Agricultural Technology Transfer Society

Khartoum North, Industrial Area

الجمعية الطوعية لنقل التقانات في المجال الزراعي

الخرطوم بحرى، المنطقة الصناعية

Name of the applicant:	Agricultural Technology Transfer Society (ATTS)
Nationality of the applicant and date of establishment:	ATTS is non-governmental Sudanese organization established on January 21st 2009.
Legal status	ATTS is non-governmental organization accredited by the Ministry of Humanitarian Affairs in the Sudan according to the work permit No.2234 dated January 21st 2009 (permission attached).
Partner 1:	Skills Building Training Centre in Food Animal Technologies.
Partner 2:	Ministry of Animal Resources, South Kordofan State - Goat farmers in Kadougli locality.
Applicant's contact details for the purpose of this action	
Postal address:	P.O. Box 1577, Khartoum North 13113, Sudan.
Mobile: Country code + number	00249 -91283114
Contact person for this action :	Dr. El Sammani El Gaili
Contact person's e-mail address :	Wadalgaili@yahoo.com
E-mail address of the Organization	munamm789@yahoo.com
Title of action	Community Based Goat Genetic Improvement & Commercialization Project in Kadougli Locality of the Nuba Mountains.
Total duration of the action	Three years.

Overall objectives of action

This project aims at the commercialization of goat farming method (s) practised by small holders in Kadougli locality of the Nuba Mountains. A crossbreeding program of local goats with Saanen bucks will be initiated to upgrade their performance and .new market outlets will be identified to improve farmer's returns from goat keeping.

Target groups

Small goat holders, at community level, in the Kadougli locality of the Nuba Mountains.

Final beneficiaries

1. Small goat holders in Kadougli locality of the Nuba Mountains.
2. Families in Kadougli locality of the Nuba Mountains.
3. Local authority in Kadougli locality of the Nuba Mountains.
4. Veterinary authority in Kadougli locality of the Nuba Mountains

Relevance of the action

Small goat holders in the Nuba Mountains are not getting reasonable returns from goat farming. The indigenous goats have poor productive performance for genetic causes and face problems of inadequate nutrition is the dry season because of poor pasture cover & overstocking.. The latter often leads to conflicts between livestock owners .To resolve the current ominous development is probably to encourage keeping small numbers of productive animals instead of raising large numbers of unproductive animals; and to increase offtake percentage by improving the marketability of livestock in the NMs.

Amount (US $) of requested funding	1,091,550
Banking instructions **Name of account** Agricultural Technology Transfer Society. **Bank** : Faisal Islamic Bank , University of Khartoum Branch **Account No**.: 8029	

1. Description of the action

1.a. Background

The plateau of the Nuba Mountains (NMs) is 48,000 sq. km. Two thirds of the state is arable land, largely a heavy clay, loamy and silt – clay soil on the plains; the rest is mountainous. Administratively South Kordofan is divided into five localities (Rashad, Abu Jibeaha, Talodi, Kadougli and Diling). Each locality is divided further into smaller administrative units.

Rain-fed agriculture involving cultivation of crops (red millet, white millet, sorghum, sesame and peanut) and livestock keeping are the main occupations of the inhabitants of the Nuba Mountains (NMs). The rainy season extends from mid-May to mid-October, and annual rainfall ranges from 400 to 800 millimetres. Natural pastures constitute the main source of livestock feed. Access to natural pastures is communal. Other feed sources for livestock include crop residues.

Problems of livestock keeping in NMs could be attributed to inadequate nutrition especially during the dry season when both quantity and quality of grazing deteriorate, encroachment of agriculture over grazing land, especially around settlements and water resources, poor genetic make-up of animals, diseases, high mortality rate of young animals, and lack of research and extension services.

The problem of inadequate nutrition is partly attributed to overstocking. The population of livestock in the Nuba Mountains is increasing when offtake rate is low. This resulted is overgrazing of communal pastures and paved the way for conflicts between livestock owners especially in the dry season when both quantity and quality of grazing deteriorate. One possible means to resolve the current ominous development is probably to encourage keeping small numbers of productive animals instead of raising large numbers of unproductive animals; and to increase offtake percentage by improving the marketability of livestock in the NMs.

1.b. Specific objectives of the action

1- Identification of goat keepers at community level; their organization into beneficiary groups and election of steering committees by members of beneficiary groups.
2- Offer hand on work training to small goat keepers in goat management, goat health care, goat kid fattening and milk processing under the supervision of steering committees.
3- Upgrade production of goats owned by small holders by offering free crossbreeding service, using Saanen bucks, under the supervision of steering committees.
4- Keep records for indigenous and crossbred goats in the community with outstanding reproductive and milking performance to propagate their genes in the community.
5. Work with the steering committees to increase marketability of products from goats owned by small holders at community level.

1.c. Means of realizing objectives

The means to realize objectives is as follows:

i. Mobilization & organization of goat keepers at community level

Each 100-150 flock owners will form a beneficiary group. The action will deal with ten beneficiary groups having collectively a maximum of 10,000 does. Members of each beneficiary group will meet to choose ten flock owners to form a steering committee that has the tasks shown in Annex 1. Meetings will be organized and supervised by the project manager, community mobilization specialist and the facilitator.

ii. Assessment of current goat production system (s)

The prevailing system (s) of goat management by members of the beneficiary groups will be investigated. For that purpose the action will collect information from individual flock owners about the number of breeding does they possess (their parity, genotype, live weight, health status, litter size at birth and number of pregnancies/ annum). Breeding and kidding seasons are recorded together with information on feeding and health programs. The outcome of the assessment will enable the transfer of appropriate goat management practises to goat keepers.

iii. Training of beneficiary groups in goat management, goat health care & kid fattening

Members of beneficiary groups will be trained in the management of breeding does, health care and fattening of male goat kids. The contents of the training are given in Annex II.

iv. Training of beneficiary groups in milk processing

Members of beneficiary groups will be trained in milk processing (manufacture of cheese, fermented milk and ghee**).** Details of the contents of the training are given in Annex III.

v. Site selection & shed construction for breeding bucks

The project manger and the steering committee, formed by each beneficiary group, will meet together to select a site and construct a shed to accommodate Saanen bucks that will be available for use by members of the beneficiary group under the responsibility of the steering committee.

vi. Community based goat genetic improvement program

A crossbreeding program, using Saanen bucks, will be initiated for each beneficiary group to grade up production of indigenous does. Five bucks will be assigned for this service under the responsibility of the steering committee. The committee will be responsible for the management of bucks and the delivery of the natural mating service by Saanen bucks to cycling does owned by members of the beneficiary group. The steering committee, working in collaboration with members of the beneficiary group and a technician , is expected to ear tag goats, identify does that perform exceptionally well above the average of all does as far as litter size, number of pregnancies per annum , average milk yield, birth and weaning weights of kids are concerned. The progeny of such outstanding does may be sold for higher (premium) prices resulting in greater returns for their owners.

vii. Identification & initiation of market outlets for goat products

The ultimate objective of this action is to make goat keepers entrepreneurs and self employed and for that reason mechanisms should be created by which goat keepers are able to rear goats as one very important component.

This part of the action investigates factors that affect the choice of distribution channels for goat's products by goat farmers. The following data will be collected using a questionnaire:

1) Is there any local rejection for the consumption of goat meat or milk? (If the answer is yes specify the area where this rejection to goat products prevails).

2) Trends in goat meat consumption: The action will provide information about local preference to goat meat in big villages lying on the western side of the NMs. The questions that will be tossed to households are:

-Which type of meat you most cook at home? (Choose one: sheep, goat or cattle meat? Why? (Choose one: delicious, tender, tasty, cheap, most available meat, other (specify).

- At what time of the year is the preferred meat type most available (choose one: wet or dry seasons; other specified times)

- What type of animals is usually scarified in social and religious occasions (choose one: sheep, goat or cattle).

3) The main utilizations of milk (% consumed, % donated and % processed in form ghee, cheese or fermented products).

4) The main utilizations of weaned male goat kids (% slaughtered for personal consumption, % slaughtered for sale of meat, % retained for breeding; % sold to beneficiaries (other goat keepers, butchers, other specified receiver).

5) The main utilizations of weaned kid doe are investigated: % retained for breeding; % sold to beneficiaries (other goat keepers, butchers, and other specified receiver).

6) Disposal of culled does and bucks (to whom and at what age).

7) Sale price of goat products.

The following information will be collected:

Product	Definition	Unit	SDG/unit	
			Wet season	Dry season
Milk	Raw	Litre		
Ghee	Processed milk	Litre		
Cheese	Any type	Kg		
Breeding bucks	Nuba type	head		
	Desert	head		
	Crossbred	head		
	Others	head		
Breeding doe	Nuba type	head		
	Desert	head		
	Crossbred	head		
	Others	head		
Weaned female kid	Nuba type	head		
	Desert	head		
	Crossbred	head		
	Others	head		

Weaned male kid	Nuba type	head		
	Desert	head		
	Crossbred	head		
	Others	head		
Culled doe	Nuba type	head		
	Desert	head		
	Crossbred	head		
	Others	head		
Culled buck	Nuba type	head		
	Desert	head		
	Crossbred	head		
	Others	head		
Breeding doe	Nuba type	head		

1. d. Methodology

- Mobilization & organization of goat keepers into beneficiary groups, discussion and elections of members of steering committee**s.**
- Assessment of: i) current method (s) of goat raising ii) current outlets for marketing goat & goat products iii) goat crossbreeding trail.
- Theoretical lectures.
- Practical lessons.
- Demonstrations.
- Group discussion.

1.e. Potential added value

The action will select and train some small goat keepers in goat health care to work in future as community goat health workers.

The action will encourage the use of farmer-to-farmer extension model to enhance the spread of good management methods among small goat keepers.

The action will demonstrate to goat keepers the methods of cutting, preserving and bailing excess fodders in the wet season and crop residues in the harvesting season. The conserved feeds may to be used at times of feed scarcity for feeding crossbred goats to sustain their production.

The use of fodders that contain tannins (e.g. acacia pods) has been shown to reduce the incidence of worm infestations, which is one of the constraints limiting goat production. Goat keepers will be shown how to incorporate acacia pods in goat feeds to reduce parasitic infections.

The action will show goat keepers how to make silage from green fodders in the wet season and preserve it for use by productive nannies at times of feed scarcity in the dry season.

1.f. Expected output

- Training is a way to get more skilled goat keepers. Skilled goat keepers manage their goats in the best way that results into maximum benefits in terms of production.
- Crossbred indigenous x Saanen goats perform exceptionally better than pure indigenous Sudanese goats .This results into more financial returns to keepers of crossbred goats and improves their living conditions.

- Conflicts between livestock owners over grazing land are common in the project area during dry season because of overstocking. One possible means to resolve this problem is probably to encourage keeping small numbers of productive animals instead of raising large numbers of unproductive animals; and to increase offtake percentage of livestock. This intervention partly contributes to the solution of such ominous development.
- The success of this action will encourage other localities in the Nuba Mountains to quote it which ultimately improves the genetic worth of goats in the Nuba Mountains.

1.g. Output promotion

Goat farmers cannot access credit due to lack of collateral and as a result they do not have capital to scale up their enterprises. The action advocates the provision of goat farmers with credits .For that purpose the action will sort out diligent goat keepers and contact local credit providers to incorporate them in the list of their clienteles.

1.h. Implementation plan

Work plan of year 1			
Activity	**Duration**	**Responsible staff**	**Support staff**
1. Meetings with the local administrative authority, animal resources authority & institutions of civil societies in the locality to brief them on the action and discuss with them the means of providing support for the action	5 days.	Project manager + community mobilization specialist	Facilitator & secretary
2. Decide in meetings with the local administrative and veterinary authorities the geographical locations of the beneficiary groups.	**3** days.	Project manager + community mobilization specialist	Facilitator & secretary
3. Draw a timetable for meetings with beneficiary groups and pass it over to them at least one week before the assigned date for the meeting.	7 days.	Project manager + community mobilization specialist	Facilitator & secretary
4. Meetings with beneficiary groups (10) to brief them on the goals of the action, their anticipated contribution and expected benefits from the action. Election of a steering committee for each beneficiary group. Draw an inventory for the names of beneficiaries,.	30 days.	Project manager + community mobilization specialist	Facilitator & secretary
5. Meet the members of each steering committee separately to discuss with them their roles and responsibilities (Annex I).	15 days.	Project manager + community mobilization specialist	Facilitator , steering committees , secretary &

			logistics officer
6. Order importation and receive 50 purebred Saanen bucks from reliable foreign sources	60 days.	Project manager + goat breeder	Secretary, logistics officer & the accountant
7. Construct and equip 10 sheds for the accommodation of imported Saanen bucks.	30 days.	Project manager	Secretary, logistics officer & the accountant
8. Order & receive feeds and other supplies for bucks. Store supplies in buck sheds.	15 days.	Project manager	Facilitator , steering committees , secretary & logistics officer
9. Conduct the study on the assessment of current goat keeping method (s).Collection of field data, analysis, preparation and submission of a report.	60 days.	Goat production specialist	Facilitator , steering committees , secretary & logistics officer
10. Conduct the study on marketing current goats and goat products. Collection of field data, analysis, preparation and submission of marketing report.	60 days.	Goat marketing specialist	Facilitator , steering committees , secretary & logistics officer
11. Training of small goat holders (A total of 300 smallholders; 30 from each beneficiary group) in: goat management & goat health care.	50 days.	Goat management specialist + veterinarian	Facilitator , steering committees , secretary , accountant & logistics officer
12. Training of small goat holders (A total of 300 smallholders; 30 from each beneficiary group) in: milk processing .	50 days.	Milk processing specialist	Facilitator , steering committees , secretary , accountant & logistics officer
13. Training of small goat holders (A total of 300 smallholders; 30 from each beneficiary group) in: feed processing and conservation.	50 days.	Feed processing and conservation specialist	Facilitator , steering committees , secretary , accountant & logistics officer
14. Arrival and housing of imported Saanen bucks in 10 different locations in which 10 beneficiary groups of goat keepers live	last days 60 of year 1	Project manager & steering committees	Facilitator , steering committees , secretary , accountant & logistics officer
15. Ear tagging of goats selected for crossbreeding. .	15 days		
16.Beginning of crossbreeding	At the beginning of	Project manager,	Facilitator

service	month 12th of the action	Veterinarian and steering committees	
17. Approach local banks to provide credit for small goat holders	Beginning of 12th month in the action	Project manager & steering committees	
18.Monthly progress report	Every month	Project manager	Secretary & accountant

Work plan of year 2			
Activity	**Duration**	**Responsible staff**	**Support staff**
1. Order & receive feeds and other supplies for bucks. Store supplies in buck sheds.	Throughout year 2	Project manager, Veterinarian and steering committees	Facilitator ,accountant & logistics officer Facilitator
2.Crossbreeding of indigenous does with Saanen bucks	Throughout year 2	Project manager, Veterinarian and steering committees	Facilitator
3.Monthly meetings with each of the 10 steering committees to discuss the performance of Saanen bucks	**At monthly interval**	Project manager + Veterinarian and steering committees	Facilitator & logistics officer
4. Keep records of does owned by members of beneficiary group that possess exceptionally outstanding performance	Throughout year 2	Project manager, Veterinarian and steering committees	Facilitator
5. Keep record of productive performance of goats crossed by the Saanen bucks	Throughout the year	Project manager + goat breeder	Technician & steering committee
6. Hold regular monthly meetings with each of the 10 steering committees to discuss the performance of the action.	15 days.	Project manager + community mobilization specialist	Facilitator , steering committees , secretary & logistics officer
7. Fattening of weaned male kid goats by members of beneficiary groups.	Throughout year 2	Project manager, Veterinarian and steering committees	Facilitator
8. Promotion of marketing of fat kids, cheese and ghee.	Throughout year 2	Project manager, Veterinarian and steering committees	Facilitator
9. Analysis of reproductive and productive performance data .	At the end of year 2	Project manager, Goat breeder,	Technician & steering committee
10. Approach local banks to provide credit for small goat holders	Beginning of 12th month in the action	Project manager & steering committees	
11.Monthly progress report	Every month	Project manager	

Work plan of year 3			
Activity	**Duration**	**Responsible staff**	**Support staff**
1. Order & receive feeds and other supplies for bucks. Store supplies in buck sheds.	Throughout year 3	Project manager, Veterinarian and steering committees	Facilitator ,accountant & logistics officer Facilitator
2.Crossbreeding of indigenous does with Saanen bucks	Throughout year 3	Project manager, Veterinarian and steering committees	Facilitator &Technician
3.Monthly meetings with each of the 10 steering committees to discuss the performance of Saanen bucks	Throughout year 3	Project manager + Veterinarian and steering committees	Facilitator & logistics officer
4. Keep records of does owned by members of beneficiary group that possess exceptionally outstanding performance	Throughout year 3	Project manager, Veterinarian and steering committees	Facilitator &Technician
5. Hold regular monthly meetings with each of the 10 steering committees to discuss the performance of the action.	Throughout year 3	Project manager steering committees ,	Facilitator , secretary & logistics officer
7. Fattening of weaned male kid goats by members of beneficiary groups.	Throughout year 3	Project manager, Veterinarian and steering committees	Facilitator &Technician
8. Promotion of marketing of fat kids, cheese and ghee.	Throughout year 3	Project manager, Veterinarian and steering committees	Facilitator
9. Analysis of reproductive and productive performance data .	At the end of year 3	Project manager, Goat breeder,	Technician & steering committee
10. Approach local banks to provide credit for small goat holders	Throughout year 3	Project manager & steering committees	
11.Monthly progress report	Every month	Project manager	Secretary & accountant
12.Final report	12^{th} month	Project manager & all specialists	Secretary & accountant

i. Budget Allocation

	Unit Cost US $	Unit Quantity	Unit Type	Year 1	Year 2	Year 3	Total

	Unit Cost US $	Unit Quantity	Unit Type	Year 1	Year 2	Year 3	Total
Project Support Costs							
Professional Project Staff							
Project Manager	4000	36	month	48,000	48,000	48,000	144,000
Community mobilization specialist	2000	3	month	6,000	-	-	6,000
Feed conservation specialist	2000	2	month	4,000	-	-	4,000
Goat production systems specialist	2000	2	month	4,000	-	-	4,000
Goat husbandry trainer	2000	3	month	6,000	-	-	6,000
Milk processing trainer	2000	3	month	6,000	-	-	6,000
Goat breeding specialist	2000	3	month	2,000	2,000	2,000	6,000
Marketing specialist	2000	3	month	2,000	2,000	2,000	6,000
Veterinarian	700	28	month	8,400	8,400	8,400	25,200
Subtotal				**74,400**	**48,400**	**48,400**	**207,200**
Supplies							
Milk processing supplies	2000	1	Package	2,000	-	-	2,000
Goat management tools	250	1	Set	250	-	-	250
Shed for housing imported bucks	500	10	Shed	5,000	-	-	5,000
Imported Saanen bucks	1500	50	buck	75,000	-	-	75,000
Feed conservation tools	500	1	Set	500	-	-	500
Oil meal	500	5	ton	500	1,000	1,000	2,500
Mineral & vitamins salt lick	500	0.8	ton	100	150	150	400
Forages	100	75	ton	1,500	3,000	3,000	7,5000
Buck annual vaccination	10	50	Application	500	500	500	1,500
Buck annual deworming	10	50	Application	500	500	500	1,500

Buck annual treatment	12	50	Application	200	200	200	600
Subtotal				**86,050**	**5350**	**5350**	**164,250**
National Support Staff							
Secretary	500	36	month	6,000	6,000	6,000	18,000
Accountant	700	36	month	8,400	8,400	8,400	25,200
Facilitator	700	36	month	8,400	8,400	8,400	25,200
Technician	500	8	month	4,000	-	-	4,000
Enumerator	400	5	month	2,000	-	-	2,000
Guard	200	36	month	720	720	720	21,600
Cleaner	200	36	month	720	720	720	21,600
Car driver	500	36	month	6,000	6,000	6,000	18,000
Subtotal				**36,240**	**30,240**	**30,240**	**135,600**
Transportation							
Khartoum-Kadougli return ticket	300	15	Ticket	3,900	300	300	4,500
Shipment of Goods	150	20	Ton	3,000	-	-	3,000
Subtotal				**6,900**	**300**	**300**	**7,500**
Vehicle and Running Costs							
Vehicle rentals	4500	36	month	54,000	54,000	54,000	108,000
Vehicle running costs & fuel	1500	36	month	18,000	18,000	18,000	54,000
Subtotal				**72,000**	**72,000**	**72,000**	**216,000**
Other Office Costs							
Office Rental	1200	36	office	14,400	14,400	14,400	43,200
Utilities (water and electricity)	1300	36	bill	15,600	15,600	15,600	46,800
Telephone / fax	1000	36	month	12,000	12,000	12,000	36,000
Postage / Courier	200	36	month	2,400	2,400	2,400	7,200
Stationary / Supplies	1000	36	month	12,000	12,000	12,000	36,000
Maintenance	1000	36	month	12,000	12,000	12,000	36,000
Documentation / Reporting	1000	36	month	12,000	12,000	12,000	36,000
Advertising / Visibility	1000	36	month	12,000	12,000	12,000	36,000
Subtotal				**92,400**	**92,400**	**92,400**	**277,200**
SUBTOTAL							**800,550**
Office overhead costs (%))		**5**	**%**	**4,600**	**4,600**	**4,600**	**13,800**
TOTAL							**1,091,550**

j. Profiles of professional staff

Dr. El Sammani El Gaili.: B.V.Sc (1968), M.V.Sc. (1971), U.of.K, PhD. Bristol (1975).
Proposed position in this action: Project Manager
He is university professor of animal production .Taught independently animal management, animal production, animal breeding and genetics ,intensive sheep production and meat technology. Coordinated training courses in sheep and goat management to NGOs in Kassala , training in HACCP as applied to meat animal ,Meat technology to veterinarians . Led teams of animal scientists who conducted dozens of studies on goat and sheep production, including feeding ,nutrition ,growth and development , meat quality and safety. He offered livestock consulting services to major agricultural development projects in the Sudan including Feasibility Study for the development of Upper Attbara River area (1980), Feasibility Study for Merowi Irrigation Project (2006). Feasibility Study of Sondos Agricultural Scheme(2007), Feasibility Study for heightening Rosaries Dam (2008) ,Feasibility for the development of Tamara Agricultural Project in Nahr an Nil state feasibility (2009). Published three books on: investment opportunities in animal resources of the Sudan (2006) , livestock breeds suitable for red meat production in the Arab World (1983) ,Meat production in the Sudan (1978) and Meat production from indigenous Saudi sheep breeds. Professor Gaili is a member of the National Committee of Organic Agriculture in the Sudan. He supervised over 25 postgraduates, delivered public lectures and published media articles on livestock production

Name of Staff :Prof. Abdalla Elmubarak Ali
Proposed position in this action: Milk processing trainer
Qualification: Ph.D. (Food Science and Technology)- Mysore (India) University 1981.M.Sc.(Food Science) Reading University (U.K) 1972.B.Sc.(Food Technology) Faculty of Agriculture, Cairo University (Egypt) 1967. Certificate for Advance Training in Post-Harvest Technology (World Hunger Programme), United Nation University 1979.
Senior jobs: Director Food Research Centre Consultant in agro- processing.
Provided hand on work training in food processing and quality assessment. Provided the following training:
1-Area Rehabilitation Scheme (ARS0 -August 1997.Location: Wau Southern Sudan , Client: UNDP SUD/97/033, project Main project features: Training of Local Women In the Filed of Home – based Agro processing e.g. Milk Handling , Cheese and Ghee . , Fruits and Vegetables processing.
2-Pproject: VTA/ILO/UNDP SUD/88/026 Year: June 1995 to JAN.1996, Location: Elobeid Western Sudan, Client: VTA/ILO/UNDP Main project features: Training of Local Women In the Filed of Home – based Agro processing e.g. Milk Handling, Cheese and Ghee , Fruits and Vegetables processing.
3-Kassala or project (ITDG).Year: May 1993.
4-Elobeid Western Sudan ,Client: UNDP SUD/90/004,Main project features: Training of Local Women In the Filed of Home – based Agro processing e.g. Milk Handling ,Cheese and Ghee , Fruits and Vegetables processing.

Name of Staff : Moawia Mohamed Mustafa
Proposed position in this action: Community mobilization specialist
Education : B.Sc. Arts Cairo University- Khartoum 1968;**1972** Diploma in social policy Institute 0f Social Studies The Hague ,Netherlands,1984 M.Sc in Environmental Studies University of Khartoum. Trained in Project Appraisal Land Rights and land Tenure

Systems, Natural Resources Surveys and studies ,Environmental Impact Assessment, Environmental Perception and Ethno science, Environmental Hazards Management, Emergency Relief Operations Logistics Handling Allocation Monitoring Follow-up Reporting and Evaluation, Food and non-food Needs Assessment

Positions held: .Rural Development Inspector, Senior Development Inspector1974-1987, Relief Desk Officer 1987-1994,4-Director of Socio-Economic Studies Section1999-2002,5-Director of The Administration for land Use and Desertification Control 2002-2006,6-Private Socio-economist Consultant2006

Tasks Assigned –Community mobilization to set criteria for selecting non-DDR participant in training -Promote re-integration of DDR elements into their communities – organize communities into groups of common livelihood- –Explain to members of communities ways and means for developing their projects through banks and money lending organizations.

1. **Umjwasir development project ,** Northern State.1999 up to 2005 client : ADRA Sudan NGO

Activities 1-Social transformation 2-Women development 3- Restocking of animals

2. **Ingessana development project** -Year: 1972 - Main project features: This community was living in an isolated area. They developed their own culture based on their traditions and are strongly tied to their hills. The development intervention was based on the introduction integrated package of multi- disciplinary activities e.g. improved methods of cultivation ,animal husbandry adult education and primary health care etc .

Dr. Muzzamil Atta Ali, B. V. Sc. (1985), M. Sc. (1989), Khartoum University, Ph. D., Juba University.(2001).

Proposed position in this action:Trainer of Goat management

He is a university associate professor of animal production. Taught independently animal management, dairy production and intensive sheep production. Offered short training courses in sheep and goat management to NGOs trainers in Kassala town, training in application of the software *STATISTICA* v6 as applied to Risk Analysis and Statistics Training to veterinarians in Juba (2 courses) and Khartoum (one course). Conducted and collaborated in many studies on goat and sheep production, including feeding, nutrition, growth and development, fattening, reproduction and milk production. He is a founding member of the Agricultural Technology Transfer Society and the Sudan Camel Association. Dr. Atta was the head of the research team for evaluation of productive and reproductive potentials of Nilotic goats raised under intensive system of feeding and management (the research project was financed by the Ministry of Higher Education - Sudan). He supervised 19 postgraduates, delivered extension lectures to dairy farmers and presented T.V. and Radio extension service in collaboration with the Administration of Extension and Technology Transfer, Khartoum State Ministry of Agriculture and Animal Resources

Dr.Abdel Gabbar Mohammed Abdalla Adam is currently Manager of Planning and Research studies at the national Cooperative Corporation (NCC) .He obtained B.Sc. in Agricultural Economics, 1994.,- M.Sc. , production Economics University of Khartoum , -Ph.D. in Marketing 2001, (Domestic Sheep Markets Performance and Competitiveness of Sudanese Live Sheep and Mutton in Export Markets). He was awarded Students Prize for Superiority in 1993 by the University of Khartoum;.& the Student Prize for Superiority in 1996 by the Sudanese National Youth Organization. Dr.Abdel Gabbar published an article on "Spatial price transmission: A study of sheep markets in Sudan". African Journal for Agricultural and Resource Economics : Vol. 3 No 1 March 2009 (43-56). **Proposed position in this action** is goat marketing specialist.

Mohamed –Khair Abdalla Ahmed is currently professor of animal breeding and genetics in Khartoum university.He holds B.Sc. Agric. (Honours) class 1, 1974. ,M. Sc. Animal Breeding and genetics, 1977. Institute of Animal Genetics, Faculty of Science, University of Edinburgh, UK and Ph.D., Animal Breeding, 1981. Faculty of Science, University of Edinburgh, UK. He is head of the animal breeding department at the faculty of animal production. Professor Mohammed Khair published dozens of papers in animal breeding and supervised several postgraduate students working for master degree in animal breeding and genetics. He contributed to several national developmental studies in animal production. **Proposed position in this action: Goat breeding specialist.**

Dr. Yousif Rizgalla Sulieman is a professor of animal feeding and nutrition .He holds B.V.M.S. , 1964, M.Sc. 1970 and Ph.D. (New castle upon Type - England), 1984.

Proposed position in this action: feed conservation . Prof.Yousif is animal nutrition specialist and director of the central animal nutrition research laboratory, Kuku, Khartoum North (1977-1985), Livestock officer at Ghazal Gawazat Range and Livestock Resources Station in Southern Dar Fur (1964 - 1968). Livestock officer and director of Umbanein Livestock Resources Station in the Blue Nile Province and consultant to the nutrition laboratory – Kuku (1997-1999). Professor Yousif was the National Coordinator For FAO Technical Cooperation project for upgrading straw and urea treatment of straw to improve its quality (1986 - 1989).He was a member of FAO Regional Task Force on the utilization of molasses / urea block and urea treatment of straw .He participated to training course on Sheep and Goat production in the Sudan, organized by the Arab centre for Semi-Arid And Arid Development (ACSAA) Khartoum, in 1995; and to training courses on Animal Feeds and Feeding in the Su1tanate of Oman .He was member of expert team (AOAD ,1997).on utilization of Crop residues and Agro- industrial byproducts . Professor Yousif published several research papers and supervised postgraduate students registered for master degree in animal nutrition.

Dr. Hassan Mohmed Hassan Abbas is a professor of animal production.He holds a diploma in animal production from Germany (1975),B.V.Sc (1964) and Msc .(19710 from Khartoum university and fellowship of economic development from the World bank.Dr. Hassan was Live Stock Officer at Um Banein Research and Senior Specialist, Animal Production (sheep). He established the First Sheep Research Station in the Sudan. Tasks Research on Sheep Nutrition, Breeding and Management. Conducted extensive survey of sheep breeding of the Sudan under different farming systems .Seconded to Libya, Ministry of Agriculture to advice on animal nutrition, feed analysis and quality control, training in animal nutrition.He was Team leader for Livestock Development in State Bahrain by FAO. Animal Production Expert, seconded to ACSAD(Arab Center for Studies on Arid and Dry Lands). Syria. Responsible for camel and small Ruminant Development and Research in Arab Countries. Member of the technical Committee of ACSAD and ICARDA ACSAD, ALESCO, ACSAD and UAE.Responsible for Large Ruminant and Forage Production and Poultry development in Rahad which is Second largest irrigated Scheme in the sudan.Conducted studies on production of forages , grasses and legumes and utilization of agricultural residues in ruminant nutrition. Visiting consultant on livestock production with ,. Morocco ,AAAID (Arab Authority for Agricultural, Investment and Development, Mauritania , Tunisia Egypt ,. Brussels & Rome. Expert in Animal Production Camel and Small Ruminants- ACSAD in Yemen Democratic Republic, United Arab Emirates and the State of Kuwait.

Proposed position in this action: Goat production systems specialist.

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Annexes

Annex 1: Tasks of the steering committee formed by members of the beneficiary group

i. Assist with the collection of data on flock composition and routine management of goats owned by individual flock owners. Assist with the identification (using ear tags) of goats owned by members of each beneficiary group.

ii. Assist with the identification (using ear tags) of goats owned by members of each beneficiary group.

ii. Notify goat keepers about the date, time and venue for undergoing training in goat husbandry, kid fattening and cheese making.

iii. Care for and feed Saanen bucks that will be provided by the action to inseminate (naturally) cycling does owned by members of the beneficiary group.

iv. Assist with the collection, recording and care of male kids disposed by their owners for sale under the supervision and responsibility of the steering committee.

v. **Commercialization.** Commercialization of goat enterprise has been recorded important because of shrinking of resources for extensive grazing. Commercialization would help in increasing the goat productivity and bridging the demand-supply gap. However, use of improved technologies, particularly prophylaxis, superior germ plasm, low cost feeds and fodders and innovative marketing of the produce would be the pre-conditions for successful commercial goat production.

As a consequence of the low technological level and poor marketing system, goat farmers have no negotiation power because there is no reference market value and the sales are accomplished individually without quality certificates of the product. As an example, the price obtained by farmers for goat kids is US $ 20/head or 25 % of the international price (US $ 80)[1] for a similar product . This program helps goat keepers to improve their profitability by fattening kids and cooperative marketing. At the present production will be commercialized under this form. The steering committee will sell (in collaboration with the Manager of the action during the period of the action; and independently later on) goat kids handed to them by members of the beneficiary group. The steering committee is expected to record sales, collect cash arising from purchases and later on pay members of the beneficiary group for the kids they handed over for sale.

vi. Call members of beneficiary groups to regular meetings to discuss issues related to services provided by the action and any other issues that may help to rectify the action and increase gains from the action.

Annex II: **Training in goat management and fattening goat kids**

Objective

To provide trainees with hand on work training in the management of goats for income generation.

Training contents

Technical consideration in selecting does and bucks to start goat breeding activity**;**

- Management of newly arriving breeding goats
- Health management of newly arriving animals. Goat health care.
- Accommodation of goats.
- Feeding management. Fattening goat kids.
- Reproductive management.
- General goat care; Hoof trimming, hair cutting and signs of illness in goats. Actions to be taken on emergence of disease. Disposal of dead animals.
- Hygienic milking of goats , clean milk collection , milk hauling and marketing.
- Human health hazards related to goat keeping.

Training language

Simple Arabic. A translator (facilitator) will be hired to provide immediate translation of lectures into local dialect.

Training Methodology

- Lectures using flip boards Lectures using flip boards and charts.
- Demonstration on goat control, casting, drug administration and hygienic milking .
- Body condition scoring, dentition and examination of goats for physical & health soundness.
- Group discussion.

Duration of training

10 days.

Targeted participants

[1] www.aps.uoguelph.ca/~gking/Ag_2350/**goat**.htm

Small goat holders.

Number of participants

Maximum 20 participants from each beneficiary groups .

Annex III: Training in milk processing

Objective

To provide hand on work training in the manufacture of yoghurt, ghee and cheese from goat milk for home use or sale.

Training contents

Manufacture of ghee: Definition & uses of ghee. The trainer will be shown equipment and materials needed for ghee processing. They shall watch first the ghee manufacturing process and later allowed to practise it by themselves. Assessment of ghee quality .Ghee preservation and storage.

Manufacture of yoghurt: Definition & uses of yoghurt. Supplies needed for making yogurt The trainer will watch first yogurt manufacturing process and later will practice independently yogurt making. Participants will be shown how to assess yoghurt quality and, how to preserve and store yoghurt for marketing purposes.

Manufacture of cheese: Definition of cheese, its uses and manufacture. The trainer will be shown equipment and materials needed for cheese processing. They shall watch first the cheese manufacturing process and later on practice independently cheese making. Participants will be shown how to assess cheese quality , preserve and store cheese for marketing purposes.

Training language

Simple Arabic. A translator (facilitator) will be hired to provide immediate translation of lectures into local dialect.

Training Methodology

1. Lectures using flip boards and charts.
2. Demonstration and practical on milk processing.
3. Group discussion.

Duration of training

10 days.

Annex IV. Mobilization and organization of goat keepers in Kadougli locality

1. Identification the needs goat keepers

- Meetings with the authority of animal resources to identify the needs of goat keepers.
- Meetings with local leaders and goat keepers to identify their needs.
- Meetings with other stakeholders involved in goat businesses.

2. Selection of steering committees

Ten meetings will be held with members (small goat keepers) of ten different beneficiary groups. Local leaders, institutions and organization will be invited to attend these meetings in which members of each beneficiary group will elect in a democratic manner a steering committee of ten members. The steering committee links the Manager of the action with the beneficiaries at community level and undertakes specific jobs as outlined in. Annex 1.