

June 23, 2014

To: Hilton Foundation for Sisters

Subject: **Final Special Report –Restoration of Milking Facilities at Kyabirukwa Farm**

From: Roger Ethier, MS, Director, Engineer W/O Borders Int.

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**Appreciation:**

I wish to express my appreciation to the HFFS for taking the initiative to locate the contact individual for the Kyabirukwa Farm, Uganda when my 2 year efforts failed and came to a dead end. Also, the openness of Sathiya Bly is very refreshing. She was as shocked as I was when Sister Goretti, the Farm and Orphanage Manager suggested the next project be restoring the milking barns. Both of us expected a simpler project. However, both Sathiya and I allowed the inevitable to happen, as Sister Goretti wished. And so the miracle at Kyabirukwa continues to unfold in its own, beautiful and mystical way.

My gratitude also to Sisters Rose and Goretti, and others at the farm for their support, grace and kindness. I trust that all of their experiences were as meaningful and as filled with learning and delight as was mine. RE

**Executive Summary:**

The Kyabirukwa Farm and Orphanage has made considerable progress to upgrade the 1960's vintage facilities and farming operation to modern standards since my last visit two years ago when we installed a new water pumping and distribution system that was funded by the Hilton Fund for Sisters and two other donors. One of two main catalysts for the upgrades of the livestock operations and the imaginative restoration of farm buildings is undoubtedly the upgraded water pumping and distribution systems that insures a constant, reliable and plentiful supply of water. Another more important catalyst appears to be the decision to move a graduate Agriculturist and Dairy Specialist into the position of Farm Manager, likely the first graduate agriculturist to manage the farm operations since the farm was devastated by General Amin's bloody ventures in 1968 and 1969, during which time the farm was occupied as its headquarters by the military, the milking herd was slaughtered, and the buildings robbed and stripped of everything that was useable and able to be carried away.

Two years ago, I recall, fifty head of milking cows were producing only marginally, there were an only couple of dozen laying hens, and the vegetable gardens were scattered randomly between many buildings. My view at that time was that the banana fields alone were being cared for exceptionally well through fertilization and creative techniques of soil protection. The banana fields were, incidentally, among the initial responsibilities that were being implemented that year by a young, degreed, agricultural specialist who arrived 2 years earlier.

Sometime during the last few years the Agriculturist, Sister Goretti assumed full responsibilities for the entire farm and orphanage operations. She has taught the communities how to grow and harvest a large variety of vegetables and there are very few open soil spaces today within

the community where vegetables are not growing. Even the chicken coop is surrounded by greens that are utilized to supplement the daily diets for the new 200+ chicken flock that is itself regularly culled and strengthened with young stock. Also, there is now a flock of 70 young sheep some of which will be sold at market while others will be used as breeders to insure a continuing growing herd, and a herd of 12 to 15 yearling bulls raised on the farm since birth. The milking cattle likewise have been reinforced by new and more climate-acclimated stock.

Relating to the milking barn facilities, a small sum of money (\$5,000) was borrowed by the farm manager to upgrade the deteriorated foundations and outside walls, and to patch the holes in the inside concrete floor of the primary milking barn. The work is in progress and is of exceptionally high quality. Pictures of the upgrades together with pictures of the original deteriorated buildings are part of this report.

The problems remaining that involve building restoration for which the Hilton Foundation grant is being requested are (1) replacement of the large, corrugated tin roofs for two buildings, the primary milking barn and the cattle resting barn which are the original roofs (420 sq. m and 360 sq. m) that are now loosened, rusted and bent metal sheets filled with holes caused apparently by bullets in 68-69; (2) replacement of selected rafters on both structures, many of which have cracked and are no longer structurally sound, and (3) upgrading the interior and exterior walls and floors for the Resting Barn. Since the Milking Barn restoration of outside walls including reinforcing the foundation will likely be finished by September, the milking barn still also requires (4) refinishing of interior walls with concrete, and (5) refinishing of surfaces of barn floors and some surrounding outside surface areas with concrete. The outside concrete is necessary for a cattle-walkway during the long, muddy rainy seasons.

Also, (6) two badly leaking original concrete 500+ gallon water tanks for the cattle (one is not useable) need to be replaced with more durable plastic water tanks, and (7) a cooler needs to be purchased to store milk and value-added products. The value-added products (yoghurt, butter, cheese, etc.) will be developed on a small, cottage-scale, initially.

The work currently being undertaken to restore the outside walls of the primary milking barn are Sister Goretti's professional visions that are creative and insightful, and the labor is similarly very skillful, and is overseen by a highly skilled craftsman who is part of the community. For all future work (as was with wall restorations of the milking barn), the Farm Manager plans purchase the materials directly from distributors and do the work in-house. This approach that has already proven very successful at the farm is also the most financially cost effective one.

The requested grant, if approved will drastically reduce the restoration time for the above work estimated from ten or more years to three years, since future work if funded in-house only will be done as funds from the farm operation become available, which in agriculture is not always certain. Nor do day-to-day accounting figures that are included in the proposal reflect the hidden, positive values of the cattle and farm operations; keeping the fields clear, supplying nutritious milk and fresh vegetables to families in the region who cannot pay, and providing work for families who cannot pay but barter goods in return for on-site, farm work.

In conclusion, the positive changes that have been made within the management and farming operations at Kyabirukwa during the past two years together with the upgraded water system has undoubtedly turned a stagnant and struggling farm operation into a productive, vibrant and healthy one, and the proposed work to restore the milking facilities identified within the Kyabirukwa proposal to the HFFS will significantly contribute to and accelerate the continued progress. The Kyabirukwa Farm Proposal is therefore whole-heartedly and without any hesitation or reservations fully endorsed. Further, it is recommended that the HFFS move forward as expeditiously as possible with approval of the \$30,000 grant and transfer of the resources.

### **General Information:**

The Kyabirukwa Convent Dairy Farm is owned, maintained and operated by the Sisters of Our Lady of Good Counsel and includes within the Kyabirukwa Complex, a 100 cow (60 milking cows presently) dairy farm with substantial pastures, Secondary and Primary Boarding Schools, a Health Care, Level 3 Facility, a Novice Training Center, a Convent, a Vocational School and a Priest House. There is also a satellite Farm and Convent at nearby Rwobugaigo, Uganda. The mission of the Sisters is directed at the Lowly Human Kind and Poor People of Society with the objective to elevate them and uphold their self-esteem in society by “Evangelization through Integral Formation and Education for the Lowly of Society”.

### **History:**

The Mission is worldwide and was founded at Kyabirukwa, Uganda in 1960 by Sisters of Our Lady of Good Counsel, a Canadian Organization. It was invaded and completely ransacked in 1969 and used as headquarter by an army that slaughtered the herd of 100 cows for meat for troops. The sisters had to run for their lives and when the troops finally left they ransacked the farm, taking part of the tin off the roofs. Since then the farm has been rebuilding while serving the indigenous congregation of Mbarara Arch-Diocese, Uganda, and border communities of nearby Tanzania and Rwanda.

### **Farm Buildings:**

The farm includes the convent that is the domicile of the Sisters who are assigned to the farm, many brick abodes on the hill behind and beside the convent, and that are occupied by the community of orphaned individuals, many of whom work on the farm, and three large brick buildings: the primary milking barn that is across a wide dirt passageway from the milk cow resting barn where the cows wait to be milked, and a large garage/storage building. The garage is used for storage of construction tools and other supplies, sheltering a small, antiquated truck and personal motorcycles that transport milk to town daily for processing, and as a shelter for drying and threshing of beans, peas and other crops. Just below the garage is the brick chicken coop that is sectioned into four separate areas where flocks of chickens of different ages are kept. There is an area adjacent to the chicken coop where bricks are made, stacked and baked prior to use. Substantial banana fields and cattle pastures fenced with barbed wire surround the entire complex.

### **Cattle Operation:**

Two large buildings constitute the cattle milking facilities; the cattle milking barn (with milking parlor) and the cattle resting barn. The milking barn has a floor area of 420 sq. m and the ceiling is 14 m high. The cattle resting barn's roof is 360 sq. m and the highest ceilings are 6 m. high. Both buildings have brick exteriors, tin corrugated roofs, and concrete interiors. All (except recently restored walls of the milking barn) are in badly eroded conditions. Over the years constant use and the weather have badly eroded the entire structures including the concrete floors that are no longer level and are badly pitted and worn. Sister Goretti, the Farm Manager has estimated a total price tag of \$30,000 to restore these facilities. The \$30,000 estimate appears realistic when considering that work will be done in-house, and the material will be purchased directly from distributors. These are the same techniques used in the on-going restorations of the exterior walls of the milking barn and have been refined and have proven successful and very economical.

Upgraded cattle barns are very critical to the overall functioning of the farm operation since the milking operation is at the very heart of the farm operation. There are now 60 dairy cows with projections up to 150, and fresh milk is the major commercial product of the farm. It is used within the region as a low cost source of nourishment for the region, as well as within Kyabirukwa where it is boiled prior to use by the sisters and orphanage community. The remaining is transported daily to a nearby town where it is sold, processed, and becomes part of the local commercial milk supply. The selling price to the milk processors is relatively low when compared to cost of processed milk, so future plans at the farm are to convert the milk to other value-added products in-house, such as yoghurt, butter, cheese and other locally used milk-based products. These value-added products will be developed at the farm slowly, first as a small in-house cottage industry, with the future possibility of a larger commercial operation. Also, in order to store milk overnight and also to develop and store value-added products a cooler is needed. Therefore, a milk cooler is included in the proposal.

### **Other Livestock Operations:**

It is obvious that the Farm Manger quickly recognized that the farm operation was in dire need of de-centralization. Thus, the expanded flock of laying hens and young chicks, the new flock of sheep, the small herd of stately young bulls, the vastly expanded vegetable gardens and well-cared-for banana trees within the community. All are sources of nourishment within both the community and local region where they are used. All of them also have the potential, with growth, of serving the farm and orphan community as a valued commercial income source.

This growth will necessarily be slow since profits will be plowed back into the farm as they become available. However, assuming approval of the requested grant from the HFFS this process will be greatly accelerated since the upgraded milking structures should greatly facilitate farm operations, cut-down injuries to milking cows, upgrade the health of the cattle by providing a dry, healthful milking environment, and augment significantly the high probability of disease-free milk and milk products.

**Other Assistance:**

Engineers without Borders Int, Shepherdstown, WV remains ready to assist with technical expertise to the Kyabirukwa Farm Manager and others as the need may exist. Our services are available at a equally shared cost for this project and other similar worthwhile projects worldwide.

