

Research Project-Summer 2012



Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

Contents

EXECUTIVE SUMMARY	3
FARMING.....	4
FACTORY.....	6
FULFILLMENT	10
SOCIAL MEDIA AND PUBLIC RELATIONS.....	12
ACKNOWLEDGEMENTS.....	16
WILCOX COUNTY HIGH SCHOOL STUDENT REVIEWS.....	17
APPENDIX.....	20

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

EXECUTIVE SUMMARY

The 2012 Wilcox County Project, performed through the Office of the Dean of the UAB School of Business, marked the second consecutive summer that UAB engaged in a large-scale service project in the county. The primary purpose was to provide a meaningful, field-based experiential learning opportunity to the eight School of Business students selected to participate. A secondary purpose was for UAB to provide service to Wilcox County, a traditionally underserved county in the Black Belt region characterized by high levels of chronic unemployment and underutilization of the county's economic factors of production. The UAB students also were responsible for modeling collaborative college-level critical business thinking to the eight Wilcox County high school students who also were selected to participate.

The project's field application was for the students to engage in comprehensive research on the bamboo industry, and to follow that research up with field work dedicated to investigating the feasibility of a sustainable, economically profitable bamboo industry in Wilcox County. Another focus was to create among stakeholders a heightened level of awareness of the county's potential to develop such an industry, which would serve to create jobs and expand the county's tax base. Toward these ends, the project members engaged directly with the Wilcox Area Chamber of Commerce to actively encourage dialogue among local stakeholders regarding the positive economic potential of a new bamboo industry. The project culminated in a large town hall-style meeting held at the Chamber of Commerce, in which the UAB students collaborated with their local high school counterparts to deliver their detailed findings on the feasibility of a Black Belt bamboo industry.

In order to provide a manageable, small working group experience, the students performed research and field activity in connection with one of three aspects of the bamboo industry—farming, factory, and product fulfillment. A fourth group utilized multiple forms of social media and engaged in public relations efforts in an attempt to drive further awareness of the project, as well as awareness of the feasibility and potential benefits of the industry itself.

The project's main findings related to both the feasibility of the bamboo industry in Wilcox County itself, as well as the perceptions of bamboo held by county residents. Our main conclusion is that the county has in place the necessary antecedents of a thriving bamboo industry, including the requisite soil, climate, and land availability, and that the industry is ripe for entry due to the potential for economic profit. The region also has been identified by the Alabama start-up company Resource Fiber/Alabama, LLC as a potential location for their new venture. We also found, however, that the county faces obstacles to a thriving industry in the form of its relatively isolated location and lack of proximity to major roadways, as well as the mixed perceptions of some county stakeholders.

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

Specifically, although many stakeholders were intrigued by the potential economic profit, which we found to be in excess of the return on investment obtainable in the traditional Black Belt pine farming industry, many also shared some concerns. Their chief concern was that bamboo must be adequately contained when farmed, as it tends to be highly expansive, and many were unsure whether all potential bamboo farmers in the county would incur the expense necessary to provide adequate containment. As a result, further investigation into the feasibility of a Black Belt bamboo industry should focus on how to create and deliver appropriate informational materials designed to emphasize the positive economic potential of bamboo, while also addressing these stakeholder objections and perceptions.

FARMING

Moso bamboo, a giant bamboo also known as *Phyllostachys edulis* can grow 60-70 feet tall with a diameter of 7-9 inches. Known as the “timber bamboo”, it can also grow several inches per day in perfect conditions, and does not need to be replanted when harvested. This species’ massive size combined with its ability to grow very quickly and be harvested in a short amount of time makes this type of bamboo a very good candidate for profitable farming, assuming adequate end user demand for bamboo products.

The process of growing moso bamboo begins by taking tissue cultures from established moso bamboo. These cultures will then be developed into shoots. The shoots will be grown in a nursery until the plants reach a certain height. After the shoots mature into young plantlets they will be transplanted outside of the nursery. The ideal land in which to plant bamboo in is fallow cropland. Cropland consists of bare ground that is not inhabited by any other type of crop. After the bamboo is planted outside of the nursery it will take 4-6 years to establish a successful rhizome path within the bamboo grove. Appendix A-1 shows how the rhizome path will develop throughout the grove. The existing rhizome can do two things: the first is that the rhizome could grow into another rhizome shown by the arrow “new rhizome bud.” The second is that the rhizome could grow into a culm, which will then develop into a shoot. The new shoot will then develop into the stalk that will be harvested once it reaches maturity. While the young bamboo is developing its rhizomes, it will need to be irrigated and fertilized. Appendix A-2 shows established moso bamboo at day five. This bamboo is 6 inches in height, with a diameter of 8 inches. Appendix A-3 shows the moso bamboo at day 23. This bamboo has reached heights of 10 feet and is still 8 inches in diameter.

A relevant way to understand the growth pattern of bamboo is to compare and contrast it with the growth pattern of pine, given the traditional pine farming industry in the Black Belt. The process of growing pine trees starts by planting seedlings. The seedlings will gain height until they are cut for the mill. The height of

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

the pine tree depends on the soil and also the weather conditions. In five years the pine tree could be 16 feet in height and by 15 years the pine tree could reach heights of 50-60 feet. Appendix A-4 shows a typical pine plantation that consists of 15-year-old pine trees. Foresters will determine when to cut the pine trees depending on height and diameter of the trees. There are certain aspects that the pine tree must have in order for it to be used. One major aspect that helps determine when the tree will be cut is that it has to be able to fit on the truck trailer. The pine tree must also be at least two to three inches around at the top of the tree. The foresters would prefer on the first cut to take out the smaller trees (35'-45') and leave the larger ones (50'-60') for utility poles. This method is beneficial to both the landowners and the foresters, because it allows them to cut poles optimizing the amount of profit made by both parties. Bamboo can be harvested within a few years after being planted and never needs to be replanted. Pine can only be harvested approximately 15 years after being planted and must be replanted after harvesting. Therefore, from comparing and contrasting pine and moso bamboo one can realize that a farmer would be able to make more profit in less time with bamboo because bamboo can be cut much sooner and much more frequently.

There are many attributes that could make moso bamboo enticing to the Black Belt region. Assuming sufficient end user demand for bamboo products, a farmer could be able to make \$1000 to \$2000 an acre, per year, after 4 to 6 years. These numbers are estimated data that we have received from Resource Fiber/Alabama, LLC. On the other hand, a farmer could expect an average return on pine to be between \$400 and \$500 an acre per year. If the numbers are correct, a farmer could start making his or her profit much sooner farming with bamboo than with pine. If the profit is as significant as has been shown, it will be a great advantage for farmers who decide to plant bamboo. Another advantage of the bamboo is that it will not have to be replanted. However, this could also be a disadvantage. Since bamboo does not have to be replanted, it can spread into unwanted areas if it is not contained and managed properly. Moso bamboo is not considered an invasive species; it is considered an expansive species. The best option that we have found to contain the bamboo would be to put a barrier around it. The best barrier we found is a high-density polyethylene (HDPE) that is around 24" in depth and 60-plus millimeters thick. This barrier is expensive, ranging from \$2-\$4 per linear foot. Refer to Appendix A-5 to view examples of the barrier.

In the field, we found Mr. Roger Lewis from Oakman, AL, to be very resourceful. He has personally grown over 150 species of bamboo over the past seventeen years. He plants and grows the bamboo himself and sells the actual matured bamboo stalks to people interested in growing it, typically for landscaping purposes. He suggested that the best way to contain the bamboo and to keep it from spreading would be to use the HDPE barrier we mentioned before, which is able to withstand intense weather conditions. He also suggested we contain the bamboo by building open trenches around it. The reason for doing this is to allow the growers or farmers of the bamboo the ability to see the rhizomes as they come out of the ground and cut them away to keep them from extending beyond the trenches. As far

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

as the removal process goes, we found that bamboo is extremely difficult to get rid of. One suggestion was a “starvation process.” During the “starvation process,” a consistent total cut of all above ground canes over 3 years would expend the grove of its energy, not allowing the bamboo to get the nutrients needed for growth, resulting in eradication of the entire bamboo grove. The other, more intense method is the use of ground sterilizers. This method would completely eradicate the entire grove, but could spread to other areas killing all plants surrounding the grove such as other agricultural crops.

In the field, we also visited the Tuskegee University and spoke with Dr. Desmond Mortley, who has a Ph.D. in Horticulture from Tuskegee. The University has grown plantlets from tissue cultures of the moso bamboo that we referenced earlier. The University, under the supervision of Dr. Mortley, has been growing the bamboo plantlets using “slow release” fertilizer in a nursery where they can control the environmental settings, because it is a fibrous root. According to Dr. Mortley, “moso has the ability to overwinter,” meaning that it keeps growing and does not need to be replanted. What they plan on doing once their nursery of bamboo grows to a particular level of maturity is to transplant the mature plantlets into a field segregated approximately 6-10 feet apart. This distance was chosen because of the bamboo’s fibrous root that will eventually multiply and fill in the open area between the growing bamboo stalks, as happens with sod. Since Tuskegee is still in the beginning stages of growing the bamboo, they have not reached the point of testing possible ways to eradicate the bamboo, if that were to become necessary later on.

We suggest that anyone interested in growing moso bamboo in the Black Belt region should be a company that leads by example to show farmers of this native region that the bamboo is a controllable, non-invasive species, that it has the ability to sustain the wildlife population, that it is more profitable than its closest competitors, and to display a successful management plan that proves the benefits to those who may invest in it.

FACTORY

The factory team focused on bringing a non-existing industry to the Alabama Black Belt region while performing the necessary research to show why Wilcox County is being considered a favorable area for a company desiring to build manufacturing clusters and a bamboo educational center.

Known for its rich soil, history, and abundance in undeveloped land, the Alabama Black Belt region has great natural resources and unrealized economic potential. According to the Black Belt Economic Development Alliance, the DNA of the Alabama Black Belt region includes a mixture of “natural resources, cultural

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

diversity, attractive tax structures and other favorable conditions that cannot be found elsewhere.” Appendix B-1 contains a map that outlines the existing manufacturing and machinery companies in 11 of the 18 counties of the Alabama Black Belt region. Although the introduction of bamboo into this region can complement the existing pine industry and not replace it, a manufacturing facility would bring competition to existing companies like Linden Lumber in Marengo County and International Paper in Dallas County, while boosting the economy through its offering of more than 100 jobs to local and regional residents.

During our field research study, we formulated a stakeholder’s analysis that could help a manufacturing company create sustainable business practices to ensure it contributes to the continued “positive” growth of the Alabama Black Belt region. Any company looking to move into this region should have an overall triple bottom line approach that focuses on these key areas: people, planet and profit. To help move the people and the community from economic dependency to self-sufficiency, the existence of this multi-functioning model will decrease the high unemployment rate by offering a mixture of skilled and specialized labor and increase literacy by offering diverse training programs. When considering the planet, we suggest that the company use alternative energy resources to power its buildings and machinery. Additionally, to help control pollution, it is highly recommended that the company encourage their employees to carpool.

By considering these and others suggestions, each stakeholder’s wealth is maximized. Facility is the key part of the governor’s strategic plan to strengthen Alabama’s economy, therefore, a number of special tax incentives and resources are available to manufacturing companies who wish to “plant seeds” in less developed counties of the Alabama Black Belt region. By taking advantage of those incentives and resources, the company is decreasing their initial investment. Farmers would be able to capitalize on these incentives by contracting with the company to harvest the bamboo. Additionally, “this opportunity will allow Wilcox County to become one of the wealthiest counties in the state as it was in the late 1900s,” as was stated by Mr. John Matthews, former commissioner of Wilcox County and community leader.

Now we will take a look at three scenarios that will help a company visualize their presence in the Alabama Black Belt region, specifically Wilcox County. The first option would be to have the nursery, education center, and manufacturing facility in one location as seen in Appendix B-2. We chose southwest Wilcox County as a suitable location because it is close to a railway, the Alabama River, and Highway 10. The railway is owned by Norfolk Southern Railway Company and goes all the way down to the Mobile Bay. From there, companies have various options in shipping products to other countries. Although the Alabama River could be used to transport products, many sources say that the river isn't navigable for larger vessels. We believe that a successful company in the area could possibly convince the state to invest in the dredging process to deepen the river.

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

The second scenario would involve placing the nursery and education center in Camden and erecting the manufacturing facility in Pine Apple, shown in Appendix B-3. According to Joyce Wall, the manager of the Wilcox County Reappraisal Office and a resident of the Pine Apple community, the city of Pine Apple has 40 acres of land that would be favorable for a manufacturing facility. With the educational center and manufacturing facility in different locations, it would be easier to give tours of the nursery and educational center without having to deal with distractions of the manufacturing facility. Camden and Pine Apple are roughly 20 miles apart, which some may consider far, however, the 20-mile stretch between the two sites could spark additional economic development due to the increased traffic.

The third option would involve developing industrial clusters, displayed in Appendix B-4. This would allow a company to group the manufacturing of specific products to their own site in order to streamline the manufacturing process. An integral part of developing industrial clusters would be taking advantage of existing Industrial Development Authority partnerships. Mark Curl, commissioner of District 1 of Wilcox County, told us that the IDA recently partnered with other organizations to create the West Wilcox-Thomasville Industrial Park. One challenge that may arise is the difficulty of managing multiple sites. As time goes on, it may be discovered that one facility does worse than others strictly because of poor management.

We constructed a SWOT Analysis for moving a business to Wilcox County. During our research, we identified our strengths as the following: land availability, public utility access, and flexible zoning laws. In Wilcox County, there is an abundance of available land that is not currently being used. This makes finding the land necessary for a manufacturing facility relatively easy. Many places in Wilcox County have access to public utilities, which will help lower energy costs. Usually when a business wants to develop a new building site, building permits are required, but that is not the case in Wilcox County. Once outside of any municipalities, the only regulations that must be followed are state subdivision laws. We discovered that the low quality road infrastructures and limited access to health care would be weaknesses to a company coming into the area. Road transportation may also be a major problem in Wilcox County. Many of the roads are two-lane roads, which may pose a problem if a company wants to use mass transit. During our time in Wilcox County, we learned that many people have to travel thirty minutes or more to receive quality healthcare treatment in the case of a medical emergency. By moving a company to Wilcox County, there are opportunities to increase the quality of life and enhance the existing transportation system. Having a successful business in Wilcox County could spur interest and additional economic development in the region, which could provide more employment opportunities to the community. Once people realize that there is an increased interest in the area, improvements to the roads will surely follow. Threats such as a low quality water system and possibly interfering with local recreational activities will pose as challenges to companies wishing to locate in the Black Belt area. Bringing additional businesses to the area will cause an overflow of waste material in the

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

water system. This could lead to people in the area getting sick because of the bad water supply. One of the major attractions in Wilcox County is hunting. Bringing a factory to the region could disrupt these activities and bring bad publicity to the company.

When a new business moves to Alabama, there are incentives and benefits provided for them, because they create new jobs for the community. For instance, many cities and counties will let companies abate the following: non-educational state, county, and city property taxes for a maximum of 10 years; state sales and use taxes on construction materials and equipment used in manufacturing; non-educational county and city sales and use taxes on construction materials and equipment used in manufacturing. Alabama Industrial Development Training will assist in pre-screening, selecting, and training of employees to ensure that they have the proper skills needed to succeed in the manufacturing industry. AIDT offers comprehensive leadership development, process improvement assessments, and industrial safety assessments. The Alabama Technology Network partners with colleges across the state to provide manufacturing training to employees. Two local colleges, Wallace State Community College and Alabama Southern Community College, could be very helpful in ensuring a capable workforce for a manufacturing company wishing to locate in Wilcox County. George Alford, director of the IDA, told us that the Alabama Department of Commerce would provide companies with a project manager to develop a uniquely designed incentive package. He also told us that the state would negotiate with companies to determine additional incentives that they could receive. Size of initial investment, wage paid to employees, and the amount of people hired are some of the criteria in which the benefits are chosen.

The Alabama Enterprise Zone Act provides additional benefits to companies who locate in economically depressed areas, such as Wilcox County. The state offers an exemption from either income tax or Business Privilege liabilities for a maximum of \$2,500 for each permanent employee hired. Another useful resource that would benefit new companies is the Alabama Department of Transportation. The ADT will provide grants to companies in order to plan, design, and build new access roads and bridges to provide access to industrial sites in Alabama.

In a recent report of the Economics and Statistic Administration of United States Department of Commerce it was stated, "In sum, manufacturing jobs provide benefits to workers with higher overall compensation than other sectors, and to the economy through innovation that boosts our nation's standard of living."

The abundance of undeveloped land in Wilcox County is favorable to this manufacturing model, because it offers plenty of land for a multi-functional facility, which may include a manufacturing facility, a welcome/educational center, and a nursery. With the nursery and the manufacturing facility being on the same tract or within close proximity, the intensive hands-on work at one location, will help guarantee product quality.

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

FULFILLMENT

Bamboo can be used for numerous different products including textiles, furniture, biomedical, bioplastics, transportation, paper, building products, and food and beverage. Assuming adequate end user demand for these products, we suggest having a specialized product offering for each manufacturing facility, instead of having one large factory that produces an assortment of products. Having specialized facilities would give a company the opportunity to focus their expertise in the specified areas and not take on too much at one time.

In respect to bamboo building products, there is a range of products available from fencing to floor matting. Our main objective was to prove what makes bamboo a sustainable material and why it is a viable alternative to lumber. The answer lies in the bamboo's anatomy. When it comes to plants and their sustainability, strength is what stands the test of time. It turns out, that structural attributes of bamboo prove to have better value for a company when compared to other timbers.

Strength and durability were our main focus when considering the utilization of bamboo for building products. Bamboo's unique composition makes it naturally designed for strength and durability. Furthermore, bamboo's sectional anatomy enhances its structural integrity. The high silica content in bamboo fiber makes the material difficult for termites to digest. Bamboo is extremely flexible, which is due to its dense fiber content. Houses made out of bamboo have been known to withstand earthquakes, making it part of the reason why bamboo has been the go-to building material for many Asian countries. Moreover, engineering tests have shown that bamboo has a higher tensile strength than most light steels. When a company is considering bamboo as their building product, recognizing bamboo's attributes reveals its potential as a more profitable alternative to other timbers.

Railroad ties are an example of how bamboo can be used in transportation. Current options for railroad ties include wood, steel, and concrete. The current wooden ties are prone to splintering and weathering, but have good absorbency to friction. The coating on the steel ties easily wears away with the elements, weakening the steel, and there is no absorbency of friction. The concrete ties are the cheapest option, but they do not last very long and have very little absorbency of friction. In the field, we spoke with Glenn Robinson, President of Polymer Concrete, Inc., who told us about a rubber polymer that he and his team have developed that can be added to any railroad tie material to help it last longer and have more absorbency of friction. A combination of the rubber polymer with bamboo has the potential to be the best candidate for railroad ties. The bamboo has greater tensile strength, or resistance to being pulled apart, than some steels and can withstand compression better than concrete. It is more durable and longer lasting than wood and would be able to absorb friction of the higher speed rail systems. Norfolk Southern is an example of a company that we could see having a major interest in bamboo railroad ties. Norfolk Southern tried using both the steel and concrete ties,

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

which ended up ruining some of their equipment, because the ties could not handle friction from the speed of their rail system. Because these ties could not handle their equipment, they had to shut down for a couple of days, costing them millions of dollars.

We found multiple uses of bamboo in the biomedical field. A company, Entegron, has developed what they call a Stasilon™ gauze out of bamboo and medical-grade continuous glass filaments. The bamboo is almost as hemostatic as the glass, but it also has the wicking effect to bring the blood to the glass to help it clot faster. The bamboo also gives the gauze its soft cloth feeling. Moso, the particular species of bamboo that we have been studying, contains high levels of proteins, fats, carbohydrates, fiber, calcium, iron, sodium, and riboflavin, making it very nutritious. Its leaves have effectively treated arthritis, and its stem sheaths have been used for stomach nausea and pains.

Bamboo fibers are also used to make textiles such as clothes and sheets. Some of these products are 100% bamboo, while others are a mixture of bamboo with other materials. There are two main ways to get fabric from bamboo. The first way is to steam the inner pith of the bamboo, which makes a soft fabric similar to cotton. The second way is to break down the wood of the bamboo, which creates a stronger, more durable fabric referred to as bamboo linen.

There are many ways that bamboo can help increase economic activity in the Wilcox County community. A patch of bamboo converts about 35% more carbon dioxide into oxygen than a similar grove of trees. If the United States were to adopt the European practice of buying and selling carbon credits, then a company in the United States with a green business model could potentially gain more revenue from selling their excess credits. Bamboo is also just as recyclable as timber. This means that a company producing products from bamboo can be just as efficient as timber companies are with recycling. Additionally, virtually every part of the bamboo can be used in production, meaning less waste at the end of each day. The composition of bamboo makes it capable of replacing wood for nearly every use, while also being stronger, more durable, and less likely to warp. If a bamboo company were to come to Wilcox County, they would bring additional jobs and traffic to the area. The boost in businesses and traffic could bring development of infrastructure such as resurfaced roads, major highways, and other transportation channels.

We highlighted a few challenges that should be taken into account before bringing bamboo into the Black Belt community. The fact that bamboo must be maintained or it could eventually spread into other crops or onto other people's property is a major issue. Many inhabitants in the community have negative pre-conceived notions about bamboo, so it is important to educate the community on the positives of bamboo. There are also limited transportation channels in the area, especially in Wilcox County, which would limit where the facility could be located. Growing bamboo and building a plant is a risk since there are not many clear examples of vertically integrated U.S. companies prospering in this industry as a

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

whole. We can see that bamboo is prosperous in China, but currently, there is not much of a domestic bamboo presence. This also presents an opportunity for a company to capitalize on the first mover advantage.

SOCIAL MEDIA AND PUBLIC RELATIONS

The main purpose of the Social Media and Public Relations team was to cultivate relationships and create awareness of our project and of the positive attributes of bamboo, particularly through our Facebook and blog pages. We suggested ways in which a company could further promote information about bamboo to the public. Some examples of methods to effectively market this product would include the following: designing brochures; having promotional events; partnering with local high schools, universities, and organizations; having industry trade shows; and utilizing the internet, which is a very useful and rapid marketing tool.

Brochures, if used effectively, can increase familiarity and awareness with a company or product. A promotional event is another channel that a company could use to inform people. Promotional events help familiarize the public with a product and the many uses of a product. In the case of moso bamboo, having a promotional event could be a way to display the versatility of the product, which includes medical uses, edible uses, clothing, furniture, and more. Another effective avenue for promoting a product would be through industry trade shows or expos. Industry trade shows are a great way to introduce a product to various enterprises, investors, and also the public.

Internet marketing, perhaps one of the most widely used forms of marketing, can quickly direct attention to a topic of interest. Facebook and blogs are common tools used in Internet marketing. As a group, our team has found Facebook and blog sites to be very effective in conveying a message to a target audience as can be seen in Appendix D-1 and Appendix D-2.

There are multiple ways that social media can benefit a company planning to move into an area such as Wilcox County. Social media can help create connections and develop partnerships among the diverse people within the Wilcox community. It facilitates communication between people who are interested in the new industry, and what it is bringing to the area. By utilizing social media, the bamboo industry can make it easy for people who are interested or passionate about bamboo to find and connect with others who have similar interests.

Social media can help increase exposure for the company. The more web sites the company is associated with, the more chances it has of being known among interested parties and the general public. When it comes to raising awareness and

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

promoting an idea, product, or company, the Internet is an invaluable channel. A firm can increase the size of its audience by simply being connected with other websites. Using social media sites can help enhance a company's SEO or Search Engine Optimization. This is to say that a company can use these social media sites to improve its Internet presence moving it higher on the list when searched for on major search engines.

As a group, another part of our focus was to find ways to help this new industry, the bamboo industry, get started in the Black Belt region. As a public relations group we decided that a necessary step would be for the bamboo industry or corporation to partner with the local community. The best way to do this is through high schools and universities, local non-profits and organizations, and local and federal governments.

Partnerships with educational institutions are not only a direct way to better the community, but it is highly beneficial to the firm and bamboo industry due to the fact that it is helping educate and create an interest to the next generation of potential workers. The concept is very straightforward and is already being practiced in many places. The firm or industry can commission research, projects, or other kinds of groundwork that needs to be done. This is a benefit to the students, as they will gain hands-on experience.

We found three organizations that would be a good fit with the bamboo industry and that would help a company in following the Triple Bottom Line philosophy: The American Bamboo Society, The Black Belt Community Foundation, and Black Belt Treasures. We chose these organizations based off their strong ties and knowledge of the Black Belt community.

The American Bamboo Society is has the potential to be one of the biggest assets when it comes to promoting the bamboo industry in the Wilcox County area. We recommend starting an Alabama chapter of the ABS. By starting the American Bamboo Society of Alabama, capital and human resources will be used towards the growth of the bamboo industry in Alabama. The ABSA would not only be a great source of information, whether through lectures, work-shops, magazines, or trade journals, the ABSA supports bamboo research by establishing the facilities and human resources necessary for that research. The American Bamboo Society was formed in 1979. Today there are over 700 members living throughout the U.S. and in 37 other countries.

The objectives of ABS are:

- To provide a source of information on the identification, propagation, utilization, culture and appreciation of bamboos. To disseminate and store this information; the Society maintains a library of references and publishes a journal and a magazine.

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

- To promote the utilization of a group of desirable species by development of stocks of plants for distribution to botanical gardens and introduction to the general public.
- To preserve and increase the number of bamboo species in the United States.
- To plant and maintain bamboo gardens to display the characteristic beauty of mature plants and to provide plant material for research in the taxonomy, propagation and culture of as large a number of species as possible.
- To support bamboo research in the field and to establish whatever facilities are deemed necessary to carry out the research projects approved by the Directors.

The Black Belt Community Foundation works to leverage many region-wide improvement efforts toward a common goal of transforming the Black Belt. The BBCF is an amazing organization that has a focus on “taking what we have to make what we need.” The BBCF accomplishes this by supporting and organizing individuals, groups, and organizations in philanthropy endeavors.

The BBCF would be an invaluable resource on two key fronts. First the BBCF has extensive knowledge, experience, and resources when it comes to the needs of the Black Belt community. Secondly, the more committed and invested an individual, firm or industry is in the BBCF, the more that person or entity will be connected to the community. Not only will this help the company or industry in pursuing the “People” aspect of the Triple Bottom Line approach, being connected will also open many doors due to access to local governments, community heroes, and other firms and individuals who support the BBCF.

The Black Belt Community Foundation operates in three main areas as is stated on their website and cited as Appendix C-4:

- Giving: BBCF awards community program and arts grants to over 100 not-for-profits in the region each year.
- Receiving: BBCF is actively working to raise the profile of philanthropy in the region, encouraging gifts from individuals of all sizes from across the state and around the world.
- Growing: BBCF offers leadership training, organizational capacity building, and community collaboration to grow the skills needed to transform our communities.

Black Belt Treasures would be a perfect fit with the bamboo industry. Black Belt Treasures is a non-profit organization that promotes and displays the work of artists in the Black Belt region. The organization's focus is to help the economy in the Black Belt region. They have featured the work of over 350 local artists. These artists include painters, sculptors, potters, weavers, quilters, and woodworkers. Black Belt Treasures offers workshops, art education

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

classes, tours of historic Camden and Gees Bend, art demonstrations, as well as hosting festivals for the community.

One simple way that a corporation or industry representative could partner with Black Belt Treasures would be by hosting or sponsoring workshops on the usefulness of bamboo as well as how to make various products. A natural result of these actions would be an increased awareness, of the industry and ultimately, a positive economic impact.

Whether it is the local branch of the USDA or the Mayor's office, everyone has special interests and a unique set of assets that can be used to advance the bamboo industry. By discovering and actively pursuing the needs of all parties, forming mutually beneficial relationships, both the community and the industry will progress further than either one could do alone.

One event that would be beneficial to the bamboo industry in Alabama would be to enter bamboo artwork at local art festivals. A great festival to benchmark would be the Bamboo Festival, which took place recently at the Arboretum in North Carolina. The festival had a wide range of various artists, vendors, workshops, and speakers.

The Black Belt region already has all the necessary pieces to host a similar event as the Bamboo Festival in North Carolina; local artists, Black Belt Treasures, and the Black Belt Community Foundation, who already host an annual festival bringing together over thirty art and cultural organizations from the twelve counties in the Black Belt community.

ACKNOWLEDGEMENTS

We must acknowledge all the information and assistance provided to us by Resource Fiber/Alabama, LLC. We also thank the members of the Wilcox Area Chamber of Commerce and leaders and citizens of the City of Camden, Alabama. Finally, we thank the UAB REACH US project that focuses on health disparities in minority populations for their generous support and encouragement.

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

WILCOX COUNTY HIGH SCHOOL STUDENT REVIEWS



“From helping edit the Facebook pages and writing blogs to helping organize our Dropbox account, I was heavily involved in the Public Relations group of the project. I look forward to returning to a bustling Wilcox county in the next few years.”

- Kahlil Marshall



“During this two week period, I have learned the importance of working as a team. I have enjoyed making a few friends from Wilcox Central and UAB, as well as reuniting with a few old friends. I have also learned a lot about how big businesses operate. This has been a great two weeks!”

- Hannah Thompson

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama



“This project has been a great experience for me. I participated in this program last summer and had a blast. I think the project was beneficial to me because I got to go out in the field and see how to get things done. If the opportunity comes, I will definitely participate in the program again.”
- Peyton Burford



“For the last two weeks I have learned a lot with the students from UAB. We went places I would've never thought about going. I had a wonderful experience here and I hope to stay in touch with Hannah and her mother as well as Emefa and Chris and to professor Oliver I would like to thank you for encouraging me. I really enjoyed myself.”
- Maliyah Pritchett



“I have really enjoyed the past two weeks working with the UAB students, the students from Wilcox Central, and the other students from Wilcox Academy. I have learned a lot about bamboo, specifically moso Bamboo. It was a great experience and if I have the chance again I would definitely do it again.”
- Christopher Burford

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama



“For the last two weeks I've learned a lot from the students at UAB and the professors. One of the things I have learned about is Bamboo. I would like to thank Mrs. Autry for helping me get a chance to experience this project.”

- Kendretta McCaster



“My two week experience with the Bamboo Project was a great experience. Before this project, I had no idea bamboo grew in Wilcox County. To be more specific, I had no idea bamboo grew in Alabama. During this experience I learned to speak up and not be afraid to say how I feel. Overall this was a good experience for me, and it's one I will never forget!”

- Dalvin McGraw



“During this project, I have learned about how Wilcox County could improve its unemployment rate by having a manufacturing company that produces bamboo. The UAB students have helped inform us about some things I wouldn't have noticed while living here.”

- Alex Hutcheson

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

APPENDIX Appendix A-1



Appendix A-2



Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

Appendix A-3



Appendix A-4



Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

Appendix A-5



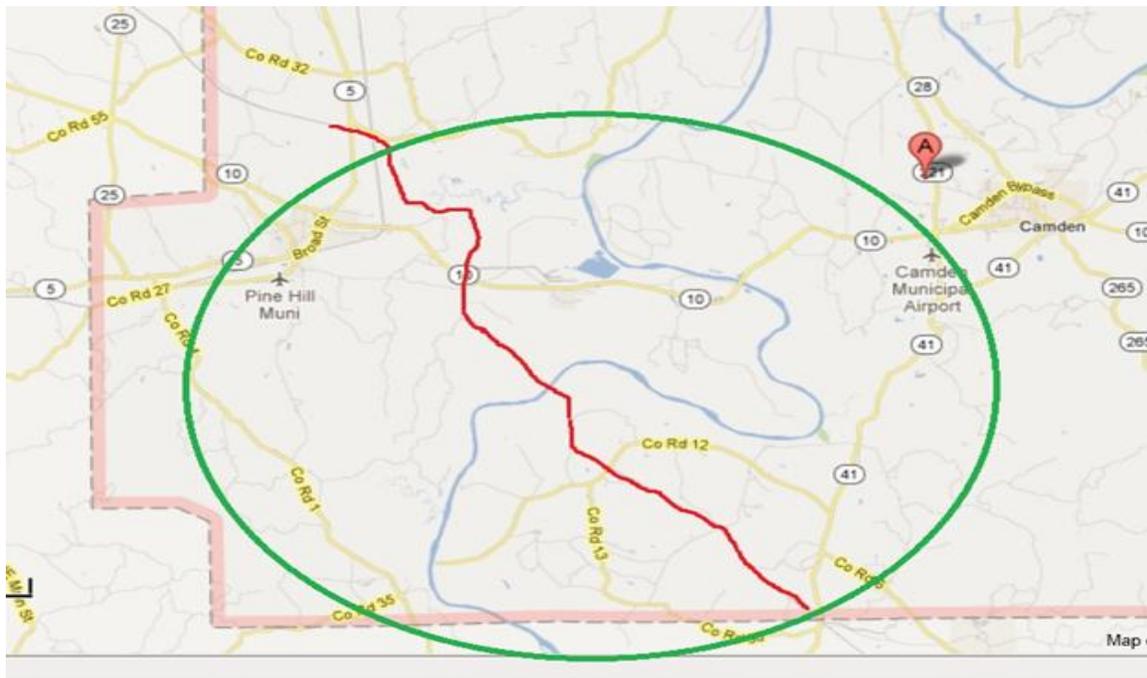
Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

APPENDIX B-1



Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

APPENDIX B-2



APPENDIX B-3

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama



APPENDIX C-1
Facebook Page

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

The image is a screenshot of a Facebook page for an organization named "One Tank Treasures-Explore Camden,AL". The page header shows the user is logged in as Lewinale Harris. The main cover image features bamboo stalks. A profile picture shows a group of five people. The page has 80 likes and 29 people talking about it. The "About" section describes the organization as a local attraction in Camden/Wilcox County, Alabama, and provides a link to their blog. The page also shows a "Friends" list with 17 members, including the UAB School of Business. A status update from Jessica McGraw at Wilcox Academy is partially visible.

facebook Search for people, places and things Lewinale Harris Voice Home

You are posting, commenting, and liking as One Tank Treasures-Explore Camden,AL — Change to Lewinale Harris

+ Create A Page

"One Tank Treasures" - One can experience all that Camden/Wilcox County have to offer from Mobile, ...

Like · Lewinale Harris likes this.

Advertise Your Page

Now

June

2012

Joined Facebook

One Tank Treasures-Explore Camden,AL 80 likes · 29 talking about this

Organization

"One Tank Treasures" - One can experience all that Camden/Wilcox County have to offer from Mobile, Montgomery, and Birmingham on only one tank of gas. Check out our blog! <http://one-tank-treasures.blogspot.com/>

About Photos Likes

Highlights

Status Photo / Video Event, Milestone +

Write something...

One Tank Treasures-Explore Camden,AL Monday

Jessica McGraw - Wilcox Academy

17 Friends Like One Tank Treasures-Explore Camden,AL

UAB School of Business 18 friends also like this.

Chat (Offline)

APPENDIX C-2 Blog Page

Field Study of the Possibility of a Bamboo Industry in Wilcox County, Alabama

Share Report Abuse Next Blog» onetanktreasures@gmail.com New Post Design Sign Out

One Tank Treasures- The Wilcox Co./Camden, AL Project

Wednesday, July 25, 2012



Today we met again at the Chamber of Commerce. Today's goal has been to complete our final report. Needless to say, it has been a day spent in front of our computers. While that may sound depressing, the scene today was one of deep discussion, layered with jokes, teasing, and paper wad fights.

A few hours later, we had a meeting about finalizing our report for the final presentation. We plan on working very hard until Friday in order to have everything prepared before leaving for Birmingham.

The evening hours were spent in leisure, work, and of course a hearty dinner at Hunter's Run.

Lunch With Kahill

Participants

One Tank Treasures
Camden, Alabama, United States

2012 Participants

Terence Shoulders
Olu Ogunbi
Lewinale Harris
Aubree Perkins
Daniel Owens
Christopher Wilson
Cliff Goolsby
Emefa Butler
Nathan Oliver-Professor
Jacob Gelber-Professor

2011 Participants

Olu Ogunbi
Lewinale Harris
Gabrielle Hood
Daniel Owens

APPENDIX C-3

<http://www.bamboo.org/index.php>

APPENDIX C-4

<http://www.blackbeltfound.org/>

APPENDIX C-5

<http://www.blackbelttreasures.com/>