The Agricultural Impact of IFAD Intervention in Crop Production in Semi Arid Zone in Um Rowaba and Bara localities of North Kordofan State, Sudan

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ABSTRACT: The current study was conducted in April 2009, in Um Rowaba and Bara localities to assess the impact of IFAD project in socio- economic interventions in rural communities, livelihood. The study used field survey household questionnaire to collect primary data, stratified systematic random sampling technique was used. 384 households was the sample interviewed. Results showed that 14.6% of the respondents received agricultural inputs in form of improved seeds in very miner quantities, 85.5% of the respondents did not receive any kind of agricultural inputs during the project intervention, 28.1% of the respondents of both males and females said that the farmers field schools (FFS) were established in the project area, to disseminate the extension packages among the farmers, 71.9%of participants in (FFS) responded negative disseminate of extension packages among them. 75.9 % of the respondents indicated that there was no increased in agricultural production during the project interventions in the study area. To increase the agricultural production in the project area more attention should be given to agricultural extension services, capacity building, and more studies to be conducted in IFAD (North Kordofan Rural Development) NKRDP to improve its performance in alleviating poverty and ensuring food security in the project area.

Keywords: disseminate, extension packages, improved seeds, livelihood

INTRODUCTION:

Sudan is characterized by a diverse spectrum of agro-ecological zones: from desert and semi–desert in the extreme north to semi-humid Savannah and humid subtropical woodland in the south (Mussa'ad, 2002).Moreover, Sudan has witnessed a series of crises since the eighty, these included drought and famine of 1984 - 1988 - 1991 in North Kordofan and Darfur. The civil war between North and South Sudan, including the area of south Kordofan, Blue Nile and Abyie, resulted in destitute and poverty, as well as destruction of infrastructure. These had led to several interventions being directed towards enhancing rural development of which was Sudan Government National Development Plan (1987- 1991) that gave priority to environmental

rehabilitation and rural development. In addition a pioneering Area Development Schemes (ADSs) was developed and implemented by the government and United Nations Development Program, the program started in (1988-1998) to cover five pilot areas which are known as less developed areas of the Sudan: Sheikan in North Kordofan State, UmKadada in North Darfur State, Edd Elfursan in South Darfur State, Lower Atbara in River Nile State and Central Butana in Gedarif State. The projects were designed with integrated package of income generating activities, oriented to rural development interventions, aimed to increase income and improve living standard of 385 village councils, (Massoud, 2000).In 1991the Sudan was faced, for the third time during six years, with another crisis of drought and famine. The Sudan government and UNDP assigned program named Special United Nations Drought Operation for the Sudan (SUNDOS) to overcome the drought effect in northern parts of North Kordofan and North Darfur States and to link relief with development. (UNDP, 1991).North Kordofan State implemented many development activities since first droughts hit the state in 1984 to overcome the effect of drought at the rural people in the area, as well as other neighboring States affected with civil war in south Kordofan and Darfur States. The livelihood of rural people in the State had deteriorated and scarce agricultural production was not enough to secure livelihood of most rural people in the area. The ultimate result has been negligence of farming, proneness of the rural farmer to engage in a set of activities in and outside the village in order to introduce diversify of income increasing sources to alleviate the poverty. North Kordofan Rural Development Project (NKRDP) was developed and introduced by the International Fund for Agricultural Development (IFAD) in 2000, in collaboration with the government of the Sudan. It was designated as a State Project, to be implemented by North Kordofan State agencies under the jurisdiction of the Governor and State Parliament. The overall objective of the project was to improve the living standard of the rural communities in the project area and, particularly, assuring their food security and alleviate the impact of drought and natural disaster in their lives. To achieve its objectives the project included five components which were: Community development, natural resources utilization and development, rural financial services, project management and local capacity building and construction of Elobeid - Bara road. The field operations of the project which started in early 2001 targeted 320 villages, which were reduced to 280 villages based on the midterm review, 2004 (140 villages in each Locality) spread throughout the eight Administrative Units. This study was conducted to investigate the socio-economic impact on the rural people in the area due to the establishment of North Kordofan Rural Development Project for basic live needs, livelihood improvement, and food security was the right approach, and more household income, improving agricultural production.

The Main Objective of the Study:

This study was conducted to investigate the socio-economic impact of IFAD (North Kordofan Rural Development) project interventions on the rural people in the area. Assess the outcome of projects interventions in agricultural production on targeted community's income.

Literature review: Rural development has often been a powerful means through which people in agrarian areas can be provided with access to basic amenities. This is of particular importance in developing regions, especially in African countries, where rural areas are more populous than urban centers. As indicated by Bello, (1998). Moreover by the early 1980s, rural development is defined by Champers (1983: 147) as "A strategy designed to improve the economic and social life of specified group of people of rural poor. It involves extending the benefits of development to poorest among those who seek a livelihood in the rural areas. The group includes small scale farmers, tenants and the landless." This definition views RD as a strategy to help the rural people of different classes, sex, age groups and occupation to plan for their needs and to be able to participate and look forward to their future development. Lele (1975:25) defined the concept rural development as "Improving living standards of the mass of the low-income population residing in the rural areas, making the process of their development self-sustaining." Therefore as argued by Lele,(1975). Defines rural development as "A set of activities comprising diverse actors, individuals, organizations and groups – which together lead to progress in rural areas". Moreover, rural development is defined as "A series of qualitative and quantitative changes occurring among a given rural population whose converging effects indicate in time a rise in standard of living and favorable changes in the way of life." (Wiley, 1978: 167).According to Viriya (2009) "the concept of rural development has changed significantly during the last 3 decades. Until the 1970s, rural development was synonymous with agricultural development and, hence, focused on increasing agricultural production". Citing Chambers (1983) and others. Moreover, according to the Rural Center (2000) "Rural Development promotes economic development by providing loans to businesses through banks and community-managed lending pools, while also assisting communities to participate in community empowerment programs."
Today the concept of rural development is fundamentally different from that used about 3 or 4 decades ago, the concept now includes issues of improvements in growth, income, health, nutrition and education. The concerns include an assessment of changes in the quality of life or improving the livelihood, environmental safeguard, gender in development, poverty reduction, rural finance, and community participation. (Chino, 2000: xiii). UN (1987):Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: The concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs. According to the Centre for Environment Education (2007): Sustainable Development (SD) implies economic growth together with the protection of environmental quality, each reinforcing the other. Sustainable Development, thus, is maintaining a balance between the human need to improve lifestyles and feeling of well-being on one hand, and preserving natural resources and ecosystems, on which we and future generations depend. Sustainable rural development defined by the UN Food and Agricultural Organization in Rome as "the management and conservation of the natural resources base and the orientation of technological and institutional change in such a

manner as to ensure the attainment and continued satisfaction of human needs for present and future generations." (FAO, 1988).

According to Adams (2006) "The core of mainstream sustainability thinking has become the idea of three dimensions, environmental, social and economic sustainability".

The millennium Development Goals are eight international development goals that all 193 United Nations member states and at least 23 international organizations have agreed to achieve by the year 2015." UN (2006).

The Millennium Development Goals (MDGs) are:

Eradicate extreme poverty and hunger.

Achieve universal primary education.

Reduce child mortality.

Improve maternal health.

Ensure environmental sustainability.

Develop a global friendship for development.

Address the essential needs of the least development countries.

Combat HIV/AIDS, Malaria and other diseases. (UN, 2006).

These eight goals broadly support the overall goal of sustainable development.

RESULTS AND DISCUSSION:

According to table (1) 14.6 % of the respondents received agricultural inputs in form of improved seeds since the project was introduced to the area, which includes: Millet (*Pennisetum typhoides*), Sorghum *(Sorghum bicolor*), Groundnuts (*Arachis bypogaea*), Sesame (*Sesamum orientale*) and Water melon (*Citrullus lanatus)*, the study showed that males were 6.5% and 5% for females in receiving the agricultural inputs. Furthermore the project provision minimum amount of 0.5 pounds to millet and maximum amount of 50 pounds to groundnuts

Table (1): Frequency & Percentage of Agricultural Inputs from the Project

Received agric. inputs	Male		Female		All sample members	
	N	%	N	%	N	%
Received agricultural inputs	16	6.5	7	5.0	56	14.6
Not received agricultural inputs	174	71.0	102	73.4	328	85.4

Total	55	22.4	30	21.6	384	100

Source field work, 2009

Kinds and Amount of Improved Seeds Proved by the Project to Farmers

Table (2) showed that 85.5 % of the respondents didn't receive any kind of agricultural inputs during the project intervention; this result showed the project provision of agricultural inputs, the result may indicate the agricultural crop production in the area may not increase due to the project interventions. And insure food security was not one of the project interests.

Table (2): Kinds and Amount of Improved Seeds Proved by Project to the Farmers

Kinds of Improved Seeds	N = 384	Amount of improved seeds/ pounds		
	N	Minimum	Maximum	Total
Millet	65	0.5	5	134.5
Sorghum	45	0.5	45	250
Groundnuts	56	1.0	50	1258.5
Sesame	75	0.25	15	179.5
Watermelon	47	0.25	3	106

Source: field work, 2009

The agricultural Extension Services:

Concerning providing extension services, as shown in table (3), 28.1% of the respondents of both males and females said that the farmers field schools (FFS) were established in the project area, to disseminate the extension packages among the farmers, thus 29.5% of the females confirmed project establishment FFs in the area neither 27.3% of the males, the results showed higher percent of females than males, this may be due to higher participation of females in practicing agriculture and in commitment in development processes, (71.9%) of the respondents indicated negatively. This result of lack of intervention of farmer's field schools may reflect in small adoption of the extension package or lessons learned among the farmers in the area, and this may not lead to increase the agricultural production.

Table (3): Frequency & Percentage of the established Farmers Field Schools (FFSs) by Project

Establishing FFS	Male	Female	Total

by the Project	N	%	N	%	N	%
Established FFSs	67	27.3	41	29.5	108	28.1
Not established FFSs	178	72.7	98	70.5	276	71.9
Total	245	100.0	139	100.0	384	100.0

Source: field work, 2009.

As indicated in figure (1) respondents showed that the FFSs established by the project in Bara represented 17.4 % and in Um Rowaba was10.7 %, this result showed little better performance of the project in Bara in practicing FFS approach than Um Rowaba Locality. The FFS aimed to improve skills and know-how by transferring new technologies and innovations to the farmers to facilitate the process of improvement of agricultural production. However, both percentages were too small to make difference.

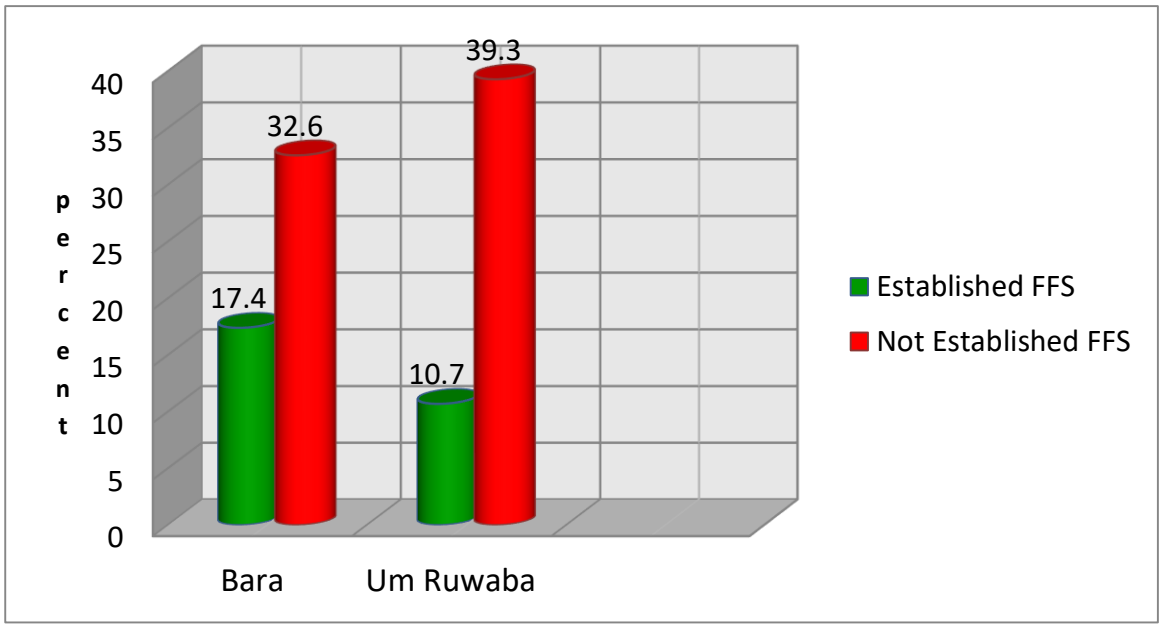

Figure (1) Percentages of the FFS Established in the Project Area by Locality. (Source: field work, 2009)

The New Techniques Adopted by the Farmers:

Table (4) highlight the lessons learned of adopting new techniques from the FFS established by the project in the study area. These new techniques include: the appropriate distance between plants, importance of land preparation, the optimum sowing date and importance of thinning,

which represents: 41.7 %, 19.4 %, 15.3 % and 12.5 % respectively, while 11.1 % of respondents indicated the lessons learned behind FFS were negative. This result showed considerable amount of extension packages learned by the farmers in the area due to the project interventions and it may be reflected sooner or later in increasing their agricultural production. However, Mergani & Suliman (2010) stated that: "the extension work is an educational system done outside the formal school oriented to both adults and children to acquire agricultural skills using the technique of learning by doing, these services were designed to achieve the rural needs and aimed to increase the agricultural production".

Table (4): Frequency & Percentage of Lessons Learned from FFSs Adopted by the project

Lesson learned from Farmers Field Schools	N = 384	
	N	%
Appropriate distance between plants	30	41.7
Importance of land preparation	14	19.4
The optimum sowing date	11	15.3
Importance of thinning	9	12.5
Learned nothing	8	11.1
Total	72	100

Source: field work, 2009

Lessons Leading to Increase Agricultural Production:

As shown in table (5) 24.1% of the both respondents confirmed increased agricultural production during the project interventions in the study area, 29% of the females respondents indicated increasing of agricultural production after project intervention and 21.5% were males,75.9 % of the respondents indicated that there was no increased in agricultural production during the project interventions in the study area. This result showed a low economic impact of the project in agricultural sector, thus, most of people in the area had not attained the household food security.

Table (5): Frequency & Percentage of Increasing of Agricultural Production after the Project intervention

Increasing of agricultural	Male	Female	All sample members

production	N	%	N	%	N	%
Increased	48	21.5	34	29.0	82	24.1
Not increased	175	78.5	83	70.0	258	75.9
Total	223	100.0	117	100.0	340	100

Source: field work, 2009

The Main Field Crops Sown in the Study Area:

According to table (6) the main field crops sown in the study area before and after project interventions were Sorghum *(Sorghum bicolor*), Millet (*Pennisetum typhoides*), Sesame (*Sesamum orientale*) and groundnuts (*Arachis bypogaea*). Comparing these crops in average area and average productivity /feddan, before and after the project, the result showed decline in all crops, average area and average productivity after the project interventions. This result was affirmed by 78.6 % respondents in the table (4.31) who said there was no any increasing in all agricultural main crops production after the project interventions. Results in table (6) showed 96.5 % of the respondents were farmers before project intervention , while 89.1 % of respondents were occupied farmer as main position after project phasing over, (7.4%) were had abandoned farming and shifted to other non agricultural work due to crop failure and decreases of crop productivity. The result showed the failure of the project in increasing productivity of all major crops in the area and hence the people income decreased and the household food security was not attained and moreover the poverty rate was not alleviated.

Table (6): Main Crops, Average of Area and Productivity before and after Project Establishment in the Project Area

Main Crops	Description	Before project	After project
	Farmer Percent	96.5	89.1
Sorghum	% Sown	35	37
	Min. Area / Feddan	0	0.5
	Max. Area / Feddan	50	15
	Overall mean Area / Feddan	4.5	2.5
	Mean of Productivity / Sack / Feddan	1	1
Millet	% owning	52.6	54
	Min. Area / Feddan	0	1
	Max. Area / Feddan	70	35

	Overall mean Area / Feddan	5.5	4
	Mean of Productivity / Sack / Feddan	1.5	.5
Sesame	% Sown	73	78
	Min. Area / Feddan	0	1
	Max. Area / Feddan	25	30
	Overall mean Area / Feddan	8	7
	Mean of Productivity / Gondar / Feddan	2	1.5
Groundnuts	% owning	20	21
	Min. Area / Feddan	0	05
	Max. Area / Feddan	20	10
	Overall mean Area / Feddan	1	0.5
	Mean of Productivity / Gondar / Feddan	2.5	2

Source of raw data: The author's field work, 2009

CONCLUSION AND RECOMMENDATION:

Conclusions:

The overall objective of the project was to improve the living standard of the rural communities in the project area and, particularly, assuring their food security and alleviate the impact of drought and natural disaster in their live. The study showed, a bit push from the project in provision of agricultural inputs, 14.6 % of the respondents received agricultural inputs in term of improved seeds from the project, these kinds of seeds include (Millet, Sorghum, Groundnuts, Sesame and Water Mellon), with a minimum amount of 0.5 pounds to millet per farmer and maximum amount of 50 pounds to groundnuts. In comparing between these crops in average area and average productivity /feddan before and after the project, the result showed decreasing in all crops, average area and average productivity after the project interventions.

Recommendations:

1. To increase the agricultural production in the project area more attention should be given to agricultural extension services, building capacity and providing real intervention based on real communal needs, and sustainable environmental demand.
2. Necessitate letting the agricultural extension team trained and developed by the project to work in the project area and benefit from the suggestions and recommendations to develop and sustain the project.
3. More studies should have to be conducted in NKRDP to show the role of the project in alleviating poverty and ensuring food security in the project area.

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