

## SOCIAL CAPITAL FORMATION AND IMPLICATION FOR THE ACHIEVEMENT OF FADAMA III PROJECT DEVELOPMENT IN KANO STATE, NIGERIA

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**Abstract:** *This study was carried out with the major aims of assessing Social Capital Formation and implications for the achievement of Fadama III project development objectives and to examine the success of Fadama III project in creating social capital within the context of participation. The data were collected during October, 2011 through the use of both structured and unstructured questionnaires. A total of 430 Kano State household Fadama Users from 34 Local Government Areas, the sample was divided equally in to 2, comprising of 215 Fadama III beneficiaries and 215 non-Fadama III beneficiaries. Data was analysed using descriptive statistics consisting percentages, averages and standard deviations. Empirical findings from the survey revealed that the level of social capital created by the Fadama III project among the beneficiary farmers in Kano State has been appreciable. Fadama user households have high level of involvement and participation by (67%) of the respondents.*

### 1. Introduction

Since independence agriculture has been one of the most important sector in terms of its contribution to the GDP. The sector on average contributes about 40% of the country's GDP, employs about more than 65% of the total population and provides employment to about 80% of the rural population (FDP, 2003). However agricultural production techniques remained rudimentary which makes productivity to be low hence rural population remain poor (Simonyan & Omohelin, 2012). Over the years governments at all levels have been putting effort to raise rural income, improve social welfare and ensure food security via the adoption and implementation of various agricultural development policies. One of such agricultural development schemes is Fadama Development project which has been implemented in three different stages, Fadama I, Fadama II and Fadama III respectively.

Fadama phase I was implemented during the period 1993 to 1999. It focused mainly on crop production and largely neglected support of post production activities such as commodity processing, storage and marketing. The emphasis was on providing boreholes and pump to crop farmers through simple credit arrangements aimed at boosting aggregate crop output (Muhammad, 2013).

Phase two (Fadama II) of the project was launched in 2004 as a means of improving on the positive effect of the first phase (i.e Fadama I) of the project and also to correct some of the short comings of the Fadama I project (Simonyan and Omohelin, 2012). The main aims are to

raise agricultural productivity of the rural farmers, eliminate their poverty and through them attain food security (Balogun et al, 2011).

The third phase of the project (which is the main concern of this paper) known as Fadama III was designed to last for four years from 2009 to 2013. The main objective of the project is to sustainably increase the incomes of Fadama land and water resource users, to reduce rural poverty, increase food security and to contribute to the achievement of the Millennium Development Goals, MDGS (Lortim, 2012). These objectives would be achieved through the financing and implementation of four main components which include (i) Institutional and social capital development (ii) Physical infrastructure for productive use (iii) Income generation and livelihood improvements and (iv) Transfer and adoption of technological knowhow.

Fadama is a local word (Hausa) for low lying flood plains usually with easily accessible shallow ground water (FDP, 2003). Fadama III project is expected to have positive impact on lives of rural farmers and to contribute to the realisation of social capital formation. Putnam (1993) cited in Field (2003) defines social capital as “features of social organisation, such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated actions.” It is the social channels and mutual understandings that expedite or hamper social, political and economic action (Jones et al., 2004). Fadama III from the year 2009 uses various forms of capacity building techniques that constitutes a combination of workshops, training, technical exchanges on farm training as well as more traditional technical assistance drawing upon local expertise within the state, national and international technical assistance agencies as well. Due to the fact that social capital constitute social structure that act as resource which assist in achieving the overall objective by facilitating coordinated actions. It may exact some influence in the implementation of Fadama III project and in the realisation of its goal as well.

It is argued that assessing impact of a project refers to the broad, long-term economic, social and environmental effect resulting from such project. Such assessment is seen as a critical component of agricultural project that helps to determine priorities of project and facilitate resource allocation among programmes, guide researchers and those involved in technology transfer to have a better understanding of the way new technologies are assimilated and diffused in to farming communities and show evidence that clients benefit from the project products.

Given the above arguments this study was carried out to:

Assess social capital formation and implications for the achievement of Fadama III project development objectives. Examine the success of Fadama III project in creating social capital, within the context of participation. Assess the context of adherence of group formation and operations to the principles of social inclusion, transparency and accountability.

## **2. Literature review and empirical framework**

Oladaja and Adeokun (2009) perceive the word Fadama as low laying lands subject to seasonal flooding or water logging along the banks of streams or depressions. The enormous potentials for irrigated agriculture in the Fadama and flood plain is unquestioned as Baba and Sigh (1998) argued as cited in Oladaja and Adeokun (2009) that Fadama lands have high potentials and agricultural values several times more than the adjacent upland. Akinbile et al. (2006) argued that Fadama development is a typical form of small scale irrigation practice characterised by flexibility of farming operations, low inputs requirement, high economic

values, minimal social and environmental impact and hence conform with the general criteria for sustainable development Oladaja and Adeokun (2009).

Various studies were conducted to empirically assess and evaluate the impact of Fadama Development Project especially the first and the second phase of the project. According to Fadama Development Project Appraisal Report, following the widespread adoption of simple and low – cost improved irrigation technologies, farmers realised incomes increases from various crops of up to 65% for vegetables, 334% for wheat and 497% for paddy rice and that the economic rate of return at completion was 40% compared to an estimated 24% at appraisal which signifies a great improvement (FPD, 2003).

Simonyan and Omohelin (2012) found that during Fadama II project, the income of the beneficiary farmers increased significantly more than before the project and also more than the non – beneficiaries' income. Adeniyi (2011) argued that Fadama has become a popular programme among many practicing farmers in different parts of the country. It has helped many farmers both to increase their production capacity and also meet the objectives of food security programme. However most of these literatures based their study on evaluating the impact of Fadama I and II mostly on farmers' income. Their analysis failed to focus directly on social capital formation and its implication for the achievement of the desired objectives of Fadama project. Therefore this study is an addition and improvement to the existing literature to assess the success of Fadama III development project in creating social capital within the context of participation and as well to evaluate the implication for social capital formation in the achievement of Fadama III development project.

### **3. Methodology**

#### **Data Collection Techniques Used**

The following methods were followed to generate the data used in the study.

Template was used to generate data to assess the achievements made in realizing the Fadama III Project Development Objectives the state. The template was designed to contain questions covering each of the three major components of the study. This component include: (a) Capacity building support for community organizations; (b) Capacity building support to local governments; and (c) Communications and information support. The questionnaire equally covered the objectives of each component of the study thereby making the analysis as thorough as possible.

#### **Sample selection for the survey:**

Fadama III is implemented in all states of the federation, including the 12 states that benefited from Fadama II including Kano state. The LGAs participating in Fadama II were purposely selected. The study uses four clusters/groups consisting of two treatment groups and two control groups, as follows:

#### **The two treatment groups:**

- (i) Fadama III in Fadama II LGAs;
- (ii) Fadama III LGAs in LGAs that did not receive Fadama II support;

**The two control groups:**

- (i) Non-Fadama III in Fadama II LGAs that received only capacity building support from Fadama III.
- (ii) Non-Fadama III LGAs in non-Fadama II LGAs. This group also received only capacity building support from Fadama III.

**Sample size:**

Seventeen (17) beneficiary Local government Areas (LGAs) were taken as ‘Treatment Group’ while another 17 non-beneficiary LGAs were selected as ‘Control Group’. The Fadama III beneficiary LGAs include: Albasu; Bagwai; Bebeji; Bunkure; D/Kudu; Garko; Gezawa; Karaye; Kunchi; Kura; Makoda; Minjibir; Rogo; Sumaila; Tofa; Takai and Warawa. While the non-Fadama III beneficiary LGAs are: Ajingi; Bichi; Dambatta; Gabasawa; G/Malam; Gaya; Gwale; Gwarzo; Kabo; Kibiya; Kiru; Rano; R/Gado; Tarauni; Tsanyawa; Ungogo; and Wudil. Samples of 215 Fadama households were drawn from the treatment and 215 non-Fadama households from control groups were used in this survey. In all, the sample size stood at 430. Relevant agencies and projects like the ADPs in all the sampled LGAs were identified to assist in having access to the beneficiaries or non-beneficiaries of the project. Each template was completed by the respondents which were administered by twenty (20) Enumerators. The Enumerators served two purposes: as questionnaire administrators and as interpreters of the questions as majority of the rural people could read and write. Four supervisors oversee the affairs of the Enumerators and ascertain the validity of the returned instrument.

**Data analysis:**

The data collected were estimated with the aid of a statistical package – SPSS after coding and data entry. The validated data was then analyzed using descriptive statistics. Basically, percentages, averages, standard deviation and standard errors were used. The data were finally interpreted in line with the objectives, baseline and target values of the study.

**4. Results and discussion**

Results are presented and discussed in the following sub-sections and with emphasis on those outcome indicators that go a long way in addressing the key objectives of the study.

**Table: 1 Socio-Demographic Characteristics**

<b>VARIABLE</b>	<b>Max</b>	<b>Mean</b>
<b>Age</b>	70	42.7
<b>House hold size</b>	30	11.9
<b>Years of experience</b>	45	19.1
<b>Gender</b>	<b>Frequency</b>	<b>Percentage %</b>
Male	165	76.7
Female	50	23.3
<b>Marital status</b>	<b>Frequency</b>	<b>Percentage %</b>
Married	200	93.0
Single	7	3.2
Divorce	3	1.4

Widow	5	2.3
<b>Educational status</b>	<b>Frequency</b>	<b>Percentage %</b>
Non-formal	94	43.6
Primary	31	14.5
Secondary	44	20.5
Tertiary	42	19.5
None	4	1.9
<b>Household head</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	152	70.7
No	63	29.3
<b>Status of respondent</b>	<b>Frequency</b>	<b>Percentage %</b>
Member FCA	31	14.4
Member FUG	161	74.9
LG Executive	16	7.4
LG staff	7	3.3
<b>Position in the FCA/FUG</b>	<b>Frequency</b>	<b>Percentage %</b>
Executive member	133	69.3
Members	59	30.7
<b>Occupation</b>	<b>Frequency</b>	<b>Percentage %</b>
Crop production	143	66.5
Livestock production	19	8.8
Fish production	2	0.9
Agro-forestry	5	2.3
Others	46	21.4
<b>Level of involvement in Fadama III</b>	<b>Frequency</b>	<b>Percentage %</b>
High	144	67
Medium	62	28.8
Low	9	4.2

The mean age of respondents was 42.7, whereas 70 years was reported to be the maximum in table 1. Household size was as higher as 30, while the mean number of households that participated in the study is roughly 12. The household size is a relevant determinant in promoting agricultural productivity. The maximum years respondents spent in farming profession was 45 as against the minimum of 1 year. However, the average year of experience was 19.1 which portrayed the potential of the respondents in Fadama farming.

Almost seventy-seven percent (77%) of the respondents were male while barely twenty-three percent (23%) were female, implying that more than two-third (2/3) of the respondents were male. Married people among the respondents were up to 90% leaving single, divorced and widow respondents with 3.2%, 1.4% and 2.3% respectively. Bulk of the respondents (43.6%) have their educational background from non-formal institutions mainly Quranic and Islamiyya schools. Others had primary (14.5%), secondary (20.5%) and tertiary (19.5%) education. Yet 1.9% had none.

Over 70% of the respondents were households and members of Fadama User Groups (74.9%). But almost fifteen percent (15%) belong to Fadama Community Association and others are local government executives (7.4%) and local government staff (3.3%). The farmers were basically engaged in crop production (66.5%), livestock production (8.8%), fish production (9%), agro-forestry (2.3%), while 21.4% of the respondents engaged in other economic activities. The level of involvement of the Fadama III beneficiaries in the project varies.

While 67% were highly involved, others (28.8%) were moderately and (4.2%) minimally involved.

**Table 2: Success of Fadama III in Creating Social Capital**

<b>Subproject ownership</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	140	73
No	52	27
<b>Value</b>	<b>Max</b>	<b>Mean</b>
<b>No of household members owning subprojects</b>	500	21
<b>No of subprojects</b>	4.0	0.7
<b>Success of Fadama III in raising capacity</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	187	87.0
No	28	13.0
<b>Areas capacity built</b>	<b>Frequency</b>	<b>Percentage %</b>
Access to inputs	94	49
Increase in productivity	38	20
Increase in income	52	27
Others	8	4

It has been established earlier that over 60% of the respondents highly participated in the project and less than 5% had minimal participation. Table 2 shows that 73% of the respondents own one sub-project or another from the physical and non-physical proceeds of the Fadama intervention. On average, 21 household members owned various sub-projects and a maximum number owner of such was 500. The study found that the maximum number of sub-projects owned by household was 4 and roughly 1 on the average. Precisely (87%) of the respondents conceded that Fadama III has impacted significantly on their skills and capabilities in the farming practice. The project has indeed, generated some benefits to the farmers as (49%) of them got input support and become empowered on the relevance of improved seeds and their applications. Twenty percent (20%) of the farmers realized substantial increase in their output, reduction in their costs and improved efficiency. As in the broad objective of the Fadama project, twenty-seven percent (27%) of the beneficiaries got a sustained increase in their income. Social and other benefits were derived also. The significant benefits were realized from the capacity of the farmers to harness and manage natural resources, while others got benefits from participation in other economic activities.

**Table 3: Adherence to Group Formation and Operation**

<b>Variable</b>	<b>Max</b>	<b>Mean</b>
<b>Years group formed</b>	25	2.4
<b>Motivations for group/association formation</b>	<b>Frequency</b>	<b>Percentage %</b>
Need for technical and financial support	103	53.5
Need to join Fadama beneficiaries	47	25.6
Transparency	13	6.5
Accountability	12	6.0
Social inclusion	9	4.7
Others	8	3.7
<b>Level of social inclusion</b>	<b>Frequency</b>	<b>Percentage %</b>
High	105	54.7
Moderate	60	31.25
Low	27	14.05

<b>Level of transparency and accountability</b>	<b>Frequency</b>	<b>Percentage %</b>
High	110	57.3
Moderate	70	36.5
Low	12	6.2
<b>Collaborations and collective efforts</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	164	85.4
No	28	14.6
<b>Satisfaction by forming group</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	155	73
No	60	27
<b>Dissatisfaction with group</b>	<b>Frequency</b>	<b>Percentage %</b>
In prefer to maintain farm with my family	20	33.3
I prefer to produce alone	15	25
Most farmers prefer working individually	25	41.7

The right impetus has been created as farmers groups were formed spanning a maximum of 25 years and barely 2.4 years on the average. The farmers confess to have been motivated by the need for financial and technical support (53.5%); need to be a beneficiary of Fadama project (25.6%); for transparency (6.5%); accountability (6%) and for social inclusion (4.7%). Only 3.7% formed groups for some obvious reasons. It is apparent that awareness on the existence and activities Fadama project was adequately created and contributions appreciated thereby leading to strict adherence to group formations.

Harmonious social relationship among Fadama users is of veritable importance in the attainment of the Fadama III PDOs. Findings of the study show that there exists a high level of social inclusion (54.7%) among the Fadama users. The social inclusion is moderate among some users (31.25%) and low (14.05%) in others. The high level of transparency reported (57.3%) is not unconnected with the equally high level of social inclusion. That buttressed the success recorded in building the capacities of the Fadama users. More so, they work collectively in addressing their problems and hence 73% of the respondents were satisfied.

**Table 4: Extent of Participation of Fadama Users**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage %</b>
<b>Involvement in managing Fadama resource</b>		
Yes	131	68.4
No	61	31.6
<b>Level of your participation</b>	<b>Frequency</b>	<b>Percentage %</b>
High	124	64.6
Moderate	65	34
Low	3	1.4
<b>Have any local plan</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	172	89.8
No	20	10.2
<b>Participation in LDPs preparation</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	163	85
No	29	15
<b>LDPs created and supported by Fadama III project</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	184	95.8

No	8	4.18
<b>LDPs developed through participatory process</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	184	96
No	8	4
<b>Level of contribution in the participatory plan</b>	<b>Frequency</b>	<b>Percentage %</b>
High	115	60
Moderate	63	33
Low	14	7
<b>Relevance of the LDPs</b>	<b>Frequency</b>	<b>Percentage %</b>
Relevant	154	80
Fairly relevant	23	12
Irrelevant	15	8

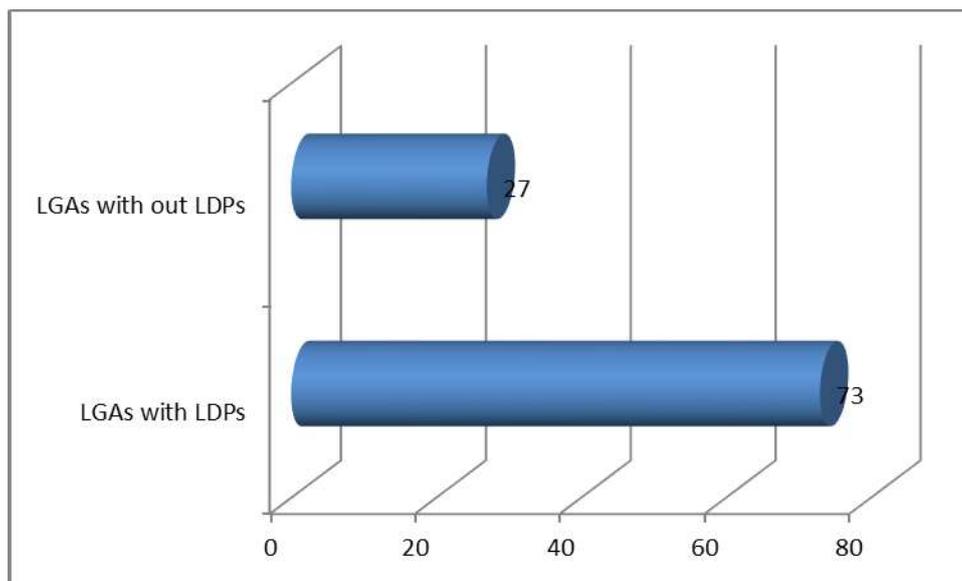
Table 4 shows that Fadama users in Kano state were involved in the management of Fadama resources as attested to by 68.4% of the respondents. And the level of their participation is as high as 64.6%, while other users averagely participate (34%). Their participation gave them the opportunity to be part of preparation and execution of the project. Almost ninety percent (90%) of the respondents declare having Local Development Plans (LDPs) in their areas and they have indeed, participated in the preparation of those plans as made known by 85% of the respondents. Ninety five percent (95%) of the respondents reported that the LDPs were developed and supported by Fadama project in the period under study through a participatory process. Exactly 60% rendered high contribution in the participatory plan, while 33% and 7% contributed moderately and low respectively. Base on that, 80% of the respondents considered the LDPs as highly relevant to the improvement of their standard of living. The mean number of benefitting communities was 5.6 and the proportion of the benefitting communities that have LDPs developed through participatory process was 2/3.

**Table 5: Capacity of Participating LGAs in Fadama III Project**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage %</b>
<b>LGAs participation in Fadama III project</b>		
Yes	19	84
No	4	16
<b>Consideration of LDPs in policy formulation</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	18	80
No	5	20
<b>Capability of LGAs in participatory planning</b>	<b>Frequency</b>	<b>Percentage %</b>
Capable	16	69
Moderately capable	6	27
Incapable	1	4
<b>Integration of LDPs in the LGAs' annual plan</b>	<b>Frequency</b>	<b>Percentage %</b>
Yes	17	74
No	6	36
<b>Variable</b>	<b>Max</b>	<b>Mean</b>
Benefits derivable from participatory planning and by integrating the LDPs	7	1.6

Evidence from the study has shown that the benefiting Local Government Areas (LGAs) have actively participated in the Fadama III project (84%) and 80% of the LGAs as attested to by the respondents have been considering the Local Development Plans (LDPs) in their policy formulations. But the remaining 20% have not been considering the LDPs possibly because they have not participated in the trainings provided by the Fadama project. Sixty-nine of the respondents believed that the LGAs are capable in participating in the planning of the LDPs, and majority of the LGAs (74%) integrated the LDPs into their annual plans.

A maximum of seven identified benefits were reported to have been derived by the LGAs from the Fadama project by participating in the planning of the LDPs and by integrating the LDPs in their plans. These benefits include: community mobilization; investment planning; land-use planning; financial management; budgeting; public administration and project development. The study found a mean of 1.6 of the derivable benefits over time.



**Fig 1: Percentage of LGAs with LDPs in annual work plan**

Assessing the impact of the Fadama III project on the capacity of LGAs could be done by gauging the LGAs’ level of participatory planning and integration of LDPs in their annual plans. Figure 1 depicted that 73% of the local governments have been integrating the LDPs in their annual plans while 27% were not.

**Table 6: Level and Progress of Group or Association Registration**

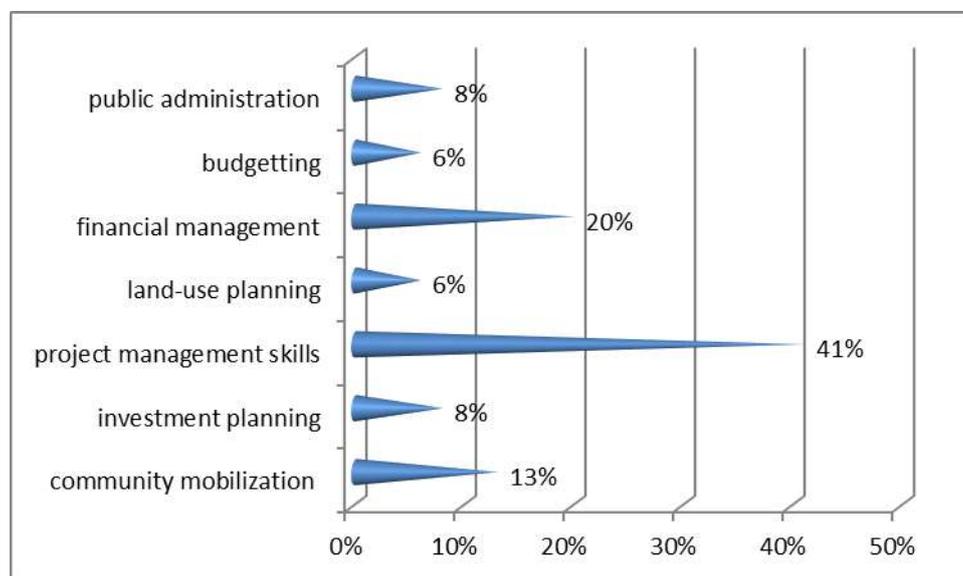
Variable	Frequency	Percentage %
<b>Extent of group registration</b>		
Very often	171	89
Often	15	8
Not at all	6	3
<b>Level of mobilization</b>		
Yes	190	99
No	2	1
<b>Level of persuasion</b>		
Significant	159	83
Fairly significant	29	15

Insignificant	4	2
<b>Progress level recorded in the registration</b>	<b>Frequency</b>	<b>Percentage %</b>
Significant	171	89
Fairly significant	15	8
Insignificant	6	3

Table 6 reported that the extent of groups'/associations' registration was very high as they often come forward to register (90%) knowing fully the physical and non-physical derivable benefits they could get, which could go a long way in improving their living standards. Because of that the level of mobilizing groups and associations to register was equally very high acknowledged by 99% of the respondents. The mobilization level was successfully attained over the years in view of the significant efforts made geared toward convincing groups and associations to register, by disclosing lot of the benefits. Groups were encouraged and information circulated all over the existing media on the merits of group registration. Hence, the progress recorded in the registration of groups and associations was indeed, significant (89%).

### Content and Progress of Training to the FCAs, FUGs and LGA staff

About 85% of the FCAs, 97% of the FUGs and 93% of the LGAs have participated in the training. The training was offered in order to support and empower the communities on how to identify, design, share investment costs, implement and maintain productive assets and carry out productive activities in a sustainable manner. Seventy-eight percent (78%) respondents from FUGs, 56% from FCAs and 70% from LGAs found the training very effective as it aids their farm practices. Indeed, the FCAs, FUGs and LGAs attributed 81%, 80% and 83% of their performance to the training signifying the giant stride made in the Fadama project.



**Fig 2: Number of LGA staff trained in project management skills**

A look at figure 2 shows that LGA staff were trained on a number of important skills needed in augmenting their productivity and capacity to manage the available resources before them. The respondents indicated the various areas they were trained: public administration (8%); budgeting (6%); financial management (20%); land-use planning (6%); project management skills (41%); investment planning (8%); and community mobilization (13%). From the foregoing findings, it could be seen that majority of the respondents were trained on project

management skills giving its merit in improving the local government staff capacity in managing resources.

### 5. Conclusion

Substantive evidence from the study shows that the project has appreciably improved the community's stock of social capital, as revealed by large number of functioning FCAs and FUGs; high level of adherence to group formation; high level of social inclusion; transparency and accountability; and ownership of sub-projects. The study also found that capacity of Fadama users and LGAs was improved leading to better management of Fadama resources and LDPs. The capacity of LGA staff has equally been successfully improved as indicated by participating in preparing local development plans and by integrating the plans in their annual plans.

### References

- [1] Adeniyi S (2011). Despite all Odds, Fadama has become a huge success in Nigeria. Daily news Paper Tuesday 2<sup>nd</sup> August, 2011
- [2] Balogun O.L, Adeoye A., Yusuf S.A, Akinlade R.J & Carim – Sanni. (2011). Production Efficiency of farmers Under National Fadama II Project in Oyo State, Nigeria. International Journal of Agricultural Management & Development PP 11 – 24, www.ijamad.com
- [3] Fadama Development Report (2003). Appraisal Report; Federal Republic of Nigeria
- [4] Field J. (2003). Social Capital Routledge Publications, New Fetter Lane, London
- [5] Lortim H.T. (2012). Fadama III Spurs World Bank to invest More in Agriculture
- [6] Muhammad k. (2012). Impact of Fadama II Project on Poverty Reduction in Kagarko Local Government Area Kaduna State, Nigeria. Unpublished M.Sc. Dissertation
- [7] Oladoja M.A & Adeokun O.A. (2009). An Appraisal of the National Fadama Development Project (NFDP) in Ogun State, Nigeria. Agricultural journal 4(3), 124 – 129.
- [8] Simonyan, J.B & Omohelin, R.A. (2012). Analysis of Impact of Fadama II Project on Beneficiary Farmers Income in Kaduna State. *International Journal of Economics and Management Sciences*, 1(11), 01-08.
- [9] World Bank. (2012). Third National Fadama Development Project in Nigeria: Implementation Status and Results. Report No. ISR7816, September 19<sup>th</sup>, 2012.