

**PRAIRIE VOLTA LTD.
GHANA RICE PROJECT
PUBLIC PRIVATE PARTNERSHIP PRESENTATION
March 1-2, 2011
Washington DC**

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Establishing A Sustainable Rice Industry In Ghana**

**Everett Anderson
Prairie Volta Ltd.**

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PREFACE

While my ego is as developed as the next person I wasn't clear on why I was invited to this Forum. In most meetings with USAID/IFC/World Bank/Donor type persons I find myself uncontrollably lecturing on why their programs are all wrong. Needless to say I come up empty handed. I finally found my reason for being on page three of the Forum draft presentation and agenda: "The Forum will ... give voice to diverse perspectives...."

I think of myself as a diverse perspective. When it comes to private business vs. government I come close to being a libertarian. Admittedly, I am not a purist, I find myself backsliding from time to time. I am reminded of the couplet by Ogden Nash,

"Heaven is fine and orgies are vile;
But I like an orgy every once in a while!"

So it is with my position,

"Capitalism is fine and government intervention is vile;
But I like government investment, grants, loans, and guarantees every once in a while!"

Everyone is searching for the right formula between Public and Private funding. It is a fact that without the support of the government of Ghana our project would not exist.

HISTORY

I am a third generation, Texas rice farmer. Our project is Prairie Volta Ltd [PVL]. PVL is a Ghana registered corporation owned 30% by the Government of Ghana [GoG], 30% by Ghana Commercial Bank [GCB], and 40% Prairie Texas Inc [PT] an American corporation formed for this investment.

The project concept dates back to 1991 when we first visited Ghana with dreams of feeding the world and making a fortune. World Bank funding was promised. However, another group came away with the project, spent \$20,000,000, and folded in 2001 when the government finally cut them off from the public trough. This group brought in good equipment but never achieved serious production.

Prairie took an active interest in revitalizing the project in 2003 with a Feasibility Study and proposal. Although there was no legitimate competition the wheels of bureaucracy turned slowly and it took five years to go from talk to action. We began work on site in May 2008 with \$2,500,000 investor cash and inventory of 12 year old equipment from the earlier effort. According to my estimates [*speaking as an expert in rice production in West Africa, if you don't believe me just look at my resume'*] that cash was adequate to bring the project on line, have 2,500 producing acres in three years, and be self sufficient with profits fueling expansion. Nothing could go wrong.

PRESENT

Two years and ten months into the program we have 750 acres in the production cycle [planned – 2,500 acres], yields are 3 tons/ha [planned – six tons/ha], spent \$6,000,000 [including \$1 million in revenue and \$2.5 million borrowed @ 28% interest], owe suppliers \$300,000, and are requesting additional funding of \$5,000,000 from Ghana's Agricultural Development Bank. With the lessons we have learned and the progress we have made that new funding will get us to >1,500 producing acres which, even with low yields, will make us self sufficient including debt service. If we can get the yields up, which we will, the economics of the project will improve, markedly.

WHAT WENT WRONG

Let me preface this section: One traveler was quoted as saying, "Every story you have heard about Africa is true." I do have plenty of stories, but it is not my goal or intent to ever belittle anyone, elevate our stature by demeaning others, or entertain. We have the utmost respect for the citizens of Ghana, administrators, and support agencies. They each have a job to do and pursue that job with sincerity and the best of intentions. However, I assume the reader can detect the underlying frustration and inefficiencies experienced by the project without further elaboration. So, in talking about what went wrong I will restrict illustrations and comments to areas that I think can be of constructive benefit.

In undertaking this project we were not neophytes in farming or in West African culture. But, now we are owners and investors rather than consultants spending other people's money. Frankly, we glossed over many of the same impediments that have tripped countless other well intended ventures and programs. We knew better, but we wanted to please our partners and we wanted it to be so.

In our case we early on identified our physical problems of delayed development and low yields.

Delayed development: in the asset column we had 1,116 horsepower of quality tractors for field work, which was plenty of power to do the job. In practice because of aging, technical problems, and reliability we had the effective use of <200hp. Also, the site we inherited was difficult to develop because of the topography exacerbating the horsepower deficit. We could not get the acreage through the field development bottleneck. Clearing and irrigation infrastructure was always ahead of schedule, planting and harvesting was not a problem, and processing capacity was idle. This delay in development was our only real problem. The other problems of site compatibility, yield, and indecisiveness would be only a nuisance if not for the domino effect of slow development and revenue generation.

Yields: the soil posed some problems but the primary problem was the difficulty in identifying appropriate varieties and cultural practices for this site. There was a serious lack of applied research for the area.

Slow response/indecisiveness: This gets to the real problem! All of our Ghanaian shareholders and lenders were government related, Ghana Commercial Bank is 20% owned and board controlled by the government and Ghana Agricultural Bank is a government bank. All research efforts in Ghana and Africa are government agencies in one form or another. Regulatory quagmires littered the landscape. Funding requests were always six months or more from application to funding; the research efforts were difficult for a private company to access and did not address the real needs. Application processes were multi layered, political, and tenured, no one was willing to make a decision and take action. Every cliché about bureaucratic behavior was personified in this chronicle.

Every day six international flights land at Kotoka airport in Accra. On each plane there are a couple of rows of new entrepreneurs and help providers prepared to bestow their expertise and largesse on this lagging culture. This group varies from missionaries to con artists, successful business men to aid agencies. They are royally received by touts hustling dash, ministers

promising concessions for investments, and chiefs offering land for a pittance. Most will go home - one week, one month, a year or two later – disillusioned, penniless, and unsuccessful. The results are exactly what you should expect. Note the attached picture of a sumo wrestler and business man teeing off in combat. We each go in thinking we are the sumo wrestler. We have the education, knowledge, skills, shekels, and desire to make a difference. We come out not knowing what hit us. It turns out we are the suited executive and centuries of tradition and culture is the sumo wrestler. To succeed and help we need to find ways to get this wrestler pushing with us rather than against us.

WHAT IS THE SOLUTION

Let me interject a personal note: My Virginia partner and I have monitored rice production and industry in West Africa over the last 30 years. We observed the need, saw the possibilities, and planned solutions; we said, “We can do this!” However, always we were working under the restrictions of other entities and were unable to do the job the way we wanted. This Prairie Volta project was our chance to do it our way. We are not a multinational conglomerate but we felt so strongly about our ideas that we mortgaged our homes, borrowed on credit cards, cashed in savings, and deferred reimbursements and compensation to provide our investment and keep the project going. In spite of the problems we are not disillusioned. As long as the GoG and others will support our effort we are here to stay.

Prairie Volta remains a great experiment in finding a sustainable answer to food security in environments such as West Africa. The essential elements of resources, demand, and margins are present in abundance. Management is as dedicated, skilled, and experienced as any in the world today. We have proven the underlying requisites of production, costing, and income. PVL provides a clear, alternate choice for developing the African economy. We have strong support from the government of Ghana who view our project as a breakout part of the government’s drive for agricultural production in Ghana. We strongly agree.

Public funding remains essential. The project does not qualify either by results or by balance sheet for private investment. To get the production engine up to a sustainable level we need >1,500 acres in production. The \$5,000,000 funding request will do this [when we get it]. We have a broader expansion and extension support program in planning that will utilize up to \$10,000,000 additional if funding can be found. This new program will allow us to provide services to local farms of all sizes. Neither program is dependent on the other although there would be synergistic benefits in simultaneous implementation.

Appoint a project czar or some equivalent. Czar has become a buzz word but it fits here. With all the conflicting government interests we need the GoG to appoint a czar that has the authority to cut through all bureaucracy in any agency from finance to customs, regulatory to advisory and let the project function without interruption. Once production is on line and profitable and people are eating at a reasonable cost then the country can afford the luxury of the protections enjoyed by the rest of the world from environments to women's rights to community benefits to workplace protections.

COMMENTARY

What are my suggestions to this group? It is easy to sit in the grandstands and tell donor agencies how they should do their job. My vantage point is somewhere between the bench and in the field so I have some basis for input. Still, people who run these agencies have insights that I cannot have. However, you asked for input in two specific areas and I am seldom accused of having no opinion.

PRIORITIES FOR DONOR AND COUNTRY-FUNDED PROGRAMS

Do not try to accomplish too many goals with one program. For example, the line from your literature [emphasis added], “[How can we] **Provide** emergency food and nutrition assistance while promoting long-term food security; **building** farmer organizations and associations; **boosting** private investment; and **linking** the community of higher education, research and training organizations” bothered me. Each is an admirable goal but do not confuse and dilute programs and efforts by imposing multiple roles on a focused project.

PVL made application to USAID and GHAID. I cautioned our partner that it was a waste of time as we were private, profit-making orientated and we had been rebuffed many times before. However, in the first interview after explaining our status and program including poor balance sheet, profit orientation, and focus on larger scale farm programs [see attached articles re Ghana Rice Industry] we were assured that this was exactly what they were looking for, a new direction for donor support. I was so hyped I spent three weeks preparing a 150 page presentation outlining our needs [\$15,000,000] and what we could do in building a self sustaining rice industry in Ghana. I was so proud of that presentation and its impact in revolutionizing agricultural production in West Africa that excerpts from it are attached as “Conceptual Rice Industry Project.” The USAID officers, in our presence, scanned the document, their first [and only] comments were, “Where is the section on small scale out growers? How

are you going to promote women's rights? Your liabilities to asset ratio is poor. We do not usually fund private programs with government ownership. How many [jobs, community benefits, medical help, species protected, smog reduction, extension services, {fill in the blank}] are you going to provide?" [Ok, the last listing was exaggerated, but that was the sense I got. It wasn't enough to start an industry and grow reasonably priced food; we had to be a vehicle to address every perceived or real social problem of the day.]

So, in placing donor funds, pick a vehicle to accomplish a stated, limited goal and support it promptly and completely through the ups and downs of the program. Base your selection on character, qualifications, and commitment. Have confidence in the plan and operatives. Supervise the program, of course, but streamline oversight. Appoint a single overseer who understands and believes in the project and is involved, not someone sitting at a desk in Washington reading reports. He should have the authority to abort support or increase funding as he sees fit. This means, of course, that you also have to have confidence in your overseer.

*Oversight is important, but it is impossible to impose enough regulations and rules to guarantee the money will be well used. In fact multilayered oversight is counterproductive by stifling creativity and efficiency and guarantees the money will be wasted. **Agriculture is particularly sensitive to delays because it is so time sensitive.***

Do not underestimate the cost or problems. PVL underestimated their costs by 100% and then the indecisive responses and lack of funds compounded the problem. That is the reason I am so strong on a responsive organization and full commitment.

HOW CAN "LEARNING WHILE DOING" BE IMPROVED

I like this philosophy. Essentially, that is Prairie Volta's operating plan. We can bring all the knowledge and experience to bear but the technology and procedures have to be tried and adapted for local conditions. A couple of examples: the technical difficulty in bringing aging equipment back on line surprised us, we didn't realize how much we took existing maintenance and support facilities a phone call away for granted; we had to adjust. Low yields were also a surprise, rice is grown all over the world including Ghana but we have to identify the best variety and practice for our specific site. The PVL project was not technically bad; but we had to learn by doing.

How can learning by doing be improved? Not being familiar with procedures now this may not be news. However,

1. Keep projects small to begin, make mistakes on a small scale and expand from there. *Small can be misleading, in our case our pilot program is 1,500 acres which is the minimum size to support the services needed. Real success includes expansion to >5,000 acres and serving as an anchor facility to support other farms.*
2. Learn from history; do not keep repeating old programs dolled up in a different dress. This applies to many areas but I am pointedly talking about the continued effort to impose small plot farming programs on the landscape.

Two Aggies graduated from agricultural school and decided to go into the hay business. They purchased hay for \$1.00/bale in South Texas, shipped it to Kansas for \$.50/bale and sold it for \$.85/bale. They soon realized they had a problem with their business plan. After a board meeting it was decided they needed a bigger truck.

Small scale farming is a bigger truck, it does not address the underlying problem [see attached Articles on Ghana Rice Industry].

3. Do not give up too soon, solve problems, and be decisive. Innovative programs mean more risks and perseverance will be needed to thoroughly explore their potential.

Following is a series of four articles. The purposes of the articles are to inform readers, counter public misinformation, identify problems in the rice industry in Ghana, and explore steps needed to solve the problems. The author is widely recognized as an authority on the rice industry in Texas and West Africa.

RICE FARMING IN GHANA –

WHAT’S WRONG, CAN IT BE FIXED?

A FOUR PART SERIES ON THE GHANA RICE INDUSTRY

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Everett Anderson

The rice industry in Ghana is the subject of much debate. The flood of rice imports, the impact of foreign subsidies, the poor quality of local production, and the plight of local farmers are variously addressed in print, over the radio, in government offices, and on the street.

Typically, the rice discussions lament the plight of the Ghanaian rice farmer, and then blame someone for the problem. Favorite targets include imports, foreign subsidies, and lack of Government expenditures. In truth, the Ghanaian rice farmer is facing seemingly insurmountable problems; but, while it makes good copy, and while it may please the readership, the discussions do not identify and solve the underlying problems. New facts and insights are needed before a solution will be found. This series of articles presents a different, independent view of the problem.

The author, Everett Anderson, is a Texas rice farmer, and manager and shareholder in a company referred to as Prairie Volta Ltd. a Ghana registered, rice farming company. He has experience in all aspects of the rice industry world wide including farming, milling, irrigation, marketing, commodities trading, government subsidies, and, most pertinent, experience with rice farming in West Africa. The reader is asked to consider his view on what is wrong with the rice industry in Ghana, and how it can be fixed.

This article is a four part series on the rice industry as it applies to Ghana being Part I – Imports and Subsidies; Part II – Rice Quality; Part III – Mechanization and Technology; and Part IV – Aveyime, Afife, Dawhenya, Kpong, and Nasia - Past, Present, and Future. Part IV will summarize the benefits of a viable, self sufficient rice industry in Ghana and how it can be attained.

PART I – IMPORTS AND FOREIGN SUBSIDIES

Imports: Imported rice is everywhere in Ghana. Tema’s docks and Ghana’s roads are filled with ships and trucks shuttling imported rice. Every market in the country has shops with bags of imported rice stacked front to back. At the same time the domestic rice industry is struggling. The logical conclusion is “imported rice is driving the local farmer out of business.” Is this true?

To separate fact from fiction and to better understand how imported rice can impact an individual country a quick overview of the international rice trade is useful. Rice is a commodity. It is bought and sold in bulk, sight unseen, using internationally accepted grade factors. Sellers and buyers settle the transaction based on weighing, sampling, and grading done by independent agencies.

Most rice never enters the world markets. The world annually produces >400 million tons of rice, but 94% of that production is consumed within the country of origin. For example, 100% of Ghana’s estimated 150,000 tons of rice production is eaten by Ghanaians; this is true of most countries in the world.

Conversely, only six percent of the world’s rice production [some 26 million tons] enters international trade. Six countries dominate the world rice trade providing 88% of the rice in the world markets. The following Table 1 lists the exporting nations of the world with their share of the world market. Table 1 is a composite of the last three years; but the table is representative of the world rice trade for the last two decades with minor fluctuations. 79% of the rice in world trade comes from Asia with Thailand [38%] and Vietnam [15%] dominating that sector. 21% comes from the rest of the world with the US [15%] being the dominate player.

TABLE 1

Composite Global Rice Trade

May 2003-2005

Figures vary due to rounding

COUNTRY	MILLIONS OF METRIC TONS	PERCENT OF WORLD TRADE
ASIA		

Thailand	10.0	38%
Vietnam	4.0	15%
India	1.0	4%
Pakistan	2.0	8%
China	2.0	8%
Other Asia	1.5	6%
Sub Total	20.5	79%
REST OF WORLD		
United States	4.0	15%
South America	0.5	2%
Other	1.0	4%
Sub Total	5.5	21%
TOTAL	26.0	100%

One other pertinent aspect of world trade should be brought out. Only good rice enters the world consumer trade. The fixed costs for importing rice – administration, purchasing, handling, bagging, inland shipping, ocean freight, warehousing, financing, and selling – are the same for all rice regardless of quality. The importer realizes a better rate of return on his investment by investing in a quality product; it does not pay to import poor quality rice.

Do only Ghanaian farmers produce poor quality rice? Absolutely not! A substantial proportion of rice produced world wide is of poor quality. What happens to the poor quality rice in the world? Just like Ghanaian rice it is consumed locally, usually within a few miles of where it is produced. It is important to understand that **Ghana’s farmers are not unique**. Many farmers in many countries face the same problems of low yields, poor quality, and difficulty in making a profit. This series, in addition to discussing the nature of the rice industry, will lay out a solution to the problems facing Ghanaian rice farmers.

Now, back to the question, “is it true that imports are driving the local farmer out of business?” The answer is: “no, imports are not driving the local farmer out of business. To the contrary, imports have

opened up a vast, savvy new market at premium prices for a quality rice product that provides a great opportunity for developing the domestic industry.”

How can this be? One, the local consumer has been introduced to the esthetic and culinary benefits of good rice [“only good rice enters world trade”]; two, the consumer has been conditioned to look for good rice and pay a fair price for it; three, the retail price of imported rice is nearly three times the world market price; and, four, the market for domestic rice, in spite of its poor quality, is more than the world price. The Ghana farmer operates in a lower cost environment than virtually every exporter in the world, produces a lower quality product, and still receives more than Thai, Vietnamese, and other farmers. The importer, who is the competition to local farmers, has to pay a foreign producer and mill in foreign mills, ship it to Ghana, pay duties and fees, and earn a profit.

Why doesn't the domestic industry thrive in a climate where producers with a lower cost structure can sell an inferior product for more than their world competitors who face much higher costs? That question will be answered in the balance of the series. For now, let's finish the discussion on imports and subsidies.

Foreign subsidies: Maybe it is true what they say – “foreign subsidies prevent the Ghanaian farmer from getting a fair return.” Foreign subsidies are a great scapegoat. They do exist and they are huge by any standard. However, foreign subsidies have little impact on the local farmer in Ghana. Attacks on the mote of foreign subsidies in your neighbor's eye divert attention from the log on one's own shoulder. We will look at that “log” later in the series. For now let's see why subsidies, while present, are indeed but a “mote”.

The world market price is set by Thailand and Vietnam with their 53% dominance of the world export market. Other countries either match Thailand's prices or they don't sell. The reader may recall that neither Thailand nor Vietnam is mentioned in articles excoriating rice subsidies. Thailand and Vietnam do not pay direct subsidies to their farmers, although they do provide certain infrastructure facilities and they do offer an “intervention” price which guarantees a minimum selling price. [There is a lot of politics in the setting of the Thai intervention price; but the selling price of their rice generally reflects the total cost of production.] At the risk of oversimplifying, the world market price set by Thailand and Vietnam is nominally skewed by subsidies, but generally reflects a competitive market value, providing a return to the farmer and middle man.

Countries like the EU, Japan, and the US do pay huge, public subsidies to their farmers. No matter, the EU and Japanese rice is an insignificant factor in the world market price since little of their production enters the world market. The reader will notice that neither Japan nor any European country appeared on the list of exporting countries above. In fact, their subsidies, while underpinning their farmers and buffering their consumers, has little effect on farmers in other countries.

US rice subsidies are different. It is true that the US is a factor in the world market with a 15% share. However, the structure of US subsidies largely isolates US rice from world prices. US rice subsidies are complicated, but they can be summarized as follows: The US government uses the world market price established by all the rice sold in world trade during a specific period, calculates a reasonable rate of

return for the farmer, then pays a direct subsidy for the difference. The farmer is free to sell his rice for the best price he can get and buyers pay the going rate. This preserves the integrity of the market place. Essentially, the US subsidy allows US rice to compete in the world market, but does not allow US rice to undermine the world market price.

Note: Critics argue that subsidies by any country, regardless of how isolated or carefully crafted, keep more farmers in business, increase the total supply, and thereby depress prices to some degree. That is a good argument. Still, the net effect on Ghanaian farmers is minimal.

Note: There has been another force at work that is the elephant in the room re world markets. The May 2005 WASDE [World Agricultural Supply and Demand Estimate] puts world production for the past 12 months at 410 million tons and total usage as 416 million tons – **the world consumed 6 million more tons that it produced**, drawing down carryover stocks. The same report listed the carry forward stocks as 68.5 million tons or 16.6% of the total production. By itself this could be a meaningless, normal fluctuation in the business cycle. But in the prior year there was an 18.6% carry forward; the year before there was a 22.1% carry forward. The world has been using more rice than it has produced for seven years running; world prices have increased 50% during that same time period. [The Ghana consumer has seen the price of rice increase over that period.] Is the current price high enough to replenish world stocks? Will the price go higher? The world cannot answer those perennial questions except by waiting. However, history and innovation assures us that there is plenty of capacity to produce and the market will meet the demand. In the meantime it may be that the current price level is a new, permanent benchmark in world pricing providing even greater incentive for local farmers.

Most of the rice imported into Ghana, probably >80%, comes from the Asian Thailand/Vietnam complex. Just as Thailand and Vietnam set the world market price for rice, they also set the price of rice in Accra. US rice has a reputation for higher quality and sells for a premium, filling a niche market.

Consumer note: Not all rice in the Accra market, billed as U. S. rice, is in fact U. S. rice. Some importers attach the U. S. label to repackaged Asian rice so they can sell for more. As always the consumer must look to the quality of the rice, not to the label. U. S. rice will be uniformly clean, stain free, and unbroken. For more on how to know good quality see Part II of this series.

It is true that imports serve part of the market, but we have seen that imports have expanded the market and market price. It is true that any subsidy, anywhere, will affect producers everywhere. But the impact of foreign subsidies on Ghanaian farmers is nominal. Local rice farmers must look elsewhere to find and solve their problems.

Domestic Subsidies: But Ghanaian rice farmers are struggling! If it is not imports or foreign subsidies that are causing farmer's ills, then what is the solution? Perhaps what is needed is a program by the Ghanaian government to guarantee a return to the Ghanaian farmer, just like US subsidies.

This observer does not see useful subsidies [with some exceptions mentioned below] coming from the Ghanaian government. Governments have never been successful in creating a thriving, competitive industry by handing out benefits. Government programs are driven by political rather than economic considerations. Such programs are expensive, difficult to control, and riddled with abuse.

Even today, the Ghana countryside is strewn with rusting, grassed over relics of Government help. This series, in Part IV, will address these abandoned or underutilized facilities. There are proposals before the government that offer a means to salvage their locked in value, bring them into vibrant productivity, and create jobs and home grown rice. The building of a modern Ghanaian rice industry utilizing these assets is the underlying theme and impetus for this series of articles.

In every economic model the present market place provides ample margin for a domestic industry to plant, grow, and harvest a self sufficient rice industry, solely on its own merits. **If Ghanaian producers can acquire the training and tools to produce good yielding, quality rice, then no direct subsidy is needed** [see later parts of this series].

There are things that Government can do to help. Capital investments that serve a broad population such as basic research, good roads, reliable utilities, access to irrigation water, and land development have been used successfully by many countries, including Thailand and Vietnam.

One more thing, in spite of IMF rules [no blasphemy intended], the judicious use of import levies to maintain a stable price and supply is an effective, commonly used tool by many governments. At present, there is an import duty of 20% on imported, milled rice. Other import fees bring total import charges to 36%. As the Minister of Agriculture has pointed out, any increase in duties would be passed on to consumers.

Duties and fees serve a useful purpose. Besides covering costs and providing revenue to the government, duties and port charges are a major part of the disparity in price between world markets and retail in Accra. They are one big reason local farmers, if they can take advantage, have such good margins in selling their rice. Would increasing the duty increase local production? Perhaps, but there is adequate margin now and production has failed to increase. Would lowering the duties decrease local production? Yes.

This author sees a 20% duty as a good, middle ground. In the future, if the industry can go to the government and make an economic case that the industry would, in fact, produce more with higher

duties, the government should give it serious consideration. It would be ideal if the government and private industry could divert the rice duties on imported rice directly into development of the local rice industry. This would justify the tax on consumers as a long term plan to increase supply and reduce prices. Volta Farms has been in discussion with the Ministry of Agriculture about a proposal to do just that. Reality does raise its head; it is difficult for a government to fund a program with money that is already spent elsewhere.

Note: It is informative that local production has merely held steady over the last decade [about 150,000 tons annually] in spite of rising demand, rising prices, and improved varieties and technologies. This tells us **there is a basic problem that can not be dislodged without a fundamental shift in rice production methodology.** More on that underlying problem and what can be done later in the series.

Part I – Imports and Subsidies will not have been very satisfying to many readers. Rather than joining the chorus of those blaming imports and subsidies, this Part concludes that imports and foreign subsidies have not driven the local farmer out of business; to the contrary, imports have created an opportunity of buyer desire and excellent price margins for the local industry. It is also concluded that, while there are things the Government can do, direct government subsidies are not the answer.

Anticipation runs high that subsequent Parts will be much more satisfying. Parts II and III will discuss the problems of poor quality and economics of production – the fundamental problems with Ghanaian rice farming. Part IV is a plan to invigorate the Ghana rice industry, compete with imports, and earn a high rate of return for the domestic industry. Prairie Volta believes strongly in their analysis, and have proposed a seed investment of \$3,500,000 USD in Ghana rice production.

RICE FARMING IN GHANA – WHAT’S WRONG, CAN IT BE FIXED?

PART II – RICE QUALITY

Everett Anderson

[This is a continuation of the series on Rice Farming in Ghana. Part I discussed the impact of rice imports and subsidies on the domestic industry.]

Part I declared that imported rice has handed the domestic industry a huge opportunity. The opportunity is an informed consumer prepared to pay premium prices for quality rice. How can the domestic industry take advantage of this opportunity?

The premise of this series of articles is that **the Ghana domestic rice industry is unsuccessful because it is not producing a dependable supply of a saleable product at a competitive cost.** That is the “log” on the shoulder of the domestic industry; that is the real reason Ghana rice is not a force in the market. No amount of political imprecations, finger pointing, trade restrictions, or Government spending can bypass the problems of poor quality and inability to compete.

This is so important, let’s repeat the message. **The Ghana rice industry will not, will not, improve until there is a fundamental attack on the problems of quality and productivity.** Part III, tomorrow, will address the impact of technology on the economies of production. For now this section will talk about producing a quality, saleable product.

It is not prescient to find that the quality of Ghana rice is poor. The quality is poor by world standards and by the standards of Ghanaian consumers. Charles Yeboah, a retailer of rice in Accra, was interviewed in an article [*Guardian*, April 11, 2005, C. Moore]. Yeboah said he did not stock Ghanaian rice. "I can't sell it. The quality of the imported rice is so much better that even though it costs more, people buy it."

Quality is omnipresent in every buying decision. As a consumer or vendor how many times have you changed suppliers after getting a bad serving or shipment of food – spoiled egg or milk product, stale bread, over ripe fruit, stony rice, etc. **Above all else the consumer expects**

consistent, pleasing quality in their food products. The Ghanaian consumer knows quality in rice; and local rice has a reputation for poor quality. Mr. Yeboah knows!

Quality is a problem that must be addressed if Ghana rice production is to be a force. A program to improve rice quality cannot be implemented until the causes of poor quality are identified and a solution is found.

Rice quality is a subject that fills books covering more than 15 different grade factors. The typical consumer sees five distinct factors that define quality – broken grains, color, smell, foreign material, and cooking characteristics.

Broken grains: A grain is counted as broken if it is less than ½ of a whole grain. The international grading standard is US #2 which can have up to 4% broken grains. [Some Ghanaian rice approaches 100% broken grains.] In truth, there is no difference in the nutritional value of broken or unbroken grains. But, broken grains simply do not look as good to the house wife serving a dish or to the family eating the rice. The market severely penalizes for broken grains.

Color: A healthy grain of rice is a translucent white color. Individually you can see light coming through the grain; together they appear white. Any deviation in color detracts from the value. Brown stains indicate under milling or stack burn; speckled rice could be bird, insect, or disease damage; milky white could be chalkiness; and black spots that move could be....

Smell: Good rice has a ... “ricey” smell. Do not sell rice that has a musty, rancid, or other off smell. Bad smelling rice is like rice with moving black spots – sell it and you lose a customer for life.

Foreign material: Foreign material is anything but rice. A major problem with local, manually produced rice is small stones and dirt. Other foreign material can be weed seeds, bits of straw, husks, rodent droppings, etc. There is a serious price penalty for any foreign material, particularly stones, dirt, and droppings.

Cooking characteristics: Different varieties of rice cook and look differently. Rice can stick together in a blob or stand as separate, fluffy grains. Either is okay, it is a matter of preference. There are other factors of appearance and taste.

There is good news about rice quality. We know what makes good quality rice and we know how to produce it [almost] every time. Also good news – quality rice can be produced at a lower cost than the current system that produces poor quality rice.

What causes poor quality rice? To simplify, **rice quality comes mostly from the field.** Weather, pests, diseases, weeds, variety, timing, irrigation, planting, and harvesting jointly and separately determine the quality of the rice. The farmer, in as much as he can control those factors, determines the quality of the rice. This is no indictment of the Ghanaian farmer. The Ghanaian farmer produces low quality rice because the quality factors are largely out of his control due to his tools and circumstances.

Farmers dream of modern rice mills, a panacea that will make their rice good. A fully equipped rice mill is an essential element in the rice production cycle. It is important to know, however, that a rice mill, no matter how sophisticated, cannot make good rice from poor rice. The biblical illustration is “you cannot make a silk purse from a sow’s ear.” Poor quality rice from the field is a “sow’s ear.” A properly equipped and operated

rice mill can help, and, more important, it can maintain the quality delivered to it. But insect damaged, weather cracked, stony rice remains so.

But be reassured, there is a panacea for producing good rice. It is called technology, and will work like a dream in Ghana [see Part III].

So what can the Ghanaian farmer do to produce quality rice and take advantage of the wonderful market opportunity? There is a reasonable answer, and that answer will be completed in the next section. We’ll begin the answer now by listing the goals needed to consistently produce quality rice. When these goals are met the farmer will receive a bonus of high yields to go with quality.

Synchronization best describes what is needed. If the farmer could complete each crop operation within, say, one hour he would get the best result. For example, if he could plant a given field in one hour, fertilize, apply herbicide, irrigate, drain, and harvest - completing each function within one hour - he would have the greatest control. Yes, it is not possible, but the farmer that most nearly attains that goal produces the best results.

Why is synchronization that important? There is a best time, or window of time, in any production region to accomplish a given task. If the task is done sooner or later some factor of quality, yield, or cost is adversely affected. Rice as compared to most field crops is particularly vulnerable to timing problems.

Let’s explore one example. Broken grains are a major quality factor. The goal is to reduce the number of broken grains. There are many causes for broken grains – diseases, field damage, equipment adjustments, delayed harvest, variety, etc. The farmer has options to minimize all of these factors, but let’s look at delayed harvest to underscore the need for synchronization.

The best time to harvest a given grain of rice is usually a window of three or four days. Average moisture content is the gauge of when the plant is ready for harvest. 20% moisture is a good working number. Moisture higher than that means the crop will have many grains very green, even in the milky stage. These will be lost in the harvest and processing functions, and yield will be lost. When moisture drops lower it means that many grains will have been mature for some time. Mature grains that go through repeated cycles of cool, dewy dawns and hot, arid afternoons develop stress fractures that lead to the breaking of the grain during harvesting and milling. These fractures, nearly invisible to the eye, are the primary reason for broken grains.

Unfortunately, even under the best of circumstances, there will be a wide variation in the maturity of each grain compared to its neighbor. The rice plant is very prolific. If there is no competition such as weeds or other rice plants a single plant will send out new tillers – 10, 20, even 50 new tillers – over a two or three week period. Each tiller produces a head of rice, that’s good; but each head matures at a successively later time as the plant maturation cycle begins when each tiller first emerges, that’s bad. So now the farmer has a two or three week maturity span within a single plant. There is more. Each grain on each head matures in succession with the first, tip kernel, maturing first and the bottom kernel maturing last – the longer the head the longer the maturity span. Another maturity week can pass within a given head. Now we have a total maturity time of four weeks or more.

How does the farmer close that maturity gap? He closes that gap by creating competition to the rice plant. In a typical transplant seeding operation taking several days there will be some 30,000 to 50,000 plants per hectare. That leaves a lot of room for plants to tiller. Direct mechanical seeding of some 90 kg of seed/ha, planting more than one hectare each hour, will produce up to 3,500,000 plants per hectare. Each plant competes with its neighbor. After five or six tillers the available space and nutrients are taken and tillering stops. Since the plant population is high the individual heads will be shorter [due to competition] so the total maturity time is now one to two weeks. The task remaining to the farmer is to judge the best time, balancing the potential loss of the remaining high moisture grains and the gains of superior quality, to jump in and harvest the entire crop within its best time.

Even maturity is just one example of how synchronization of crop functions will improve quality. Synchronization makes all jobs and inputs more effective and efficient, and increases yields.

About seven paragraphs ago the local farmer reading this account threw up his hands and said “this is impossible, it’s unrealistic.” At the end of the last paragraph he threw the paper in the trash and went about his struggle to eke out a living for his family. For the readers still with us, and this author hopes it includes every farmer, Part III, tomorrow, brings a realistic solution to an impossible task.

RICE FARMING IN GHANA – WHAT’S WRONG, CAN IT BE FIXED?

PART III – MECHANIZATION AND TECHNOLOGY

Everett Anderson

[This is a continuation of the series on Rice Farming in Ghana. Part I discussed the impact of rice imports and subsidies on the domestic industry. Part II discussed rice quality.]

The Ghanaian farmer was left with an impossible task in Part II – perform a month’s work in one hour. Today, we make the impossible routine. Inevitably, the answer to difficult problems in the rice field is the application of selected mechanization and technology.

Before getting into a discussion of the benefits of mechanization, the chorus of voices stating that “mechanization doesn’t work in Africa” must be answered. There is plenty of evidence that those voices are right – abandoned tractors and failed projects galore. But there is proof that those voices are wrong.

Ghanaian farmers have been using mechanization for centuries. The steel hoe replaced the stick bringing a leap forward in productivity. Baskets, now steel and plastic buckets, allow a farmer to carry much greater loads of inputs and produce. Wheeled carts were a dramatic breakthrough in transportation.

“But,” you say with frustration, “That is not what the negative voices are talking about. It’s the sophisticated, motorized machines that can’t work in Ghana.” Not true. This writer personally designed and implemented a mechanized, irrigated rice project in Nigeria that efficiently used tractors, combines, airplane, and rice mill to produce high yields of good quality rice. One of the writer’s proudest achievements was to see six sophisticated tractors, just like those at Aveyime, perform an average of 15,000 hours each before any engine, transmission, or drive train replacements were needed. This was nearly 30% better than similar units’ average under Texas conditions. All other machines performed equally as well; as did the use of fertilizers, herbicides, and adapted varieties.

The Nigerian project was neither a fluke nor unique. The project employed residents of the nearby villages; provided training, supervision, and management; and used state of the art technologies to produce rice in West Africa. The project did have expert advisors, but all work was done by local staff. The same program will work effectively in Ghana.

Another objection to mechanization is “my father and grandfather earned a living and led satisfying lives by farming with a hoe, machete, and threshing rock. Why should I change?”

“Because the world has changed,” is the answer. Thailand farmers make a profit selling good rice for \$200/ton. They have adapted to mechanization and technology. Ghanaian farmers struggle to survive selling poor quality rice for \$300/ton.

Let’s look at some facts. The Ghanaian rice industry employs about 125 man days to produce and deliver to market one ton of milled rice. This production covers the cycle from first tillage through planting, tending, harvesting, milling, and transporting. The world industry, in a mature, developed environment, using mechanization and state of the art technology, employs less than 1.5 man days per ton for the same cycle. **There is a basic lack of competitiveness in the Ghana rice industry compared to the world industry.** Productivity is a problem that must be addressed if Ghana rice production is to be a force.

Let’s look at a typical example of how machines make farming easier and more profitable. Harvesting machines were a major breakthrough in the farming cycle. First there were simple threshers, but these evolved into self propelled machines called combines that reap, thresh, separate, and collect more than 80 tons of grain per day. This combine needs a single operator working in an air conditioned cab with power assisted controls, monitoring all functions of the machine electronically, and a support crew of two. This three man crew working in a cool, dust free environment daily harvests some 13 hectares from standing rice in the field to good quality paddy stored in insect free silos in the rice mill. To do the same job with scythe, threshing rock, and head transport would require a staff of 20 laborers for 65 days [1,300 man days]. In the interim the good quality rice of day one has deteriorated to insect damaged, stony, broken, poor quality rice by day 65.

What did the harvest cost? The calculation for the manual harvest is relatively simple. Let’s assume the harvest staff, walking to and from the field, working in the sun and dust, are paid \$3/day. The cost is \$48.75/ton paddy basis [1,300 workers times \$3 = \$3,900 divided by 80 tons]. On a milled basis @ 67% yield the harvesting cost is \$72.76/ton of rice with a market value of <\$300/ton, **a gross return of \$4.12 for every dollar invested.**

The calculation for the mechanized harvest takes a CPA to compute, but the bottom lines are that that harvesting system requires an investment of some \$200,000 useable for more than 1000 days over ten years; depreciation and interest amortize to <\$350/day of use; fuel, maintenance, and administration are another \$350/day; and direct staffing is <\$50/day with the trained three man crew earning up to \$12/day and receiving transportation, medical, and housing benefits. Total cost is \$9.38/ton paddy basis [\$750/day divided by 80 tons]. On a milled basis @ 67% yield the harvesting cost is \$14.00/ton of rice with a market value of >\$500/ton, **a gross return of \$35.71 for every dollar invested. Mechanization is good business.**

Mechanization is as old as the first stick and basket, and as new as global positioning satellites. Yes, the unknown scares people. Frankly, VCRs, cell phones, and computers are outside this author’s comprehension - he has to get his children to show him how they work - but he uses them to good

effect. Sophisticated tools are the natural progression of man's history. They will work as effectively in Ghana as they perform in Texas and Thailand.

The above example talked about harvesting. Similar benefits of mechanization and technology spread across the entire spectrum of agricultural production and processing. Equally spectacular results are seen throughout the production cycle whether it is plowing; weed killing, transportation, milling, or other. These technologies and supporting industries did not develop in a vacuum. There was a need; the solution worked; and the results were economically beneficial.

In the above harvesting example, does this mean that 1,297 workers are now unemployed? Yes..., but no! In a simple mathematical calculation $[1,300 - 3 = 1,297]$ the answer is yes. But in a dynamic world the answer is no. Employment is not a zero sum exercise. Rising productivity, better working conditions, more free time, and improved incomes open entire new arenas of activity, invention, creativity, markets, and employment opportunities. The displaced reaper or thresher may no longer be laboring in the midday sun, but higher paying employment opportunities in farming, transportation, communications, management, professional, and services spring from an increasingly insatiable economy.

In a discussion of mechanization and technology, the impact of applied research and development merits a few paragraphs of its own. The world of machines has been important in the advancement of agricultural production. But the work of the universities, private companies, and hosts of individuals in research and development has laid the foundation for the success of the industry and remains a critical element in its future.

Herbicides are a good example. Some 50 years ago one company discovered a chemical called propanil that would kill a wide spectrum of grasses and weeds, but did not harm rice plants. Propanil ushered in a new era for rice. With propanil the farmer could eliminate more costly, less effective grass control measures, improve the growing environment for rice, and increase yields by 30% and more. That compound revolutionized rice farming in the 60s just as the combine created its own revolution in the 40s. Propanil has since been joined by another dozen or so effective, selective herbicides giving the rice farmer more tools. The results of reduced costs and better crops continue.

Improved varieties are another example of the work of scientists. There are varietal breeding programs in most research facilities serving the rice belt. Each is focused on the needs of their local farmers. Many receive funding from governments, universities, private companies, and/or co-ops of farmers.

The rice plant has presented special problems to rice breeders. The easy solution of hybridization for breeders of other crops such as wheat and maize was more distant for rice breeders due to the mechanism of reproduction. But rice breeders have manipulated some 20,000 known basic rice varieties in the world into a constant stream of new, improved varieties. Before a new variety is released both yield and quality characteristics including resistance to broken grains, appearance, and cooking results are reviewed.

As noted, varieties are one solution to broken grains and rice quality. In recent years new varieties have been released that extend the harvest window by an extra week or more. At the same time these varieties have higher yield potential. For example, the yield potential of the varieties used on the Nigerian project referenced above was between 4 and 6 tons/ha. [1985/1990 era]. Today there are proven varieties with a yield potential in Ghana of 6 to 8 tons/ha. With promising, new varieties in the testing stage there is every reason to believe this trend toward higher yields will continue.

Note: Much of the discussion about quality, mechanization, and technology assumes that the rice production is irrigated. Upland [non-irrigated] rice is an essential part of the world's rice supply; probably 80% of the total hectares in rice production is upland rice. There is a time and place where upland rice is the only viable practice, and much research continues to support upland producers. The recently released new variety, Nerica, developed by WARDA is a good example. Nerica is more drought tolerant and has a yield potential of >2.5 tons per hectare. But upland rice, even with improved varieties, is not the first answer to improving Ghana's quality and competitiveness. Irrigated rice, where it is possible, has overwhelming advantages compared to upland rice. Irrigated rice yields three times as much, has less risk of failure, produces higher quality grains; is more immune to disease and weeds; and costs little more per hectare to plow, plant, tend, fertilize, and harvest. The advantages are so great that the 20% of irrigated rice hectares in the world produces some 75% of the total rice supply. Ghana has substantial irrigation water available and land that lends itself to irrigated production. Upland farmers will not be forgotten, but this series focuses on irrigated farming.

Ghana has a useful research program. This program is geared to providing help for its local farmers. Since most local farmers are small scale, upland farmers research has centered on their needs and there is a vacuum in Ghana research for variety and other topic information applicable to large scale, irrigated, mechanized, high yield conditions. Any serious program to invigorate the Ghanaian rice industry has to include a research and development element to identify and adapt currently available varieties and technologies.

No matter how dedicated and hard working, the local farmer must have access to modern tools to be competitive. This series will suggest a way to make those tools available.

Part III, has been an over view of the potential of mechanization and technology to revolutionize farming in Ghana. Is the reader not yet fully reassured that the impossible is possible? Part IV will lay out Prairie Volta's plan to revitalize the existing assets and infrastructure in Ghana, and trigger a revolution of high employment, high income, quality products, and self sufficiency in the rice industry.

RICE FARMING IN GHANA – WHAT’S WRONG, CAN IT BE FIXED?

PART IV – AVEYIME, AFIFE, DOWENYA, KPONG, AND NASIA RICE PROJECTS – PAST, PRESENT, AND FUTURE

Everett Anderson

[This is the conclusion of the series on Rice Farming in Ghana. Part I discussed the impact of rice imports and subsidies on the domestic industry. Part II discussed rice quality. Part III discussed mechanization and technology.]

Aveyime, Afife, Dowenya, Kpong, and Nasia – each of these names evokes jarring memories. Each is the site of a grandly publicized yet failed or underused rice project. Their lack of continuity and success has left bitter memories and hard questions in the minds of the local residents, government officials, and the people of Ghana.

The bitter memories include the taking of land, high expectations, and dismal results. The hard questions include: What went wrong? Can they be revitalized and effective? Is there no hope of a working, modern farm industry in Ghana?

Prairie Volta’s partners, including this author, have visited each of these sites. Volta’s findings are the design, engineering, layout, and construction of each of the sites is sound; each site has useful assets and attributes beneficial to a long range program to invigorate the Ghanaian rice industry; and Volta sees a business opportunity and wants to be a part of the rebuilding program. Volta backs up her opinion about the promise of the Ghana rice industry not by issuing statements and writing articles, but by proposing a private investment in her conviction.

Volta’s plan to build a self sufficient rice industry in Ghana is simple. One, the plan would start with a pilot project. The pilot project would be privately funded and operated – no government loans, grants, or guarantees. The pilot project would be a full scale, for-profit, working, rice farming project.

It is important for the reader to understand that until a practice, variety, or program has actually been performed and replicated on site in Ghana all plans, projections, and feasibility studies are just theories. These theories have scientific and practical support, but they must be performed and replicated on site to be valid. [This was one of the problems with the Quality Grains effort at Aveyime – management, with no experience in West Africa, assumed that what worked in Arkansas was fine for Ghana, and the entire project was designed around one farmer’s non-indigenous concept.]

Two, the pilot phase is limited to one site. Trying to start up several sites would dilute resources and multiply the consequences of mistakes. The plan would select one of the abandoned project sites to be the pilot project.

Three, after selecting the site, conduct a feasibility study, raise capital, and reach a mutually beneficial agreement with the Government.

Four, implement an immediate Research and Development program to serve the site and build a technology base for development of other abandoned sites and expansion to other, new areas. R & D would also develop data on the potential of other crops and livestock as an integral part of a farming program.

Five, begin on site operations. Operations would include completing all capital investments and site development, farming, processing, and marketing. In the marketing operations a brand would be established that promoted confidence in Ghanaian produced rice.

Six, once the technology is proven and the farm is operating profitably and generating positive cash flow the project would look to rehabilitating other sites and expanding. Since it would take about five years to fully develop the first site and get reliable data from the R & D program, expansion would begin in the fifth year, sooner if the research and economics justified it. Expansion, innovation, and opportunities would continue indefinitely thereafter.

Seven, an integral part of the expansion program is to develop an independent farming and service complex. The day by day decision demands of farming and farm services do not lend themselves to the bureaucracies of sprawling, corporate goliaths. The pilot project will function as a model, but to truly feed the country the expansion scheme will find ways to set up entrepreneurs as independent businessmen.

Prairie Volta has completed the first three steps of their plan. Using the technical expertise of their Texas partners, Prairie Texas Inc, Volta has selected the Aveyime site as its proposed pilot project site. A feasibility study has been prepared; private financing has been arranged; and discussions have been held with the Government to develop mutually acceptable terms. The plan offer has been made, the terms are flexible, and action is pending a Government decision.

Aveyime was selected for several reasons: land, water; accessibility to Accra, Tema, and international airport; size and growth potential; and completeness and usefulness of existing equipment were the primary considerations. Once the Government has given agreement, on site work will begin.

The government has delayed making a commitment. Decision making for the government is hampered by bad decisions of the past. The Ministry of Agriculture set up a technical committee in early 2004 to analyze all proposals for the use of the Aveyime assets. Following a meeting of presentation and examination in Tema, July 6, 2004, the committee issued a report finding that Volta's proposal, as presented by Prairie Texas, was a superior proposal both in technical soundness and financial stability.

The committee's report recommended that the Prairie proposal be accepted, that negotiations should be consummated, and a final agreement should be made quickly to prevent further deterioration in the Aveyime plant. Delays continued.

Finally, in January 2005 the Ghanaian Embassy in Washington performed a due diligence on Prairie Texas and other Volta investors and shareholders. The Embassy report found the group to be experts in their field, respected by their peers and community, and had access to US government senators, representatives, and aid groups. The Embassy's report noted that Volta's shareholders and investors were technically competent and experienced to perform as promised. A follow up report in April verified Prairie Texas's legal validity. Delays continue.

The government, in administering these sites, has several options available to them. Each of the project sites have different characteristics and could be treated differently. Let's talk about the Aveyime site. Option 1 – do nothing; Option 2 – turn the assets over to the local governments; Option 3 – put the various assets of all the projects on sale selling them piece by piece; Option 4 – negotiate and accept the best long term proposal that would accomplish the original goal of the Aveyime project – produce rice in Ghana.

Option 1: Doing nothing [or as it is known in Australia “the ostrich approach - burying ones head in the sand”] has been the option of choice to date. The Government received final unfettered ownership of the Aveyime assets 17 May 2002. Certainly, it takes time to inventory the assets, solicit proposals, and make a decision, but not three plus years. Doing nothing may be the easiest course; it is not the wisest. It is extremely costly. Equipment deteriorates, investors lose interest, and no productive use is made of the assets. The local people are predictably upset, and doubt the integrity and intentions of responsible parties.

It is the experience of this writer that there is reluctance by the government to take definitive action re the Aveyime project. **Doing nothing is an unacceptable option.**

Option 2: Turning the assets over to the local government may not be a bad idea. The closer you get the decision making to the area of interest the better the decision making will be. The Aveyime people have been sold on the concept of having a viable farming and processing industry in their community. They relinquished the land to the Government in good faith. Since the Government's program has failed, an argument that they have an obligation to return the property to the local Government, which has the highest interest in its success, can be made. Volta would be glad to make its case to the Aveyime local government that Volta can best serve the people. **If the Aveyime community is well served, then all the people of Ghana will be well served.**

Option 3: Selling the various assets of the project piece by piece [or to an underfinanced, non qualified entity], given the proposal on the table, **is absolutely the worst option.** The proposal on the table offers a chance for the country to ignite an explosion that would diffuse the entire country in a vibrant agrarian revolution.

The “explosion” hyperbole is deliberate. Many readers will recognize the term “critical mass” from their physics lessons. The term was popularized with the making of the atomic bomb. The secret of the bomb [this is no longer a secret] is that you need a certain [critical] mass of the explosive quality uranium before a nuclear chain reaction could be sustained, resulting in an explosion. You could have truckloads of uranium, but you would not get an explosion unless it was in a critical mass. In separate blobs, **nothing**; put them together with an explosive trigger, **BOOM!**

Let’s go back to the agrarian explosion referenced above. Aveyime has truckloads of explosive grade agrarian material – tractors, combines, mill, land, water, etc. They are setting around in little blobs in a warehouse in Aveyime, **nothing**; put them together in the field and mill triggering them with Volta’s capital and management, **BOOM!**

There are several reasons the project should not be dispersed. First, the project will die. Volta expects to have the project self sufficient with a total investment of \$13,000,000. Volta will be able to utilize the in place value of the equipment and begin commercial sales of locally produced rice by the 14th month of operations. If dispersed, it will cost 2½ times as much to put the project together again. Starting anew would take some \$7,500,000 more and the first commercial sales would not begin for nearly 40 months. The risk exposure to investors and bankers multiplies dramatically.

Second, the government would lose money, as well as face, if the project was dispersed. Selling the assets piecemeal will net the government maybe \$2,000,000, give or take a half mil. It is well known that the government has invested more than \$20,000,000 in the project. But that huge investment is some 60% due to bad decision making by previous management and officials, and that 60% cannot be recovered in a sale. The real cost of the project, when originally done, should have been about the \$7,500,000 estimated above to do a new project. That \$7.5 million includes management, inventories [now mostly worthless], clearing [now overgrown], equipment [some now obsolete], interest, and place value. That investment is now eight years old. The equipment has deteriorated; the management and interest are gone; and the place value in a dispersal sale would be lost.

Note: Are the numbers confusing? Volta Farms proposes a \$13,000,000 investment, \$2.5 million cash and the balance from revenues and assets, as a part of their proposal. This investment does revitalize the Aveyime project. It also includes other components of importing paddy rice to utilize the mill, bring immediate technology and jobs to Ghana, and help stabilize the rice market.

To a buyer, not prepared to make the capital investment to bring the project on line, the value of the equipment plummets to the salvage value of the individual items – maybe \$2 million. The Volta proposal offers to pay up to \$18,000,000 over ten years for the assets because they will be utilized, in place, to produce. If Volta fails to perform and make payments the government gets all the existing assets back in renovated condition plus an additional \$1 million plus of new on-site development, housing, warehousing, and facilities.

Finally, if the project dies, none of the phase one events of development, investment, and employment will occur.

If the elements of the Aveyime project are dispersed they will individually lose the explosive quality of the total. The stigma of failure will be reinforced. The economics of replacing these assets will not justify any private company undertaking the project. Certainly, Volta Farms will not. No new complex will be assembled in the foreseeable future. **None of the long term benefits of a self sufficient, country wide rice industry will be seen in the lifetime of any reader.** Please, people of Ghana, **keep the critical mass of Aveyime intact.**

Option 4: Negotiate and accept the best long term proposal. The terms proposed by Volta are the result of negotiations with the former minister, the Honorable Quashigah, and were found acceptable by the ministry and cabinet. With the changes in the cabinet Volta has made it clear that the offer is still on the table and the terms are subject to review and acceptance by all parties. The basic proposal by Volta Farms includes:

- *Volta would provide its share of new capital for the project.
- *Volta would purchase the assets of the Aveyime project for \$18,000,000 payable over 10 years.
- *Volta would make additional community investments of \$21,000,000 over 10 years including new capital items, research and development, roads and infrastructures, area communications improvements, medical and educational benefits, wages, and services.
- *Volta would directly employ more than 300 local staff and indirectly provide employment to more than 1,200 workers within five years.
- *Volta would develop a minimum of 1,250 ha of irrigated fields producing at least 15,000 tons paddy annually by the fifth year.
- *Volta would develop data and plans to activate all abandoned and new sites. Financing of these new efforts would be a part of the planning.
- *The long term goal of Volta Farms' plan is to make Ghana self sufficient in rice production.
- *The final goal is to export rice at a profit - change the export group of countries from six to the Big Seven.

The Aveyime phenomenon, profitable production of top quality rice using mechanization and technology in Ghana, will spread. The rice industry needs to produce >400,000 tons of quality, milled rice annually. Such an industry would have an annual turnover of \$200,000,000; directly employ up to 14,000 trained staff; indirectly employ an additional 50,000; and reduce the cost of rice in the market by some 20%.

Other crops would develop along side. The same technology and mechanization introduced to the rice fields is easily transferable to other field crops such as maize, sorghum, wheat, and cotton. No doubt the farmers of tuber crops such as yam and cassava will benefit.

These are reasonable goals. They are attainable in the present Ghana reality. The Volta Farms proposal, if properly handled, with good decision making, will ignite an explosion of activity and optimism that will be felt throughout Ghana and the rest of the world. This author believes this to be true and is committed to investing his time and experience in making it happen. Volta Farms believes it is true and will invest its capital and reputation in making it happen.

This concludes the series. You have one informed writer's view of what is wrong with the rice industry in Ghana, and how it can be made right. Direct requests and comments to EVLINANDERSON@AOL.COM. Not all mail will be answered, but will form the basis for future correspondence and action.

**CONCEPTUAL
RICE INDUSTRY PROJECT**

**ESTABLISHING A SUSTAINABLE
RICE INDUSTRY IN GHANA**

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PRAIRIE TEXAS INC

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CONCEPTUAL RICE PROJECT

INTRODUCTION

Presented herewith is Prairie Texas' plan for a sustainable rice project in Ghana.

This Conceptual Project presentation draws from the experience of the Prairie Texas principals in the rice industry including work with the Nigerian Bottling Company in Nigeria and the Prairie Volta Limited Project in Ghana as well as a lifetime of farming and industry related activities in Texas and other venues.

PROJECT TITLE: Conceptual Rice Project in Ghana [CRP]
Rice Industry Project

OBJECTIVE: Build a sustainable, profitable rice industry in Ghana

METHODOLGY: Provide a core farming unit utilizing existing infrastructure, services, and training and supplementing the support as needed.

MANAGEMENT: Management would be experienced rice industry practitioners with practical experience in Africa.

**OWNERSHIP/
INVESTMENT:** Ownership and funding to be determined

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CONCEPT

PREMISE

West Africa continues to have an omnipresent need to develop an efficient agricultural industry. Under the present system:

- Food costs upwards of 80% of income
- Imported food drains the economies
- Food supply chain is erratic and fragile

These problems are not new yet they remain a pall on the continent in spite of numerous, decades long, well reasoned, well financed, and, certainly, well intentioned efforts to assist West African countries to develop their regions. An unsatisfactory number of these programs have come up short or failed in accomplishing long term, sustainable solutions. The question becomes, “What can we do about it?”

This CRP is the effort of its organizers and investors to do something permanent about food production in West Africa by taking advantage of the favorable economics of the market, the expertise of management, benefits of a capitalistic approach, and abundance of natural resources of the region.

INDUSTRY MODEL

The business model of this CRP has evolved from three decades of experience and research. The model takes a holistic approach.

Table 2 lists the elements needed for a viable industry. Each of these elements will be explored in detail in the proposed *Feasibility Report* discussing organization, employment, and management, and how these elements fit the goal of sustainable support services.

For a complete background and analysis of the problems of farming in Ghana, what it will take to overcome these problems, and why this project will succeed in the face of many failures refer to the attached article [Rice Farming In Ghana – What’s Wrong, Can it Be Fixed?](#) In summary that article concludes there are basic fundamentals of agricultural production. These fundamentals are important to the concept and can be summarized as follows:

[Given the wide experiences of the various readers there will likely be disagreement as to individual fundamentals and their impact. Kindly reserve your critique until the full concept is laid out.]

Universal Fundamentals

1. Assistance programs or capitalistic efforts must result in a profit from the fruits of the program and not from the program itself.
2. Participants and decision makers should have a stake.
3. Experienced management including experience in the proposed environment is mandatory.
4. All decision making from the managing director to the house boy must be on site and available 24/7, not in bi-monthly visits from Atlanta, London, Accra, or Sogakope.
5. Large scale, corporate farms are inefficient; farming decisions should be delegated to the lowest possible level.
6. The economies of mechanization cannot be replaced by hard work; small scale projects cannot compete.

Ghana Fundamentals

7. Every farming area is different; particularly pertinent here is the difference between agriculture in tropical vs. temperate climates.
8. Ghana culture can be at odds with farming culture.
9. Ghana bureaucracy not fully responsive to the needs of agricultural enterprise.
10. Ghana utilities, roads, etc. are better than average for the region but require subsidizing by the company [see 9].
11. Ghana support services for projects are virtually nonexistent; they must be part of the project design.
12. Ghana has an abundant supply of unused, economical water and land.
13. Ghana labor pool -
 - a. Abundant, willing, trainable
 - b. Communication, vocabulary, education, and comprehension varies but poor.
 - c. Experience in project methodology virtually nonexistent.
14. There is no physical, geographical, agronomic, cultural, or economic reason why a viable rice farming industry in Ghana is not eminently achievable.

The above fundamentals are the basis for this CRP, and define the needs and boundaries of this proposal.

ECONOMICS OF RICE PRODUCTION IN GHANA

Ghana presents several unique advantages

- Year round production

- Market price between two and three times the world market price

- Land and water available and economical

Ghana has several disadvantages

- Limited supply of trained labor

- Limited support services

- Low yields

Advantages

Year Round Production: This is a huge advantage when compared to vast areas in the world that are limited to seasonal production. In a typical seasonal operation equipment utilization from planting through harvest and post harvest drying and storage is about 20% - i.e. planters are used about one month in the year, harvesters about two months, etc. Equipment investment will be 25% of seasonal operations.

The advantage extends to technical management and labor. Technical experts can be used twelve months of the year. Laborers can be trained in one specialty and practice it year round. This opens the opportunity to establishing the entrepreneur concept.

Market Price: Also huge. The Ghana producer gets more than twice the price received by Thai, Vietnamese, or U.S. farmers. This price differential has held for as long as this writer has been observing the West African commodities markets, nearly 30 years. This advantage, sustained by import costs of freight, duties, and profits to middlemen will continue until Ghana and all of West Africa nears self sufficiency in rice production.

Land and Water: Huge, too. Land and water represent two of the highest cost items in developed areas being as much as 30% of the gross return. The cost in Ghana will be <10% of gross.

Disadvantages

Labor: There is a dearth of qualified labor to handle most tasks of a mechanized farm and processing project. The reason for this lack is not because of any innate inability of the Ghana worker to learn; the reason is there has been no opportunity for hands on, generational training. Recognition of this problem and the solution is a result of the experience from Prairie Volta and is a valuable lesson in establishing a viable project. With the fledgling farm ventures and training programs being established throughout the country including this CRP an increasingly competent labor pool will be developed [details for the training program will be included in the *Feasibility Report*].

Support Services: When Prairie Volta began there were virtually no support services available for a fully mechanized, large scale farm operation. PVL had to supply these services in addition to building the farm unit. This more than tripled employment, technical staff, equipment investment, and overhead costs. An integral part of this CRP is the synergistic benefits to the CRP and PVL in spreading the costs of these services. The lack of these services was a major disadvantage; the presence of PVL and other farm projects provides real cost reduction benefits. These sharing opportunities are sprinkled throughout the text of this paper.

Low Yields: PVL expected yields of six tons/ha. The effective yield has been about four tons/ha. Many experts and test trials are weighing in and it is expected that the yield problem will be corrected. There is no technical reason that six ton yields cannot be realized. The consensus now is that it is primarily a varietal problem although all factors are being reviewed. Yields are a perpetual concern of famers and will be watched. The goal is to establish a Research program [*details in Feasibility Report*] that will be ahead of any yield or production problem.

Result

- Low labor costs are offset by high technical and management costs; labor costs are neutral.
- The cost of production is equal to or less than any producing area in the world.
- The market price is a huge advantage and will carry the project past all problems
- PVL realizes >50% profit over the cost of production even at existing yields.
- When full yields are achieved, and they will be, profits will be doubled.

BUSINESS PLAN

The goal of the CRP is to build a sustainable rice industry in Ghana by building a core farming unit and providing complete infrastructure, services, and training services as needed to assist and promote expanding farm production.

The business plan of the CRP is to produce rice and other crops and engage in other agricultural related businesses that will contribute to the success of the Company. The business plan and environmental impact will be detailed in a *Rice Project Feasibility Report*, and *Environmental Impact Assessment*, as specified.

At present, Prairie Volta is developing a 3,177 acre site near Dove in the Volta Region as a pilot project to confirm assumptions and develop methodologies. When fully completed this site will be producing 10,000 metric tons of milled rice [and/or related crops] annually. In the present development stage all of the functions and systems have gone through at least three commercial cycles. All assumptions and predictions of the Feasibility Report have been validated. A second site of up to 2,000 acres would be a part of the following master plan with immediate development.

FUTURE

The CRP enjoys many pluses. Timing is good: coming one step behind pioneer developers allows the CRP to take advantage of their mistakes and synergistic benefits; conversely, entry into the industry early allows the CRP to take advantage of the low cost and availability of land and water.

Ghana enjoys many pluses. Abundant, low cost, quality water from the Volta River for year round farming; expanses of suitable land; a sound economic, agricultural model; and a trainable, eager workforce are part of these pluses.

The opportunities are enormous. For Ghana and investors the potential of the long term, non depleting food business dwarfs the promise of the oil strike for employment opportunity, independent business creation, revenue, profit, and longevity.

This CRP is positioning itself as a pioneer, anchor, and giant in the industry. The Business Plan of the company and the proposals herein are in reality models for industry creation and growth. The payoff for the Company, investors, lenders, employees, consumers, and nation is great in the short term and extraordinary in the long term.

SCOPE

This is not simply a farm project. To achieve the goal of sustainability the project has to provide the complete gamut of farm services with a plan to move from a corporate top down structure to entrepreneurial, hands on, profitable business. To paraphrase and emphasize some of the above fundamentals:

Farm services: A typical farm in a developed environment has multiple, competitive suppliers in every discipline a phone call away; in Ghana the choices are limited or nonexistent. The project has to initially provide each service and carry both the farm and the service to sustainability.

Entrepreneurial: Farm and service decision making does not lend itself to remote management. Activities that require minute by minute decision making flourish best as independent business persons. The sooner personnel can be trained and supported to operate as small scale business units within a competitive environment the more successful will be the venture.

Flexibility: Farming and agricultural services are not like a factory that has repetitive actions yielding the same result day in, day out, rain or shine. The project has to retain the flexibility and on site competent decision making capability to meet each new challenge in a timely fashion.

Size: The Project has to be of sufficient size to support the farm services sectors and entrepreneurs. To achieve this critical mass and to utilize the present and proposed capital assets a 2,000 hectare [5,000 acre] project is recommended. With double cropping a project of this size will generate annual revenues of more than \$10,000,000 against direct costs of \$4,000,000. This margin will support all units, provide a reasonable contingency reserve, and make a substantial profit.

ENVIRONMENT

During the next phase of developing the CRP an Environmental Impact Assessment [EIA] should be part of the planning. If you have an EIA everyone is happy; if you don't have an EIA everyone asks for it and start adding complexity and cost. In summary the Environmental Impact Assessment for a rice project in Ghana will conclude:

- Any intensive farming operation disturbs nature's balance;
- Irrigated rice farming is one of the most environmentally friendly crops; and
- The project as structured will have no strong adverse impact on the Ghana environment.

BY THE NUMBERS

The following results from the Conceptual Rice Project are expected within five years:

Annually, this Project will:

- Farming Program:

15,000	Tons of milled rice produced
300	New direct employment
\$10,000,000	New revenue
\$6,000,000	Net cash flow

- A self sufficient rice industry in Ghana [20 years]

400,000	Tons milled rice
40,000	New, industry wide employment
\$400,000,000	Annual turnover
Thousands	Entrepreneurs and support industries
Dozens	Similar agricultural industries in other foods
Tens	Other countries emulating the business model

These numbers are very impressive by practical agricultural standards.

However, rather than projected numbers, a better standard for the CRP is “Will it succeed?” If no, then no amount of massaging of numbers is fruitful. If yes, then the leveraging, employment, community benefits, reduction in poverty, improved health and nutrition, improved environment, and better schools - all of the benefits of a prosperous, growing economy - will multiply. The above numbers represent sustainability and are the fuel to leveraging, poverty abatement, elevation of women, environmental protection, and food security.

ORGANIZATION

A pro forma Project Organization Chart, Table 2, for a sustainable rice industry is shown. The Organization Chart is presented to clarify the total needs of a sustainable rice industry. This organization structure is driven by the universal and Ghanaian agricultural fundamentals listed above. In general the structure includes:

- Parent unit [shown in red]
- Production units [green]
- Support departments [blue]

The chart is also coded to show a possible sharing opportunity with PVL and/or other producers; the code is incorporated into the font colors as follows

- Black Font: Future roles
- Red font: Function of the CRP
- White font: Possible Sharing Opportunities

Clearly, both the CRP and PVL would benefit by cooperating. The cooperation could take several forms from contracting services to setting up separate, jointly owned business units. These associations would be explored in the Business Plan and Feasibility Report.

In practice and with experience it is expected there will be a maturing process in assigning roles and getting the desired results.

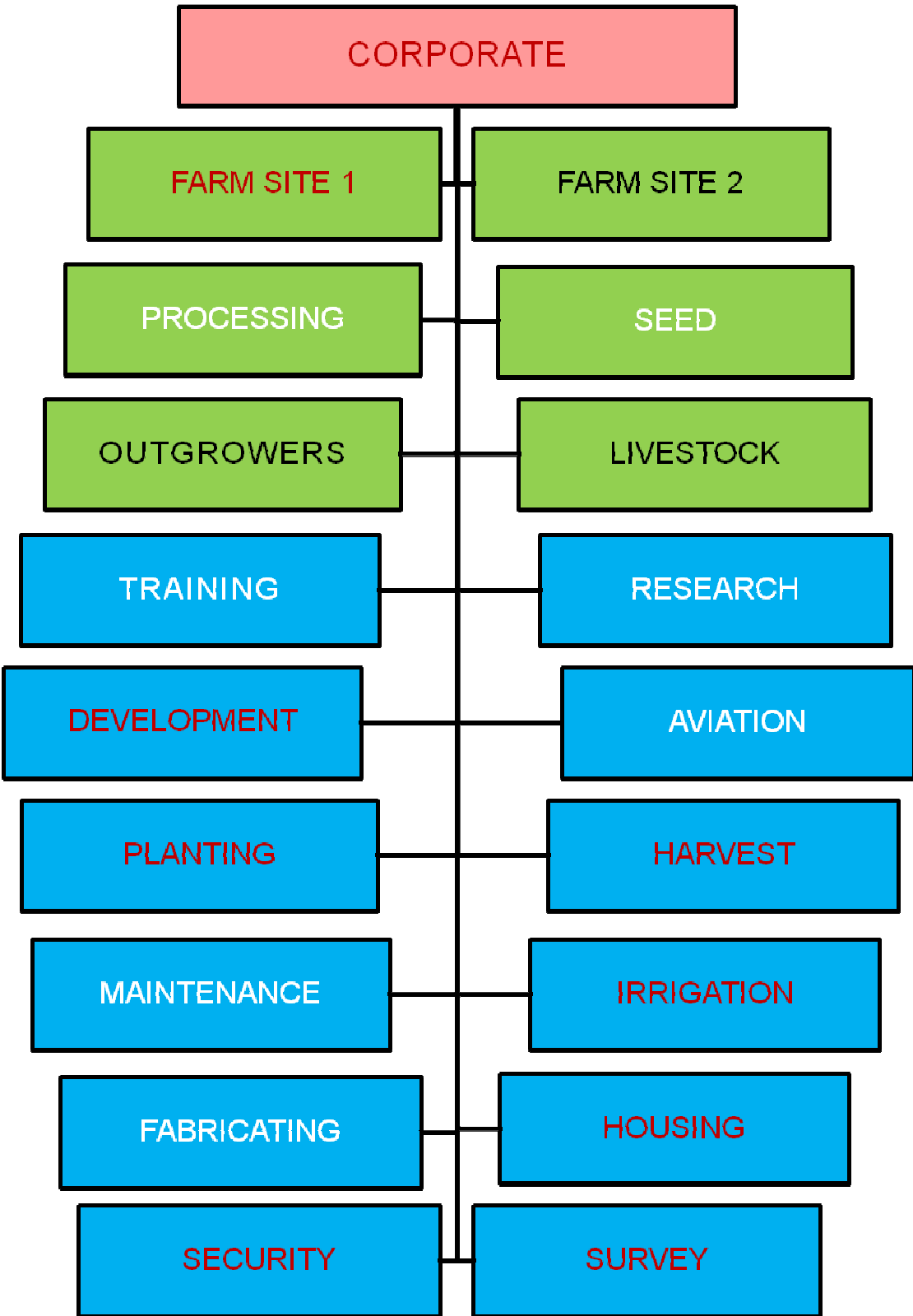
Rice Project or Agricultural Model

It may appear from the Organization Chart and discussion that this CRP along with other new rice projects would be a model for all field crops IN West Africa. That is likely true, but the focus is on rice production. Rice is selected as the anchor crop because of management's background and its low production risk [irrigation and worldwide history]. Once the rice element is performing well the Project can expand as indicated with the advantages of the in place infrastructure and experience.

The other elements, i.e. livestock, fabrication, maize, etc, are included in this CRP because they are essential to the project. Fortunately, they bring synergistic benefit to

the rice project in utilizing byproducts and Plant and Equipment; provide additional revenue streams; and directly contribution to the rice effort.

**TABLE 2
ORGANIZATION CHART**



FINANCING PLAN

For purposes of this analysis

CURRENCY: All financial numbers are stated in U.S. dollars

SITE: Dabala, Ghana site is assumed; the Feasibility Report will review several sites and select the best site. Costs could vary depending on final site selection.

Imported Costs: Equipment and expatriates are assumed American quality
Inputs are assumed imported
Lower costs may result from
 Competitive bidding
 Utilization of existing equipment
 Sourcing from alternate vendors
 Amending specifications
 Selected use of used equipment
 Site selection
Feasibility Report will review all costs

Domestic Costs: Based on actual experience of Prairie Volta Ltd. [PVL]

Yields: Based on actual experience of PVL

TABLE 3
PRO FORMA TIMELINE

ITEM	MONTH
Conceptual Rice Project Document	1
Feasibility, Environmental Impact and other planning documents commissioned	2
Feasibility documents completed	4
Project organized, site acquired, funding in place	4
Capital items purchased	5ff
Site work begin	6
First substantial revenue,	18
Self sustaining – cash income = outgo	21
Site work completed,	24
Profitable	30

**TABLE 4
PRO FORMA CAPITAL COSTS**

LINE	ITEM	QTY	EACH	TOTAL
1	EQUIPMENT - DEVELOPMENT			
	Bulldozers, D7	2	500,000	\$1,000,000
	Excavators	1	250,000	250,000
	Backhoe	2	100,000	200,000
	Grader, 140	1	400,000	400,000
	Wheeled tractors, 400hp	2	200,000	400,000
	Packer	1	150,000	150,000
	Disk, Rome	2	40,000	80,000
	Disk, Field	2	80,000	160,000
	Scraper, KTEC, 28 yd	2	170,000	340,000
	Smoothers, landplanes	3	30,000	90,000
	GPS instrumentation	4 sets	40,000	160,000
	Sub Total Development Equip.			3,230,000
	EQUIPMENT - FARMING			
	Wheeled tractors, 400hp	1	200,000	200,000
	Field tractors	2	150,000	300,000
	Utility tractors	4	80,000	320,000
	Combines	3	220,000	660,000
	Implements – planters, cultivation, etc.	1 set	400,000	400,000
	Sub Total Farming Equip.			1,820,000
	EQUIPMENT – VEHICLES/MISC.			
	Truck, articulated	2	110,000	220,000
	Low bed trailer	1	40,000	40,000
	Grain trailer	3	40,000	120,000
	Vehicle – cars, pickups, light trucks	12	30,000	360,000
	Weighbridge	1	60,000	60,000
	Irrigation pumps/power units	10 sets	30,000	300,000
	Mixers, service trailers, misc	1 set		100,000
	Inventory – parts, lubricants, etc.	1 set	430,000	430,000
	Shop tools/set up	1 set	200,000	200,000
	Sub Total Vehicles, Misc. Equip.			1,830,000

Construction			
Farm center workshop, offices, warehouse	1 set	150,000	150,000
Housing	3	50,000	150,000
Compound – roads, drainage, utilities	1 set	70,000	70,000
River irrigation plant	1	140,000	140,000
Sub Total Construction.			510,000
CAPITAL CONTINGENCY			610,000
Total all Capital Costs			\$8,000,000
Other capital requirements for a rice project: The project must have access to seed supplies, drying/storage/processing facilities, and aviation services. It is expected that these will be cooperated in some manner with the PVL project. To protect its bargaining position CRP will keep its options open to provide any or all of these needs for its own account, if desired.			

Notes to Table 4 Capital Costs

Equipment quantities and specifications could change based on site selection, sourcing, and availability. The Feasibility Report will detail equipment requirements and include pro forma invoices; in practice top project management should be in place and they should have a say in final equipment decisions.

Equipment is scaled to develop and farm 2,000 ha in <24 months with significant excess capacity to cover contingencies; additional acreage could require additional selected machines, but not much.

Pricing is estimated FOB Tema, rounded to nearest \$10,000; assumes new, American quality; includes selected options. Pro Forma invoices will change these estimates.

In selected cases used equipment will be appropriate and could reduce capital costs by >\$1,000,000. Generally where used equipment is employed quantities should be increased.

**TABLE 5
PRO FORMA CASH FLOW SUMMARY**

ITEM	YEAR 1		YEAR 2		TYP. YEAR
	1	2	3	4	
Organizational documents	100,000				
Organization, site	200,000				
Capital purchases	6,000,000	1,500,000	300,000	200,000	500,000
ADMINISTRATION/LABOR					
Expatriate staff [\$60,000/mo]	360,000	360,000	360,000	360,000	700,000
Domestic labor [\$40,000/mo]	240,000	240,000	240,000	240,000	500,000
Miscellaneous [\$50,000/mo]	300,000	300,000	300,000	300,000	600,000
Sub total Administration	900,000	900,000	900,000	900,000	1,800,000
OPERATIONS					
Development inputs – fuel, parts, supplies @ \$1,000/ha	200,000	600,000	600,000	600,000	500,000
Farm inputs – fuel, parts, supplies, fertilizers, chemicals @ \$1,000/ha		600,000	1,200,000	2,000,000	4,000,000
Sub total Operations	200,000	1,200,000	1,800,000	2,600,000	4,500,000
Total cash expenses	7,400,000	3,600,000	3,000,000	3,700,000	6,800,000
Sales [4t/ha paddy]		nominal	3,000,000	5,000,000	10,000,000
<i>Sales [6t/ha paddy]</i>		<i>nominal</i>	<i>4,500,000</i>	<i>7,500,000</i>	<i>15,000,000</i>
Acc. cash [deficit] @4t/ha	7,400,000	11,000,000	11,000,000	9,700,000	6,500,000
<i>Acc. cash [deficit] @6t/ha</i>	<i>7,400,000</i>	<i>11,000,000</i>	<i>9,500,000</i>	<i>5,900,000</i>	<i>3,100,000</i>

Notes to Table 5 Cash Flow Summary

The Feasibility Report will detail the data but Table 5 is a fair representation of expected results based on PVL experience. The predicted peak deficit is \$11,000,000; budgeting should include a contingency of \$4,000,000 for a total funding requirement of \$15,000,000

Note the huge difference in results if 6 tons of paddy per hectare are achieved. That is a reasonable goal. PVL will have new yield data by December to assist in planning.

TOTAL PROJECT COST

The Cash Flow Summary, Table 5 projects a total cash deficit of \$11,000,000. With allowances for timing of income and contingency plan for a Total Project Cost to fully implement PVL's rice industry development program and achieve long term sustainability of \$15,000,000. The Feasibility Report will refine these numbers.

QUESTIONS AND ANSWERS

Is the picture becoming clearer on the overall business plan of the Project?

Business Plan: Establish viable rice [and other agricultural products] industry in Ghana by being a role model and providing the template, infrastructure, and core production to assure all elements needed.

Does the reader understand how the tropical, Ghana experience dictates a different plan than classical out grower schemes?

The year round, repetitive nature of tropical agriculture and the economies of scale point to dividing entrepreneurial roles more efficiently by task rather than by farming unit.

Can the reader visualize the role a strong corporate structure provides?

Corporate would have the management and financial strength to coordinate all activities, provide financing and focus, and control and administer the Project.

Finally, does the reader see the need for a large Project of the scale envisioned by this proposal?

All elements of a viable industry that are not competitively available must be provided. The farm must be of a scale to support the satellite service industries until critical mass is attained. In addition to traditional services such as maintenance and aviation this project also has to sustain the training and learning curve of young business persons throughout each of the disciplines until they are able to operate on their own.

Are you as excited about the potential as we, the people of Prairie Texas, are?

If “yes” we invite your participation in refining this proposal and join us in making it a reality.

CONCLUSION

SUMMARY

This Conceptual Rice Project is an innovative, validated, responsible, professionally managed project that will advance the goals of sustainability and food security for West Africa.

PT has researched, identified, and proven a workable methodology. This methodology is based on a capitalistic, entrepreneurial approach. By training entrepreneurs and providing opportunities, finance, and services to sustain these independent businesspersons the CRP is building a complete rice industry that will be a model for all of Ghana and West Africa.

The programs presented in this application have always been a part of Prairie’s Business Plan and are within the capacity, mission, and mandate of the CRP. Implementation has been awaiting verification of core assumptions, identification of problems, and funding. Using the experience of the PVL project PT has verified the economic and agricultural fundamentals and identified and solved problems of large scale agricultural production. The next step is to prepare complete Feasibility documents to support a funding request.

Prairie by this paper is recommending an immediate move to the second phase of implementing this CRP. This phase would be preparation of documents needed by investors and lenders including *Feasibility Report* with detailed timeline, operating plans, and costing; an *Environmental Impact Assessment*; and such other documents as needed for decision making. Costing for these documents would be quoted as soon as the scope of work is determined.

The Feasibility Report will include assessments of the PVL project and other rice projects in Africa. The project in Mali should receive close attention in this assessment exercise.

Once the Feasibility Report and Operating Program are approved then organization and funding would be requested to secure and survey the site and provide final engineering plans, pro forma invoices, etc.

Note: To emphasize a fundamental aspect of Prairie's concept based on her experience in Africa, all investment will go directly to the project site in Ghana. There are no offices or staff to support in Accra, New York, or Texas. There will be no consultancies, foundations, universities, or institutions generating studies and dissipating funds. It is a direct people to people on the job training and employment program with all the elements of a micro business finance, market access, capacity building, network development, poverty alleviation, environmental protection, women's rights, sustainability, food security programs, et al rolled into one.

As stressed throughout, the mission is to build a profitable, self sufficient rice industry. This mission requires a vision, proven methodology, profit, and funding. With approval of a business plan and investment in this proposal the final ingredient will be in place to create that viable industry in Ghana and a role model for the region.

Kindly address questions and comments to contacts in the Introduction.