



**Nigeria
Dairy Enterprise
Initiative**



FINAL REPORT

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Submitted to

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I. PROJECT OVERVIEW

The USAID 2002 Dairy Enterprise Initiative Program (DEI) provided support for a Dairy Enterprise Initiative in Nigeria and Tanzania. The Nigeria Dairy Enterprise Initiative (NDEI) was initiated on October 1, 2004 and was to run till September 30, 2006 but extended with a two-month no-cost extension, to November 30, 2006. The program's activities contributed to achievements of results under USAID/Nigeria Mission Strategic Objective SO12 "***Improved livelihoods in selected areas***".

The overall goal was to develop the domestic farm-to-market dairy value chain and initiate an approach to begin reducing the nation's dependency on imported milk products. Its purpose was to improve livelihoods of small-holder livestock producers through peri-urban dairy development around Abuja, the federal capital of Nigeria. The NDEI program was to address the key constraints inhibiting development of the dairy industry in Nigeria.

To achieve this purpose, the key objectives of this project were to:

- Develop group-based business cooperatives
- Increase productivity at the farm level
- Create value added products

To achieve these objectives, the following project outputs and activities were targeted:

- Training and technical assistance in business cooperative development, animal production, fodder conservation and, feed supplement techniques.
- Creating linkages between producers and processors by initiating collection centers for milk bulking.
- Formation of cooperatives and organized groups

Key Highlights of the project included:

- Increased average yield of dairy cattle from **0.6** liters/day to **1.75** liters/day among participating households.
- **74.86** percent increase in active membership in democratically run cooperatives, farmer groups and associations;
- Provided technical assistance in dairy development to **13** producer groups, of which **10** producers, and **3** milk bulking groups, respectively, evolved into cooperatives with legal statutes, benefiting over **1744** family members.
- The technical interventions in livestock nutrition and health increased incomes of livestock producers in the selected targeted sites by **183 %** and improved the standard of living of their household members.
- Established **2** milk collection centers (MCCs)

Land O'Lakes project activities complemented International Livestock Research Institute's (ILRI) Technology Applications for Rural Growth and Economic Transformation (TARGET) project funded by USAID and Technology Access Fund for sub-Saharan Africa to effectively utilize critical industry understanding, which guided implementation of dairy development strategies to insure a vibrant market demand for locally produced dairy products.

PROJECT SUPPORT OF USAID'S STRATEGIC OBJECTIVES IN NIGERIA

NDEI directly supported **USAID/Nigeria SO12**. Specifically it responded to the following SO12 sub-objectives and IRs:

SO12: Improved Livelihoods in Selected Areas)

SO12.1 Income from selected commodities and products

SO12.2 Job creation

SO12.3 Wealth/investment index

IR.12.1.1 Productivity of selected commodities/products

IR.12.2.1 Volume of value-added commodities/products

IR.12.2.2 Value of value-added commodities/products

IR.12.3.1 Proportion of production sold

IR.12.3.2 Sustainable producer associations

IR.12.3.3 Membership in producer/marketing associations

II. PROJECT PERFORMANCE AND RESULTS

Land O'Lakes put in place a system of managing for results. Specifically, for the two-year dairy enterprise initiative, Land O'Lakes monitored six indicators. The progress to date is summarized below:

Performance Indicator	Results as of November 2006	Overall Target	Remark
Increased milk productivity (milk yield) per cow per day	191%	20%	Milk productivity increased from an average of 0.6 liters to 1.75 liters per cow per day as a result of feeding 2 kg of cottonseed cake (CSC) supplement per cow per day.
Number of cooperatives formed/strengthened	13	10	Ten (10) producer cooperatives and three (3) women milk bulking cooperatives assisted. [Formed nine (9) and strengthened four (4) [existing] cooperatives]
Number of members of cooperative enrolled	306	400	Total membership recorded during this quarter includes 1 new producer cooperative and 58 women in the 3 milk bulking cooperatives.
Increase in membership of cooperatives	74.86 %	10%	Increase in membership is based on 175 initial members enrolled in both producer and milk bulking cooperatives (<i>Appendix B 2</i>).
Increased household incomes	183%	50%	Household income is based on baseline net sales (\$1.2) of dairy products from selected households. Because of the increased milk productivity per cow, income from milk sales increased to \$2.2.
Number of milk collection centers (MCCs) established	2	4	One (1) of the milk cooling tanks has been installed and tested. It became operational on November 29, 2006. The second cooling tank will be installed when the other recipients share the experience from the installed MCC.

III. PROJECT STRATEGIES

The program strategies for NDEI are outlined below:

- A. **Baseline survey.** At project outset, a widespread consultation and participatory appraisal was conducted to generate baseline data on the specific project indicators. Based on the information generated, Land O'Lakes monitoring and evaluation specialist, along with NDEI technical team, designed a project performance plan to determine progress towards target results.
- B. **Performance monitoring plan (PMP).** A performance monitoring plan was instated to track progress quarterly, semi annually, and annually. Meanwhile, an internal weekly review meeting was instated to monitor progress, review strategies, and reassign tasks and responsibilities to ensure achievement of results.
- C. **Strategic partners and collaborators.** Relevant in-country institutions such as the Agriculture and Rural Development (ARD) Secretariat of the Federal Capital Territory Administration (FCTA); the Federal Department of Livestock and Pest Control Services (FDL&PCS) of the Federal Ministry of Agriculture and Rural Development; the Livestock Unit of the Agricultural Development Program (ADP); the World Bank-Assisted Fadama Development Program; National Veterinary Research Institute (NVRI); and the National Livestock Projects Division (NLPD), were consulted and invited to participate in project planning, implementation and monitoring and evaluation of NDEI.

An MOU was signed with NLPD. This organization provided training to NDEI clients on milk hygiene and sanitation, and livestock health. The International Institute for Tropical Agriculture (IITA) also provided training to NDEI clients on fodder production and conservation. Meanwhile, the Livestock Department of ARD Secretariat designated a staff exclusively for NDEI activities.

In spite of the several strategic in-country institutions consulted and invited to participate in NDEI; one or a combination of the following hindered their functional participation: bureaucracy, reluctance to work with traditional livestock producers, and lack of financial capacity. However, NDEI kept the relationship throughout the project time frame to maintain the goodwill.

- D. **Work plan.** Based on the performance monitoring plan (PMP), an annual work plan was developed outlining activities, milestones and targets to direct inputs and outputs toward the outcomes and results of NDEI.

- E. **Training, demonstration and mentoring.** The inputs for achieving NDEI project objectives included training on cooperative development, livestock nutrition, livestock health and husbandry. To ensure that clients apply the recommendations correctly, on-farm demonstrations were conducted at farm level. This was followed by mentoring during the subsequent cooperative meetings and visits to ensure adoption of the technology.
- F. **Independence and autonomy.** NDEI is a short project, based on this premise, it was critical to build the capacity of NDEI clients to be independent and autonomous in planning, decision-making, and cooperative activities. The boards of NDEI cooperatives were trained on basic needs assessment, basic problem-solving skills, prioritizing, and resource allocation for implementation of cooperative activities. The use of committees for implementation of cooperative activities was emphasized.
- G. **Exit strategy.** Considering that NDEI has a defined time frame, exit strategies were put in place to ensure sustainability. From the project outset, a staff of the ARD Secretariat was enrolled on the NDEI team to understand the concept; the characteristics of the clients; the implementation strategies; the challenges; the lessons; and project status at close-out. This approach was conceived to build the capacity of the designated staff to carry on the mentoring, strengthening, and facilitating of NDEI clients.

The primary cooperatives formed/strengthened by NDEI were assisted to form a union, which was registered on August 15, 2005, under the name Jaibe na'i Kosam E'Nebbam Abuja Dairy Union. The union would serve as the platform for advocacy and a forum for collating issues from member cooperatives. It would also provide services to member cooperatives and expand the network to enhance their activities. To ensure that the union is sustained, NDEI solicited for an office space in the building of the National Commission for Nomadic Education (NCNE) to serve as the union's secretariat to conduct meetings and to be contacted easily. The Dairy Union was also linked to VetWorld, Neimeth, Moor Lick, and Sharada Oil Mills to access livestock services and inputs such as mineral lick, cotton seed cake (CSC) and veterinary pharmaceuticals, directly from these companies. The ARD Secretariat provides support and assistance to facilitate easy access to these inputs and services.

IV. LESSONS LEARNED

Land Ownership: Developing dairy using traditional livestock producers in Nigeria is feasible because they own over 90% of the cattle and supply over 80% of milk. However, it is an onerous task organizing producers that have the latent potential to move because the land they inhabit belongs to a crop farmer, or the land could be taken over by government for other uses.

Though there are four grazing reserves in Abuja, these reserves have not been demarcated into blocks and the livestock producers that have settled within the reserves do not own title deeds to the land. Therefore, introducing less costly feed resources such as forage, fodder production and pasture development is not feasible. Creating linkages to business development services would require a permanent address. Unless the issue of land use in Abuja in particular, and Nigeria in general, is reviewed and the needs of traditional livestock producers accommodated; dairy development will be very slow and strenuous. Government is very slow in responding to the land issue because of the lack of strong advocacy group. Therefore, advocacy and interventions to influence policy on land use needs to be a cardinal project component in dairy development in Nigeria.

Productivity of the local cattle breed: The milk yield of the local breed is relatively low. The average milk yield per cow per day during the wet season is between 1-1.5 liters; during the dry season, this figure drops to about 0.6 liters. With supplementation using cotton seed cake, milk yield could be increased to between 1.5-2.0 liters; however, this may not be the genetic ceiling of the local breed. With improved management and appropriate selection, milk yields of up to 4 liters could be obtained. In spite of this potential, the milk yield is still grossly inadequate to supply the annual demand of over about 606,000 tons. Therefore, for a quantum leap in dairy development, the genetics of the local breed has to be improved. This could be achieved on a large scale using artificial insemination (AI) with semen from proven sires. AI has to be an integral part of dairy development in Nigeria for any meaningful and sustainable result. It is difficult to develop the dairy industry using the local breeds alone.

Organizing producer groups: The spatial distribution of traditional livestock producers and the unfavorable terrain makes it very difficult to reach them; and also introduces a cost dimension to input supply and access to market and business development services. The lack of literacy skills; clan-biased ethnocentrism; mutual distrust; erosion of traditional leadership, all combine to compound the problem of organizing pastoral livestock producers into associations or cooperatives. The inefficiencies and ineffectiveness of relevant agencies responsible for formation of cooperatives and associations further increased the burden on NDEI. There is a need to build the capacity of existing institutions and solicit for financial contribution in form of matching grants to enroll their functional participation. This may remove the dependency syndrome, which creates friction and mutual suspicion.

Integrated Dairy Farms: Though the integrated dairy farms are operating at high overhead cost, they are reluctant to partner with traditional milk producers because of lack of skill and resources to organize the milk collection network, and the lack of strategic infrastructure such as water, roads, and electricity to support the cold chain. The unfavorable policy which makes the use of imported powdered milk far cheaper than fresh milk produced in-country encourages sustained imports. However, this also limits the range of their products thus resulting in low capacity utilization. On the supply side, the spatial movement of traditional livestock producers, in response to inadequate water, feed resources, and endemic diseases, makes supply erratic and unreliable. The hygiene and quality of the milk at herd level is also a major concern. Providing milk handling, hygiene and sanitation skills to livestock producers by NDEI has mitigated this concern. Also, the introduction of milk collection centers (MCCs) has ensured quality fresh milk. Organizing the producers into cooperatives also provided a common point of convergence and makes it easy to set standards, rules and regulations. However, the integrated dairy farms should adopt the concept of nucleus estate, as instated by NDEI on Maizube Farms, so that the farms provide water, feed resources and health services to traditional milk producers. That way, the producers would sedentarize around the farms, and supply the much needed raw materials for the milk processing plants.

Bureaucracy: Working through the bureaucracy to arrive at strategy for collaboration with in-country institutions takes an inordinate amount of time. After several meetings and review, eventually, the institutions find it very difficult to meet their obligations. Often, it is expected that funding for their own part of the agreement would be borne by the primary project partner. Several government institutions consulted during project start-up have not shown enthusiasm to participate in NDEI. Follow-up visits and exploratory meetings did not help. This may be attributed to the dependency syndrome, where most government institutions are attracted to donor projects that provide direct funding to such institutions. When direct funds are not channeled to such institutions, they are often aloof and apathetic or halfhearted about participating as partners or collaborators.

Dairy Policy: Lack of a defined policy for dairy in Nigeria created a very harsh and uneven playing field for NDEI. Promoting indigenous effort to produce fresh milk to initiate the process of reducing imports is unattainable without government policy support and creating the enabling environment for private sector investment in dairy. In spite of the retinue of research institutes and government agencies that have the latent potential of supporting dairy development, these instruments are incapacitated by lack of funds. Therefore, there is a need for definite policy reforms strategy and capacity utilization of existing instruments for dairy development to be sustainable on a broad scale. Though government has inaugurated Presidential Committees on Livestock and Dairy Development, respectively, these committees are still considering strategies for the way forward. It would require a strong advocacy and lobby group to push for strong and favorable policies in these sub-sectors.

Capacity of existing relevant public and private institutions: The in-country public institutions have the professional capacity; however, the financial capacity required to support logistics and administration of projects is grossly inadequate or lacking. This inadequacy limits their ability to functionally participate as collaborators in project implementation. It also steers up dependency-syndrome, which erects barriers between partners and creates mistrust. Because of their incapacity to participate in project implementation, they are handicapped in sustaining the project activities after funding ceases. On the other hand; pro-pastoral NGOs and CBOs in Nigeria are relatively ill-equipped to handle technical issues. Most of them are amorphous, with inadequate or faulty structure, and poor operational framework. They do not have the fund to operate or instated any defined vision or mission; therefore, they are exploited by the elites and politicians. These organizations could be useful for advocacy and for mobilization and sensitization purposes if properly harnessed.

Integration of NDEI and MARKETS projects: The development of the value chain is not exclusive to one component; it requires development of the supply and demand ends and the various links in between, simultaneously. Therefore, USAID/NDEI (developing the supply end) and the dairy component of USAID/MARKETS (developing the demand end) complement each other. It shows a great potential for a holistic strategy and tremendous synergy if pursued to its logical conclusion. It is anticipated that the ongoing USAID/MARKETS program would concurrently pursue development of the chain from cow to consumer. The 'nucleus estate' concept instated by NDEI at Maizube Farms is a potent starting point for MARKETS, which could be replicated around the existing integrated farms. The Raw Material Research and Development Commission RMRDC), which got interested in NDEI, is collaborating with MARKETS to undertake a study on the feasibility of establishing a dairy processing plant in Abuja. Also, MARKETS has designed training for NDEI clients around Maizube Farms on dairy development to build their capacity to participate in the linkage facilitated by NDEI.

Livestock production as a business: Helping subsistence livestock production to commercialize production is possible but a very arduous task. Though they have been selling milk and cattle all their lives, they do not understand the difference between 'revenue' and 'profit'. Also, because there is no record of inputs used to produce the product or to account for their labor and the natural pasture, it is difficult for them to determine how much to sell the product or to draw the line between 'cost' and 'profit'. Therefore, the middlemen often determine the price of the producer's products. NDEI collaborated with Agency for Mass Education (AME) and National Commission for Nomadic Education (NCNE) which introduced literacy and numeracy classes for NDEI clients. This gesture has facilitated access to literacy skills that would enhance basic record keeping at both farm and cooperative levels. In the short term, the introduction of a nucleus estate initiative (NEI) where the private investor serving as the 'nucleus' would oversee activities from production to when milk is ready at the farm gate or MCC. NDEI concept of milk collection and linkage to markets has motivated the producers to treat their current activities as a business. Also, the ripple effect could facilitate additional business development service providers to interact with NDEI clients.

Private sector participation: There is very negligible private sector participation in dairy. This low participation could be attributed to the high cost of establishing dairy enterprises, considering that equipment and support supplies are imported. Also, the cost of finance is high, while dairy is considered a high risk and long gestation enterprise. Lack of appropriate policy and the break down of strategic infrastructure makes dairy very unattractive and an investor-shy sub-sector. Ongoing economic reforms in Nigeria may improve the situation if strategic infrastructure is improved. A comprehensive study of the sector would indicate clearly the reasons for the low participation of the private sector.

Strategic infrastructure: Strategic infrastructure such as water, roads, and electricity, which is required to support dairy development, is lacking or inadequate. The cold chain and collection network requires a steady supply of clean water, efficient and effective power supply and good road network, respectively.

Gender Issues: In the project site and a large part of Nigeria, cows are owned by the male, and milking of cows is also done by the male member of the household. However; the milk handling, processing and marketing activities are solely the responsibility of females. Proceeds from milk sales is an exclusive preserve of the women, they decide how the income from milk is dispensed. Therefore, in sites where livestock producer cooperatives were assisted, the NDEI team simultaneously mobilized women to enroll in milk bulking cooperatives. In addition, the men were reluctant to invest in inputs that would boost milk production; meanwhile, the women do not have the financial capacity or the cows, therefore, accelerating adoption of milk improvement technologies was slow. Furthermore; it is necessary to mainstream women in dairy development interventions; however, it should comprise facilitating access to credit and ownership of cows.

Project time line: Mobilizing and sensitizing the traditional livestock producers into cooperatives and the women forming milk bulking cooperatives was a very arduous task. To form the women cooperatives, it required working and gaining the confidence of the men. Also, the low literacy level and the apathetic mind set of traditional producers impinge on assimilation of information. The existing institutions that would support the industry need capacity building; policy environment in cooperative, livestock, and dairy development needs to be improved; financial institutions need to be sensitized and their participation enrolled; and the adoption of technologies such as artificial insemination require time. Therefore, it would require a minimum of 5 years of **uninterrupted** project implementation to put in place a sustainable dairy program in Abuja in particular, and Nigeria in general.

These limitations however, did not underscore project results because of the persistence, dedication and creativity of the in country NDEI team, and the prompt support of regional and home office backstop team. The project improved the livelihoods of smallholder livestock producers in the targeted site where milk collection commenced, through increased dairy output and household income. In addition, women who deliver

milk to the milk collection centre (MCC) have enough time to take care of their families, and to develop themselves by soliciting for literacy lessons in Arabic; they save money spent on transportation for other uses; they do not suffer the stress of hawking in the sun and in the rain. Dairy production presents an opportunity for smallholders to become more integrated into high-value agricultural markets while at the same time contributing to the improved availability of nutrition at the household level. Expansion of small-scale milk collection and dairy processing capacities through organized producer cooperatives enabled groups of cattle raisers to invest in feed supplements and inputs that develop formal linkages into the dairy value chain.

Conclusion: Overall, despite the numerous daunting challenges of working in an unfavorable dairy policy environment; with traditional livestock producers who exhibit doubt, suspicion and a protracted dependency-syndrome; and inadequate and/or lack of strategic infrastructure, USAID/NDEI recorded significant results in the two years (Oct 2004-Sept 2006) of its operation in Nigeria in the areas of cooperative formation/strengthening, cooperative business development; women and youth empowerment; use of improved appropriate technologies for increased productivity; increased milk productivity per cow; creating linkages between producers and processors; and establishing milk collection and cooling centers. Above all, awareness has been created among clients (traditional producers) that livestock production, particularly milk production, could be a business that can generate substantial daily income required to improve their livelihood. The Nigerian government institutions and partners, who were skeptical at first, now see the potential of dairy development using traditional livestock producers. They consent that USAID/NDEI approach and strategy is feasible and pragmatic and has produced desirable results whose impact is generating a ripple effect across the FCT.

USAID/NDEI leveraged \$5,267.07 from livestock producers in terms of investment in supplements and livestock medicaments and equity. The project also leveraged \$10,125 in additional support from the Federal Department of Livestock and Pest Control to provide additional training to over 120 pastoral men and women on milk handling, hygiene and sanitation. The Agriculture and Rural Development (ARD) Secretariat of the Federal Capital Territory Administration (FCTA) contributed \$73,642 and plan is under way to expend additional funds on pasture development, artificial insemination center and provision of water for human and livestock consumption. The Raw Material Research and Development Council (RMRDC) is willing to finance the establishment of an 1000 liter per day milk processing plant in Paikon Kore based on the activity of USAID/NDEI in the area. This would further leverage \$100,000 for the building and equipment. The Livestock and Fisheries Development and Marketing Company (LFDMC) have also declared interest in investing in the dairy plant.

V. **SUCCESS STORIES**

Pastoralist livestock producers form dairy cooperative

USAID funded Nigeria Dairy Enterprise Initiative (NDEI) implemented by Land O'Lakes facilitates the formation of pastoralist-based dairy cooperative.



Pastoralist livestock producers of Dutsen Alhaji exercising one-one-vote principle during one of the exploratory meetings in the formative stages of Jama'are Fulbe Dutsen Alhaji Madara Cooperative Society Limited

In the pastoral community, the tradition of deferring to the elders on crucial decisions as a mark of respect is the norm. Usually the younger members of the community sit in silence at the periphery of the venue of every meeting and listen to the elders deliberate over issues that affect the community, sometimes on issues that affect the youth without the participation of those concerned. Often, it is assumed that the youth will adhere to the decisions taken at these meetings. In some situations, due to variation in opinions, members of the community stay away from such meetings to avoid any conflict.

The pastoralists also belong to a host of “pseudo-cooperatives” and associations that were formed years ago to benefit from government programs. Some of these associations have been in existence for more than 30 years. For all these years, the pastoralists have not benefited directly from such programs or the associations’ programs and activities. Often, they are not consulted by the ‘elitist’ leadership of such associations before crucial decisions are taken on their behalf. As a result, pastoralists have wallowed in poverty and ignorance because of inadequate access to technical and market information, skill, supplies and services, and high operational costs.

“ We have never been privileged to start a cooperative or any association by ourselves, for ourselves, for the benefit of our members and families. The way this cooperative is formed, if we hold on to it as we have learned, exercising the factors of success, we will have a voice, and it will be here for our children and our children’s children” - Mohammed Yusuf, Sarkin Fulanin Dutsen Alhaji.

At the advent of USAID funded Nigeria Dairy Enterprise Initiative (NDEI) implemented by Land O'Lakes, a participatory approach (PA) was introduced in every step of the process. Assistance was provided to the pastoralist to identify their common needs and develop a strategy of fulfilling them. NDEI facilitated the formation of Jama'are Fulbe Madara Cooperative Society Limited.

The Land O'Lakes cooperative development specialist provided technical assistance to the pastoralist on the basic steps of how to start a cooperative; cooperative principles and practices; and the critical factors that make cooperatives fail or succeed.

The pastoralists registered the cooperative with the Cooperative Department, Agric and Rural Development Secretariat of the Federal Capital Development Authority (FCDA) and elected their board members to run the cooperative business. During the process of cooperative formation, the young and old participated on equitable basis of *one-man-one vote*, deciding on what objectives the cooperative will pursue on behalf of members, ***giving voice to their yearnings*** through the cooperative democratic process, while keeping the tradition of respect for the elders in good repair. All decisions were reached through a consensus. From the words of one of the cooperative members, who is a titled community leader, Sarkin Fulanin Dutsen Alhaji, *"We have never been privileged to start a cooperative or any association by ourselves, for ourselves, for the benefit of our members and families. The way this cooperative is formed, if we hold on to it as we have learned, exercising the factors of success, we will have a voice and it will be here for our children and our children's children"*.

The formation of cooperatives by the pastoralist will give them a forum to discuss problems and share ideas. It will also build confidence and trust in the members and leaders as they exercise democratic control and employ the cooperative principles and practices. Doing their business as a group will reduce cost; increase access to supplies and services; improve their bargaining power; pull resources together; generate critical mass, particularly milk that is currently scattered and disorganized; and access information, inputs and services. The anticipated benefits include savings from the reduced cost of business and increased income from increased sales and improved prices. Investment and re-investment in the dairy industry may create jobs and result in improved livelihoods. The proliferation of viable cooperatives will lead to the formation of democratic unions and federations. Pastoralists will have a platform to express their views, participate in consensus decision-making, and also influence legislation and policies that affect their lives and businesses. This implies that cooperatives will serve as "schools for democracy" and will facilitate the growth and development of Nigeria's nascent democracy.

Creating linkages to enhance access to strategic inputs and services to ensure sustainability

USAID-funded Nigeria Dairy Enterprise Initiative (NDEI), implemented by Land O'Lakes, links pastoralist dairy cooperative to private veterinary service provider

Land O'Lakes implements USAID-funded Nigeria Dairy enterprise Initiative (NDEI) around Abuja, the capital city of Nigeria. In the course of implementing this project, Land O'Lakes observed that one of the key constraints to productivity affecting the amount and quality of milk at the farm level includes the difficulty in accessing genuine veterinary pharmaceuticals and lack of timely proficient veterinary services. Before the introduction of NDEI, livestock producers at Dutsen Alhaji in Bwari Area Council did not operate under any cooperative. They had operated individually, patronizing vendors of adulterated, overexposed and often expired drugs. These drugs are often displayed by untrained veterinary drug hawkers in markets around Bwari and other suburbs of Abuja.



Dr. Bala Mohammed of Vet World Limited defied the night to demonstrate the mode of administration of drugs purchased by the cooperative to Hamza Mohammed, the CAHW and member of the cooperative.

The NDEI facilitated the bringing together of the producers to form a dairy cooperative. The cooperative is registered (Reg #: 6258) with the Cooperative Department, Agriculture and Rural Development Secretariat of the Federal Capital Development Authority (FCDA). Under this project, Jama'are Fulbe Dutsen Alhaji Madara Cooperative Society Limited, with a total of 18 members, generated capital through shares and dues. Part of the capital generated is used to purchase genuine drugs and then delivered to members as a service. NDEI is currently collaborating with Vet World Limited (a private veterinary outfit in Abuja that provides animal health and production services) to serve as a source of genuine and properly handled drugs in addition to providing timely animal health services for the cooperative. Further benefit derived in this collaboration is a 10 percent discount or more offered by Vet World Limited on bulk purchases made by the cooperative. The veterinary outfit also provides free

“Since I encountered NDEI in February 2005, and I have discontinued patronizing the veterinary drugs openly displayed in the market, the difference is so obvious that my siblings followed suit. Our regular drug hawker has been wondering why we do not visit his spot in the market...” - Suleiman Usman, member, Jama'are Fulbe Cooperative Society, Bwari Area Council, Abuja.

follow-up demonstration services to ensure appropriate administration of the drugs purchased. The demonstration is channeled through a community-based animal health worker (CBAHW) who is a member of the cooperative. The CBAHW was trained under the auspices of the closed-out USAID-funded Abuja Peri-Urban Project entitled Improving Livelihood of Smallholder Livestock Producers through Peri-urban Dairy Production in FCT, Abuja, Nigeria, implemented by International Livestock Research Institute (ILRI) in collaboration with National Livestock Projects Division (NLPD).

The significance of this linkage between Jama'are Fulbe Dutsen Alhaji Madara Cooperative Society and Vet World Limited is its capacity to ensure business sustenance. It will also build a relationship that will outlive the USAID-funded NDEI.

USAID LINKS PASTORALISTS TO FINANCIAL INSTITUTIONS

USAID Funded Nigeria Dairy Enterprise Initiative (NDEI), implemented by Land O' Lakes, links Pastoralist Dairy Cooperatives to Financial Institutions

On October 31, 2005, Jama'are Fulbe Dutsen Alhaji Madara Cooperative Society became the first cooperative under NDEI to open a bank account. The cooperative opened a savings account with the Nigeria Agricultural Cooperative and Rural Development Bank (NACRDB) at Wuse II Branch, Abuja. This cooperative was formed by NDEI in November 2005 and was formally registered on February 7, 2005. Before the advent of NDEI, the pastoralists in Dusten Alhaji of Bwari Area Council of Abuja, the Federal Capital City of Nigeria, participated in several associations and formal groups.

However, these associations and groups disbanded because of lack of transparency and accountability. The funds for these previous associations and groups were kept in the homes of the leaders and disbursed without due consultation or process. Often, the members were not periodically informed on the state of the finances of the group/association, and eventually, many of these funds were embezzled by the officers keeping them. This led to the termination of the associations.

With the introduction of NDEI, the use of a bank to keep the entire cooperative's cash was initiated to ensure trust, confidence, transparency and accountability. The members were encouraged to exercise control of the cooperative through election of trustworthy leaders, participation in regular meetings and by demanding financial updates at all general meetings. Then the cooperative's funds were put into the bank only to be withdrawn when multiple designated signatories to the account agreed that they were required for a cooperative expense.

The Chairman and Treasurer of Kautal Hore Cooperative Society displaying their newly secured savings withdrawal slip beside the United Bank for Africa (UBA), Gwagwalada Branch in Abuja, Nigeria.



This added transparency and control was why NDEI assisted and encouraged the cooperative to open an account with NACRDB. Subsequently, Kautal Hore Fulbe dou Lawal Fulfulde and T'Yolde Kosam Cooperative Societies, both in Gwagwalada Area Council of Abuja, opened savings accounts with the United Bank for Africa (UBA) in

October and November 2005, respectively. Opening the bank accounts will help the cooperatives to manage and track transactions and the use of their funds.

It is anticipated that the cooperatives will access transaction-based loans on behalf of their members. This will build the confidence of leaders and trust among members when deposit and withdrawal slips are presented at meetings with corresponding details for each deposit and withdrawal. This will ensure sustainability through autonomy and will help the cooperatives to manage their own funds and build the necessary skills for running their cooperative as a business, as well as hopefully create access to credit with their current or other banks.

Pastoral Fulani Women in Nigeria form Milk Bulking Cooperative Women Empower Themselves

Nigeria Pastoral Fulani women milk bulking group form a cooperative



Person/People in Photo. Members of Kungiyar Madara Matan Tudun Fulani Cooperative Society conducting a meeting.

Top: One of the members making a point during the meeting of the cooperative.

Bottom: The Secretary taking attendance at the meeting.



Quote: “I hope that our cooperative and the milk collection scheme to be introduced by USAID/NDEI would relieve us from long distance trekking and hawking; I will have time to care for myself and my children. I am hopeful that our savings would be rotated among members to cater for pressing needs and improve our livelihood.”-

Hajiya Damina Iliya, Chairperson of Kungiyar Madara Matan Tudun Fulani Coop Soc., Ushafa.

In Nigeria’s pastoral community, the tradition of women hawking milk door-to-door or in selected spots in strategic locations everyday is a common occurrence. Proceeds from the sale of dairy products are often used for household items, food condiments, and to meet daily needs of the women. Over the years, the women have not been able to improve their livelihood from the proceeds of their milk sales because they do not have an idea of cost and they operate individually; therefore get an inappropriate price for their products. Also they suffer losses due to spoilage and poor quality products. USAID funded Nigeria Dairy Enterprise Initiative (NDEI) assisted the women to form a milk bulking cooperative. They were trained on improved milk hygiene and sanitation, and indirect heat pasteurization skills. They discuss problems and share ideas; build confidence and trust as they exercise democratic control and employ cooperative principles and practices. A monthly savings of N200 (\$1.5) from their milk sales generated N5000 (**\$38**) from members’ savings within 3 months. The quality dairy product now attracts a premium of N25 (**\$0.02**) per liter of local yoghurt – “*Kindirmo*”. The volume of milk increased from 3.6 liters to 8.75 liters per day per household from 5 lactating cows. The increased milk yield is as a result of feed supplementation using 2 kg of cotton seed cake (CSC) per cow per day. Volume of milk sales correspondingly increased by 5 liters bringing in N500 (**\$3.7**) per day per household [**\$111 per month**]. The women have established milk bulking network and identified milk collection points. USAID/NDEI will provide milk cooling tanks and equipment to add value to their fresh milk.

PHOTO-AND-CAPTION STORY

Pastoralist in Nigeria learn how to “measure to manage”

Pastoral livestock producer in Nigeria acquires basic skill of measuring milk productivity per cow per day.



USAID/NDEI assists pastoral livestock producers to measure milk yield per cow per day. This skill would help them to determine the profitability of keeping the cow in the herd and might aid the producer in decision-making in terms of feeding, health and culling programs.

Livestock production is a way of life in the pastoral community. It is a culture that has been passed down from generation to generation as part of inheritance. The size of the herd is the primary focus because of the socio-cultural importance that goes with it. A producer with a large herd is likely to be selected as a chief or into the traditional leadership position. They do not primarily concern themselves with the growth rate of the calves, body condition of the beef cattle, or the milk yield of the cow. Moreover, it has to be absolutely necessary to take the animal to the market. USAID funded Nigeria Dairy Enterprise Initiative (NDEI) helped the producers to integrate business into their way of life so that the productivity of selected cows could be measured to determine their profitability. Also, this would help to determine whether there is proportionate improvement based on feed supplementation using cotton seed cake (CSC) and if there would be return on investment. Using CSC to increase milk productivity per cow per day would increase daily income into the household such that a bull may not have to be sold to cater for daily family needs. A half-liter measuring cup was introduced by USAID/NDEI to measure milk from each cow. This measure would assist the producer to track the productivity trend. A record book with basic information is instated at the farm level to record information (data) that would form the basis for decision-making during culling season. It would help the producer to select and retain highly productive animals in the herd.

BEFORE-AND-AFTER STORY

Pastoralist livestock producers adopt feed supplementation technology

Use of cotton seed cake (CSC) for dry season feed supplementation increased milk productivity by 191%.

The average milk productivity of indigenous cow per day at herd level during the wet season is about 2 liters, and the body condition score is 3. This is largely due to lush natural pasture and abundant water; however, during the dry season when there is little or no pasture available and water is scarce, milk productivity diminishes drastically so much so that some cows seldom have enough milk for the calves. USAID/NDEI recommended two kilograms (2kg) of cotton seed cake (CSC) supplementation per day to be fed to lactating cows during the dry season (January to March). The use of CSC increased milk productivity per cow per day by 191%; and a body condition score (BCS) of 3. This increase brings milk yield per cow per day to volumes comparable with the wet season yield. Average milk yield per cow per day during the dry season was 0.6 liters; the body condition score was an average of 1 to 1.5 in the selected site due to inadequate feed resources.



Before: Inadequate feed resources during dry season (Jan–Mar): Dry season in the project area starts from late November; though the cattle still have access to cereal crop residue on harvested crop fields till December; however, the cattle have little or nothing left between January and March because the wild pasture has lignified and in most parts, deliberate or inadvertent bush burning destroys what is left. Cows have to often wander very far for scant pasture and as a last resort; they plunge into scavenging on domestic dumps for whatever would stave off the hunger pangs. With little poor quality feed, average milk yield per cow per day drops to 0.6 liters; and body fat is depleted to between 1 and 1.5 BCS.

After: Supplementation using cotton seed cake (CSC) during dry season (Jan-Mar):

USAID/NDEI recommended feed supplementation during the dry season using 2 kg (1 kg in the morning and 1 kg in the evening) of cotton seed cake (CSC) per cow per day for a period of 90 days. The supplementation, in addition to de-worming at the end of the rains, helped the cows to maintain a body condition score (BCS) of 3 and average milk productivity increased from 0.6 to 1.75 liters (191%) per cow per day. Cows on supplementation may not have to wander far from the homestead for grazing and they often return early.



Pastoral Fulani Women in Nigeria Increase Income

Women Acquire Improved Skill that increased volume of sales

Nigeria Pastoral Fulani women increase income through increased sales due to improved milk handling technique.



Hajiya Yadado displaying her improved quality fermented milk 'kindirmo'.

“Before I enrolled in the milk bulking cooperative formed by USAID/NDEI, I used to lose 180 liters of fermented milk worth N13,500 (\$106) per month. Last year I lost approximately \$1,276 due to milk spoilage and have started losing credibility with my customers. When I received training on basic milk hygiene and sanitation, and indirect heat pasteurization technique by USAID, I conducted a seven-day trial, I did not lose a drop of milk and my customers keep requesting for my improved quality ‘kindirmo’. Anytime I take my products to the market I am sure of selling everything. This technique has increased my income by 15%”.

Over 50 years old, Hajiya Yadado Musa of Paikon Kore, an agro-pastoral settlement within a grazing reserve situated in Gwagwalada Area Council of Abuja, has been hawking milk products all her life. Though she has been in this business for such a long time, she has been losing milk and milk products on a daily basis. Last year (2005) she lost about 180 liters of fermented milk product locally known as ‘*Kindirmo*’ worth \$1,276. She joined the Kautal Hore Sippirde Kosam Fulbe Women Milk Bulking Cooperative formed by USAID and participated in a milk hygiene and sanitation training. After the training, she tested the improve technique for seven days and she observed that her *Kindirmo* was cleaner and the dregs she used to notice at the bottom of the bowl when she turns the product into another container was not there anymore. Also the burnt taste that accompanies her product due to direct heat pasteurization was eliminated. The use of this technique has improved Yadado’s sales volume from 17 2-liter bowls per day to 20 2-liter bowls, representing an increase of 15% income from sales.

USAID Empowers Pastoral Youth in Nigeria

USAID-funded Nigeria Dairy Enterprise Initiative (NDEI), implemented by Land O'Lakes, empowers pastoral youth by facilitating access to literacy skills.



Pastoral youth embrace literacy skills to overcome the challenge of record keeping so that they can enhance the transition from subsistence to commercial livestock production system and initiate the process of improving their standard of living.

The importance of record keeping in measurement and planning cannot be overemphasized; however, the major challenge among USAID/NDEI clients is the lack of literacy and numeracy skills. In Kautal Hore Fulbe Cooperative Society of Paikon Kore, only one member out of 38 could read and write with some effort. With cooperative activities requiring participation and operation through committees, the burden of record keeping becomes overwhelming for the lone semi-literate member. In this cooperative, young adults represent 65% of the membership. Therefore, USAID/NDEI intervened through strategic partnership with the Agency for Mass Education (AME), an adult education unit of the National Commission for Nomadic Education (NCNE). AME established an adult education class in an existing NCNE primary school, and provided books and teaching aids. A young community member who is not in the cooperative, volunteered to teach this class. In August 2006, seven (7) cooperative members enrolled into this 1-year adult literacy class, representing 18.4 % being empowered. At the end of the class, graduates would assist in; record keeping, identifying expired drugs, determining weight of animals in relation to dosage, and lead the committees in planning. It is anticipated that they would be able to measure progress, avoid expired animal drugs and minimize the detrimental effect of over- or under dosing thus reduce losses and increase income through increased productivity and improved efficiency.

Pastoral woman empowered to support household.

Income from milk sales empowers pastoral woman to handle ante- and post-natal expenses.

Dalla Auta and several pastoral women in Paikon Kore have suffered losses of milk in the past due to poor quality products, poor pricing, and lack of market. She spends \$0.8 (over 50%) of the revenue from milk on transportation and snacks while hawking milk. She hawks in the rain and in the sun. When NDEI was introduced, she was 5 months pregnant.

Most of the time, she sells the milk at reduced prices or return home with unsold milk for home consumption because of lack of buyers. As a result, the income that should be generated from milk for other household needs is lost. Often, she was too fatigued to do her household chores. This situation was so frustrating that she often dreaded going out to hawk milk; however, she did not have choice because income from milk plays a key role in providing daily household food condiments and cash for petty items.

It was in this condition that Dalla enrolled into the pastoral women milk bulking cooperative and was trained on basic milk hygiene and sanitation. She was linked to the milk collection centre (MCC) through the cooperative to deliver fresh milk every day.



Dalla Auta with her fourth baby at the Milk Collection Center at Paikon Kore, Gwagwalada, Abuja.

“This is my fourth child. When I had my three children, each time my husband had to sell a sheep to take care of the expenses. However, since I started delivering milk to the MCC and getting paid for every drop of milk, I was able to save enough money to cater for my ante- and post natal expenses. I still had money to provide transport fare for my sister-in-law. All these I did while my husband was away with the cattle. I am so fulfilled with this opportunity.”

USAID/NDEI conducted a rapid participatory needs assessment to identify the critical areas. Based on the outcome of the assessment, which included lack of market, poor pricing and spoilage, USAID/NDEI provided training to women milk bulking cooperatives and groups in collaboration with the National Projects Division (NLPD) and the Federal Livestock and Pest Control Services (FDL&PCS). This training focused on hygienic milk handling from the cow, through sieving and pasteurization, to storage. Linkage was established with the MCC to collect the fresh milk from members and process into more stable products for the market.

Dalla participated in this training and has been delivering milk to the MCC. She had this to say about the benefit of the training and the linkage to the MCC: “I have been able to deliver clean fresh milk to the MCC, which is just a tekking distance from my home. I do not pay for transportation, or worry about finding a customer to buy my product. I have saved the stress of walking long hours hawking and I have enough time for my family. Beside, the income from

milk has empowered me to contribute to household management. If this scheme were not in place, I would have to send to my husband to come home, sell his sheep to provide the cash required. My sister-in-law would have to wait until my husband returns from the distant grazing before she returns home. It is so convenient and easy knowing that if I deliver clean fresh milk to the MCC, I am sure of my money. Now I wish to enroll in adult class to learn how to read and write in Arabic”.

Dalla’s experience is a representation of the membership of Kautal Hore Sippride Kosam *mende* Fulbe Cooperative society, which was formed by NDEI. The MCC provided Dalla with a ready market outlet and an ensured daily income. She was relieved from the stress of hawking milk. This clearly shows how livelihood of pastoral women in particular, and households of traditional livestock producers in general, could be improved from daily income from milk sales.

Traditional livestock producers access basic livestock health care services

USAID/NDEI empowers dairy cooperatives through community-based animal health worker (CBAHW) scheme to provide readily accessible livestock health care services to members and surrounding community.

Challenge: Traditional livestock producers in NDEI site around Abuja were beset with grievous problem of animal health care services and access to genuine veterinary medicaments. Public and private veterinarians could not reach them because of the terrain and their spatial distribution. Their situation deteriorated so much so that they resorted to self-medication as a desperate attempt to save their livestock; in some occasions, quacks fill in the gap with expired and/or adulterated drugs, ineffective services. The result of self medication and patronizing quacks was misapplication, under- or over dosing. This results in drug resistance, emaciation or increased mortality rate in the herd. In some cases calf mortality rate was as high as 80%. Both the livestock owner who engages in self-application and the quack do not have the requisite skill for correct disease diagnosis.

Initiative: USAID/NDEI facilitated the identification of the common diseases in clients' herd using a participatory approach. The respective cooperatives also selected nine (9) representatives who were trained by USAID as community based animal health workers (CBAHWs). The CBAHWs training acquainted the representatives with skill for diagnosis based on the signs and symptoms of common livestock diseases; correct dosing based on determined weight; appropriate route of drug administration; and monitoring temperature. At the end of the training, they were provided with ambulatory kits and supplies to kick-start the provision of basic animal health care services to members of their cooperatives and the surrounding community at cost. The CBAHWs were linked with public and private veterinary doctors in their respective domains. They are obliged to send in monthly reports to the designated veterinary doctors.



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"I am now aware of the errors we use to make when administering drugs ourselves; we were doing more harm than good to our livestock; we were also allowing quacks to mishandle our stock and pay more for expired or adulterated drugs that are ineffective and sometimes with disastrous consequences. Now, I know better. It so satisfying to see a sick animal respond to treatment that I administered. I have gained a new respect from my peers and my community and this has boosted my self-esteem. It is also very easy for herd owners to reach me at any time of the day because I am right here among them".

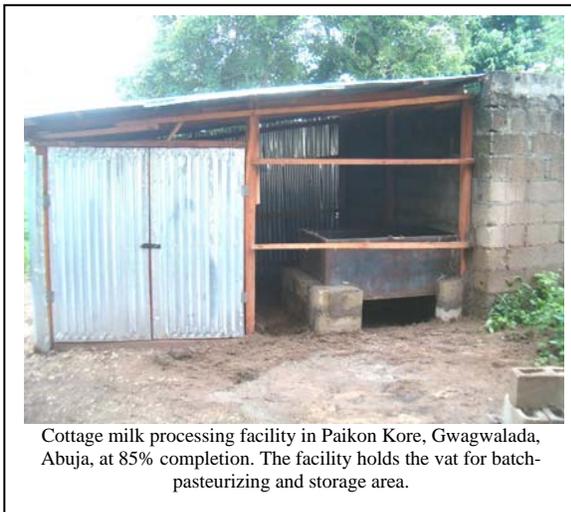
Hamza Mohammed, a community-based animal health worker (CBAHW), was weighing a heifer with a weigh-belt at

Results: The CBAHWs trained by USAID/NDEI now provides animal health care services to the cooperative members and the surrounding community. The supplies provided to kick-start the program serves as 'seed money' for a revolving drug scheme. The initiative has mitigated cost of drugs by b%, and reduced calf mortality to 5%! They no longer procure veterinary medicaments individually, the collective purchase has increased their bargaining power and greatly reduced transaction cost. The linkage with public and private veterinarians ensures proper use of basic drugs, appropriate diagnosis, disease surveillance, and access to support on serious and/or complex health cases. Linkage was also created between the CBAHWs with veterinary pharmacists to access genuine drugs on a sustainable basis. This initiative attracted support from the Agriculture and Rural Development (ARD) Secretariat of the Federal Capital Territory (FCTA). ARD provided drugs for the treatment of common diseases to three (3) NDEI cooperatives in Bwari Area Council as a way of reintroducing the yearly health program, which was abandoned for over 5 years. ARD provided the logistics and welfare of the 3 veterinary doctors' logistics and welfare that provided the treatment. In Sauka, the CBAHW treated over 30 cows from 9 households, representing 39% coverage in 2 months.

Cooperative establishes cottage milk processing facility.

USAID/NDEI transfers technology to pastoral women in Nigeria.

Challenge: In Abuja, there is no milk processing plant. The ‘kitchen processors’ that have evolved to fill this gap prefer to use powdered mil to produce the popular milk drink ‘yoghurt’. After building the capacity of NDEI clients to increase productivity and to produce hygienic milk, linking them to processors in Minna, Keffi, Jos and Kaduna became a challenge. To overcome this challenge, it was necessary for the NDEI team to creatively assist the cooperative to establish a cottage milk processing facility.



Cottage milk processing facility in Paikon Kore, Gwagwalada, Abuja, at 85% completion. The facility holds the vat for batch-pasteurizing and storage area.

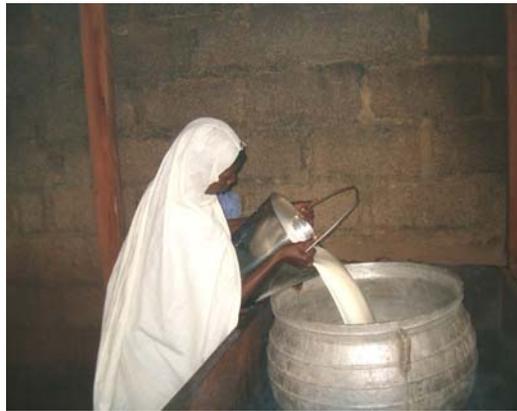
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“I wonder how doing things as a group makes things move fast and come easy. When USAID/NDEI introduced the idea of establishing this cottage facility, I said to myself, this is impossible. But here we are today, collecting milk and our women handling and processing the milk under improved hygienic condition. What we have seen here will be told as a tale to our children and our grand children, and even children yet unborn. - Alhaji Ibrahim Ngale”.

Initiative: Agriculture and Rural Development (ARD) Secretariat of the Federal Capital Territory Administration (FCTA) donated a building to install the milk cooling tank and serve as the milk collection center (MCC). While the building donated by ARD is being restructured, USAID/NDEI team creatively facilitated the establishment of a cottage processing facility. Provided the design of the vat and suggested the equipment to be procured.

Results: A cottage processing facility was established at Paikon Kore, Gwagwalada, Abuja. It holds a vat and two pots; the vat holds the water that is heated to pasteurize the milk in the pots. The milk processing facility receives fresh milk daily from members of Kautal Hore Sippirde Kosam E’NEbbam mende Fulbe Cooperative Society of Paikon Kore. The milk is pasteurized and the pasteurized fresh milk and local ‘kindirmo,’ popular product in the informal market, are sold. So far, the facility has commenced operation. It has received 2,500liters of fresh milk since it became operational; it provided jobs for 3 women in the processing facility and 1 male who tests and collects milk; it serves as market outlet to over because milk delivered is paid on a daily basis. Over **\$969 (N125,000)** income has been generated from milk sales by members of the cooperative since milk collection was instated in July 2006.

Pastoral women mainstreamed in technology transfer and value-addition



Pic 1: Maryam Isa, Coop Treasurer, pouring milk into a 150liter-capacity pot, ready for batch-pasteurization.

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NDEI facilitates transfers of relevant technology to pastoral women in Nigeria

Challenge: Pastoral women in Nigeria own the milk produced at the farm level. They process the milk into various local products and are responsible for marketing all milk products. However, the men own the cows; therefore, all technology for improving productivity is often directed at the men. More so, in the culture of traditional livestock producers, you have to gain the confidence and trust of the men before having contact with their women. Even though the men have access to technologies targeting milk productivity, they do not handle the milk after milking. With losses incurred because of spoilage resulting from poor hygiene and sanitation, or inappropriate processing of milk, it became necessary to direct improved appropriate technology packages to the women so that income from milk can be ensured. Considering that milk bulking cooperative has been formed and milk from individual herds will be bulked at the milk collecting centre (MCC), the need for acceptable hygiene and sanitation levels becomes paramount to minimize contamination of the bulked milk.

"When we identified the critical points for milk spoilage and the interventions were outlined, I thought it was impossible for me to acquire the skills necessary achieve acceptable hygiene and sanitation levels; however, it turned out to be easy and basic, and the quality of milk is so obvious compared to what is obtained from our households. I am fascinated by the 'alcohol test' which detects bad milk instantly. I am so pleased that I can determine the appropriate temperature for pasteurizing milk, among other skills". -Rahmatu Abubakar-



Pic 2: Rahmatu Abuabakar, Coop Vice Chairperson, measuring the temperature of pasteurized milk.

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Initiative: USAID/NDEI provided training on milk hygiene and sanitation to 120 pastoral men and women in collaboration with National Livestock Projects Division (NLPD) and the Federal Department of Livestock and Pest Control Services (FDL&PCS). The training covered personal hygiene of the person milking and any person handling milk, cleanliness of milking utensils, use of clean water for washing, sieving using recommended gauge, recommended temperature for pasteurization, clean storage room and improved presentation of products.



Pic 3: Maryam Isa, Coop Treasurer, pouring pasteurized milk into containers for cooling and fermenting into 'kindirmo'.



Pic 4: Improved packaged local milk products (*kindirmo*) from NDEI clients ready for the market.

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Results: From the training provided by USAID/NDEI, members of Kautal Hore Sippirde *mende* Kosam of Paikon Kore commenced milk collection scheme to supply the cottage milk processing facility. The individual milk processing at household level was replaced with the bulking and batch pasteurization and processing. The women are responsible for sieving, bulking, batch pasteurization, and processing into local '*Kindirmo*'. Because the milk is bulked and processed at a common point, it was easy to transport the products to the market, and the quality of the product is consistent. The packaging is also appealing thus adding value to the local product. Establishment of the cottage processing facility has provided jobs. A young member of the male cooperative is employed to test and collect milk from

households that are relatively far from the MCC. Three (3) women are employed to process the milk and clean the utensils. The job serves as an additional source of income to that received from milk sales to the MCC. The women are so excited and enthusiastic. The Vice Chairperson of the cooperative, Rahmatu Abubakar, said: "Now I have a job that provides additional income and improves my self-esteem". *Since milk bulking and batch pasteurization was introduced USAID in July 2006, an average of 2,500 liters of milk was collected and processed with consistency in product quality.*

Private milk processor linked to traditional milk producer cooperative.

Maizube Farms, a milk processor in Minna, Niger State in North Central Nigeria, linked to Kungiya re Biradan Maizube Milk Producer Cooperative Society

Challenge: Maizube Farms is an integrated private firm located in Minna, North Central Nigeria, about 200 kilometers from Abuja. It operates a mixed farm. Maizube supplies the formal market in Abuja with fresh milk and yoghurt from its exotic breed of cows. It has a 1000 liter capacity milk processing plant which runs at less than 50% capacity because the cows on the farm cannot produce all the milk to feed the plant. On the other hand, traditional milk producers are settled within 50kilometers radius around Maizube Farm. These producers do not have access to inputs and to the market. Considering the proximity of the processor and the producers, it offers a great opportunity for a linkage that would yield mutual benefits to the respective partners. Maizube would provide inputs and services to the producers, while the producers would supply fresh milk to Maizube processing plant. Already, Maizube had established a school for the pastoral children with all cost paid for. The producers have also been trained on several cropping systems to improve their production. This linkage strengthens the existing relationship.



The milk cooling tank donated by USAID/NDEI installed in Maizube Farms, Minna to facilitate the linkages between processor and milk producer cooperative.

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“This linkage offers an unending opportunity for a lasting mutual relationship. It would bring succor to our wives. Our livestock would be treated and feed resources that will be supplied by Maizube would sustain our cows and calves through the dry season. Only God can reward Maizube and your organization (USAID).”

Initiative: Maizube Farms identified inadequate fresh milk as its priority need that USAID/NDEI should address. On this premise, an exploratory visit to the agro-pastoral livestock producers was conducted in collaboration with Maizube. Subsequent meetings were held with the producers and they indicated interest to partner with Maizube Farms. USAID/NDEI mobilized and sensitized the producers groups and provided training on cooperative development, milk hygiene and sanitation, and basic livestock health issues. USAID/NDEI supported Maizube with a 1000liter milk cooling tank and milk churns. Also, in collaboration with USAID/MARKETS, training was provided to designated staff on the operation and maintenance of the equipment.

Results: The traditional livestock producers mobilized by USAID/NDEI formed a cooperative, which has both male and female members. USAID/NDEI assisted Maizube Farms with 1000 liter milk cooling tank, a generator, and stainless steel milk churns, to facilitate milk collection from the surrounding traditional milk producers. The cooling tank has been installed in the milk collection centre provided by Maizube Farms. The match contribution from Maizube to cover transportation of equipment and installation is \$852. A staff has been designated to handle milk collection, recording and milk payment. The cooperative and Maizube have been linked and the producers supplied the first 30 liters of fresh milk to Maizube plant on November 29, 2006. Maizube has agreed to provide feed resources and services to the producers at cost. The cost of inputs will be deducted from the milk revenue. This relationship is based on trust because Maizube and the producers have enjoyed mutual relationships for over 6 years. However, an agreement may be introduced when the producers understand the concept. The linkage between the producers and the processor, facilitated by USAID, ensures sustainable access to inputs and services by the producers, and a steady supply of milk to the processor. This linkage would create opportunities for youth employment and wealth creation. The income from milk would empower pastoral women and improve the livelihood of the traditional livestock producers. As the traditional leader, who is a member of the Kungiya re Biradan Maizube Cooperative Society, puts it: “This linkage offers an unending opportunity for a lasting mutual relationship. It would bring succor to our wives. Our livestock would be treated and feed resources that will be supplied by Maizube would sustain our cows and calves through the dry season. Only God can reward Maizube and your organization (USAID) .When we start supplying milk by end of the month of November 2006, we shall begin to experience a new approach to our production system.”

Pastoral women participate in World Food Day

Pastoral Women Display Improved packaged Local Milk Product at World Food Day in Nigeria.



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Pastoral women display their milk product at the World Food Day held on the 16th October, 2006, in Abuja, Nigeria.

Pastoral women in Abuja were skeptical when USAID/NDEI introduced the concept of adding value to the local milk product '*Kindirmo*'. USAID/NDEI provided training to the women on milk hygiene and sanitation, and introduced improved packaging using food-plastic containers. Their products were introduced to the informal market in Garki Area 11, Abuja. Because of the quality of the milk product and the improved packaging, Kautal Hore Sippirde Kosam E'Nebbam *mende* Fulbe Cooperative Society of Paikon Kore was offered space under the pavilion of the Agriculture and Rural Development (ARD) Secretariat of the Federal Capital Territory Administration (FCTA) to showcase their products during the World Food Day Celebration held on October 16, 2006, in Abuja. This opportunity has boosted the confidence of the pastoral women. It has shown that the local milk product '*kindirmo*' is highly demanded. The 20 packs of milk displayed were bought off the shelf. Earlier, the Raw Material Research and Development Commission (RMRDC) had declared interest to invest in establishing a milk processing plant based on the awareness that USAID/NDEI has created. RMRDC is collaborating with USAID/MARKETS to conduct a study to determine the feasibility of establishing a milk processing plant in Abuja. As a result of USAID/NDEI client's participation at the World Food Day Celebration, and based on the quality of their product, the Livestock and Fisheries Development and Marketing Company (LFDMC) of Nigeria offered to invest in establishing a milk processing plant in Paikon Kore after studying the feasibility of the program initiated by USAID/NDEI. Meanwhile, LFDMC has requested USAID/NDEI clients to submit a list of critical inputs to be provided by LFDMC at cost.

Attachment B

NDEI CLIENT DATA

B 1: Membership Increase:

S/No	Cooperative	Quarter							
		1	2	3	4	5	6	7	8(+)
1	Jama'are Fulbe Dutsen Alhaji Madara Cooperative Society Limited.	-	10	10	10	19	19	19	20
2	Durobe Kosam E'Nebban Cooperative Society Limited.	-	-	12	12	12	12	12	16
3	Kungiyar Makiyaya da Madara Cooperative Society Limited.	-	-	16	17	21	22	22	22
4	Kautal Hore Fulbe dou Lawal Fulfulde Cooperative Society Limited.	-	-	12	12	25	28	36	38
5	T'Yolde Kosam Cooperative Society Limited.	-	-	-	12	17	19	19	23
6	Dundei Multipurpose Cooperative Society Limited.	-	-	-	15	15	15	15	15
7	Nassaran Makiyaya da Madara Cooperative Society Limited.	-	-	-	17	19	23	23	23
8	Kungiyar Madara Matan Tudun Fulani Cooperative Society Limited	-	-	-	-	-	35	37	37
9	Kautal Hore Sippirde Kosam mende Fulbe Cooperative Society Limited	-	-	-	-	-	13	21	25
10	Kungiya re Biradan Kosam Cooperative Society Limited.	-	-	-	-	-	-	24	25 (1)
11	Kungiyar Fulani Kautal Hore Multipurpose Cooperative Society Limited	-	-	-	-	-	-	-	27
12	Sukabe Fulbe Durobe Cooperative Society Limited	-	-	-	-	-	-	-	25
13	Mobgal Biradan E'Nebban Cooperative Society Limited	-	-	-	-	-	-	-	(10)
	Total	0	10	40	110	128	186	228	295 (306)

(+) = Increase recorded during the no-cost extension period from October to November 2006 in parenthesis.

B 2: Current Membership of NDEI Cooperatives

Project Code	Cooperative	Location	Initial members	Member-ship increase	Total member-ship	% Increase
NDEI-01-F	Jama'are Fulbe Dutsen Alhaji Madara Cooperative Society Limited.	Dutsen Alhaji, Bwari Area Council.	10	10	20	100
NDEI-02-F	Durobe Kosam E'Nebban Cooperative Society Limited.	Galadimawa, Municipal Area Council.	12	4	16	33.33
NDEI-03-F	Kungiyar Makiyaya da Madara Cooperative Society Limited.	Ushafa, Bwari Area Council.	17	5	22	29.41
NDEI-04-F	T'Yolde Kosam Cooperative Society Limited.	Tudun Fulani, Gwagwalada Area Council.	12	11	23	91.67
NDEI-05-S	Kautal Hore Fulbe dou Lawal Fulfulde Cooperative Society Limited.	Paikon Kore Grazing Reserve, Gwagwalada Area Council.	12	26	38	216.67
NDEI-06-S	Dundei Multipurpose Cooperative Society Limited.	Mpape, Municipal Area Council.	15	0	15	0
NDEI-07-F	Nassarar Makiyaya da Madara Cooperative Society Limited.	Bassan Jiwa, Abuja Municipal Area Council.	17	6	23	35.3
NDEI-08-F	Kungiya re Biradan Kosam Cooperative Society Limited.	Sabon Gari, Minna-Bida road, Minna, Niger State.	12	13	25	108.3
NDEI-09-S	Kungiyar Fulani Kautal Hore Multipurpose Cooperative Society	Dutsen Apo, Municipal Area Council	10	17	27	170
NDEI-10-S	Sukabe Fulbe Durobe Cooperative Society Limited	Sauka Village, Municipal Area Council	10	15	25	150
Sub total			127	107	234	84.25%
Women Milk Bulking Cooperatives						
NDEI-03b-W-F	Kungiyar Matan Madara Cooperative Society Limited	Tudun Fulani, Ushafa, Bwari Area Council	25	12	37	48
NDEI-05b-W-F	Kautal Hore Sippride Kosam mende Fulbe Cooperative Society Limited	Paikon Kore, Gwagwalada Area Council.	13	12	25	92.3
NDEI-01b-W-F	Mobgal Biradan E'Nebbam Cooperative Society Limited	Dutsen Alhaji, Bwari Area Council	10	0	10	0
Sub total			48	24	72	50%
Total			175	131	306	74.86%

Figure 1: USAID/NDEI Cooperative Development Trend

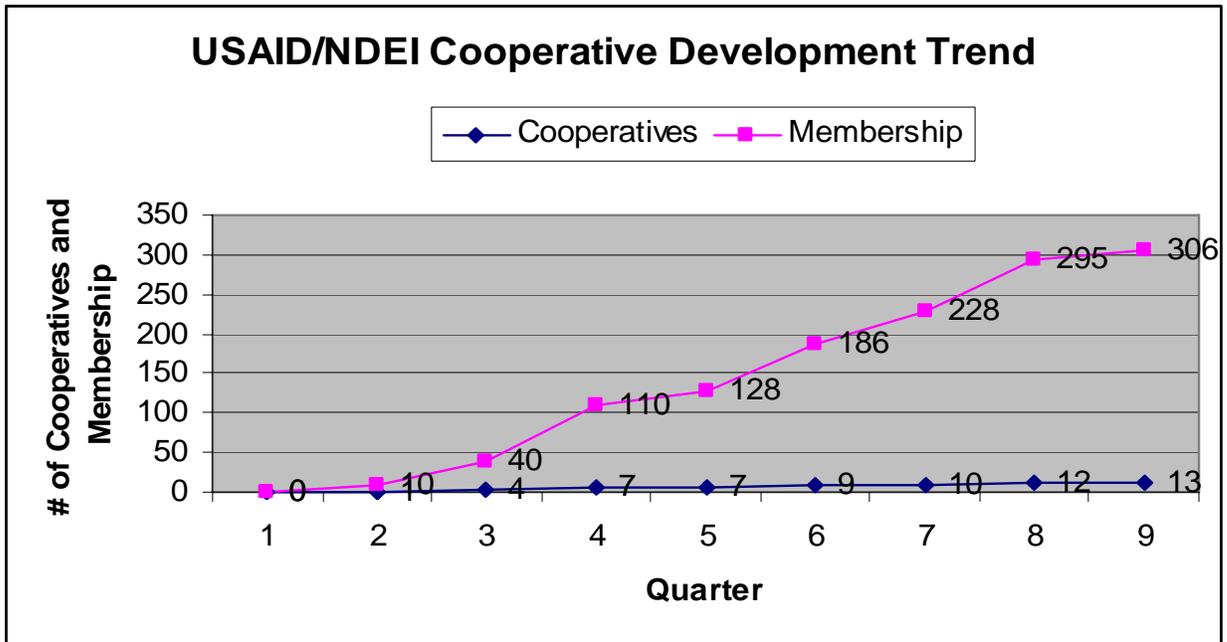


Figure 2: Progress of Cooperatives assisted by USAID/NDEI

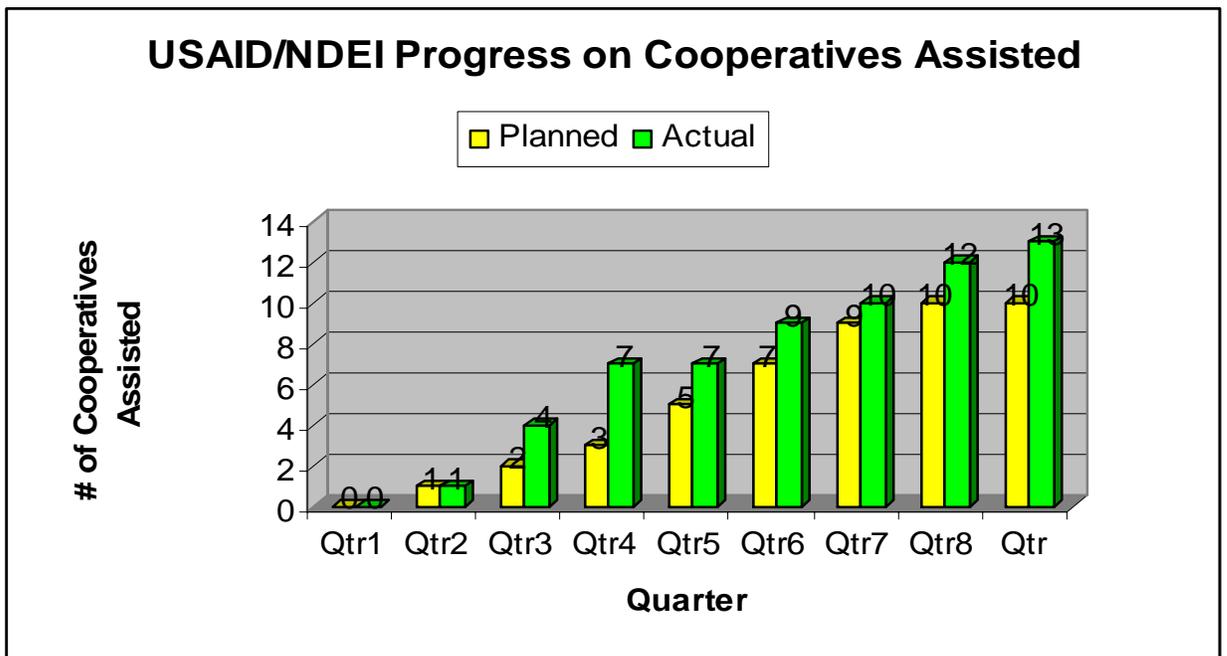


Figure 3: Progress on Membership of Cooperatives assisted by USAID/NDEI

