodes grass in Khartoum State for export).

14-Member of the team who formulated the report on Agricultural Development in the Arab Countries (Range Sector)-AOAD-2004.

15-Member of the ACSAD team for Preparing the land use map for eastern Sudan states (Red Sea, Kassala, and Gadarif)-2006

16- Team leader of the land deterioration committee set by the ACSAD and Ministry of Agriculture-2007

17- Team leader of the field work group preparing the land use plan in Gadarif state-2007-2008.

18- Member of the forage committee in Agric. Development Boosting (EL NAHDA Alziraeia) headed by his Excellency Vice President of the Republic.

19- Team member of the University of Khartoum Consulting House currently conducting studies about the impact of raising Al Rosiaris Dam.