

A NEW BUSINESS MODEL FOR SUSTAINABLE FORESTRY:

A Case Study of Appalachia Sustainable Development and Sustainable Woods, Abingdon, VA

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With nearly three-fourths of the region's land in woods, forests are especially critical to the well-being of the economy, the community, and the ecosystem. Sustainable Woods links local landowners with professional foresters and ecologically sensitive loggers to enhance the health of their forests and provide good economic return. Most of the trees harvested through Sustainable Woods end up as flooring and other fine products in area homes and community buildings. Sustainable Woods has built local infrastructure, created jobs, and generated dollars that stay in the community, thereby increasing community wealth. This is the story of a fully integrated business model that successfully addresses the "triple bottom line," including sustainable ecosystems, communities, and economies. Important elements of this story include:

1. Opportunities and challenges of an integrated, value-adding business model;
2. Marketing strategies for green building products; and,
3. Lessons learned.

Context

The Central Appalachia regional economy was built on coal mining, logging, and tobacco, extractive industries that have created significant environmental degradation and economic dependency. While coal remains a major force, it continues to be in overall decline, even with a recent surge in new employment. Over the last decade, the regional economy has made a significant transition to low-wage service jobs and transfer payments as the primary economic backbones that sustain families and communities. The region suffers from double-digit unemployment, out-migration of young people, and chronic environmental problems.

The economic development pattern that has prevailed in this region for more than a century rests on the same global vision: continuous economic expansion and trickle down job creation based on cheap energy, fiber and food, and the unrestricted mobility of capital and corporations. It is now clear that reliance on this dominant global growth paradigm has yielded entrenched poverty in Appalachia and much of rural America and a severely degraded ecosystem both regionally and globally.

But there are also emerging opportunities. Given the limits typography places on agriculture, nearly three-fourths of the region is covered by high-value forests, providing an adequate resource base to support a robust, sustainable natural resource economy. As the local forester states, "Our area is mostly forested. There is no shortage of timber. Virginia has been increasing standing timber volumes for the past 30 years and continues to do so." Similarly, a basic infrastructure for adding value continues to exist, as do the requisite skills. An increase in the Latino population is also at the heart of new economic possibilities in agriculture and forest management. Arriving 10 years ago to pick tobacco, Latinos provide a skilled and willing labor pool and have been well received by the community.

In addition, unlike so many areas where large-scale, extractive natural resource-based industries are failing, the Appalachia Sustainable Development (ASD) service area is not being bought-up and developed by absentee landlords and retirees. Although many youth are leaving, many of the most capable and imaginative are staying or coming back with new skills and ideas. Those individuals from "away" are arriving with young families and are committed to stewardship of the land and the community. There is also a strong sense of entrepreneurship; over 97 percent of the enterprises in the region are small, with less than 100 employees. These factors are translating into new leadership and civic capacity, as well as changes in consumer values. A recent survey of the Abingdon farmers' market found that over 1,600 people visited the market in one day, which represents over 20 percent of this community of 8,000.

Some people say that the growth of a "creative economy" is underway. First described by Richard Florida, a "creative class" is one that is searching for certain community values as part of its location calculus.¹ Some would prefer to have good schools, trendy shops and restaurants, plentiful museums and movie theatres, thriving artistic communities and diverse residents. While an emerging creative economy has many benefits, including markets for sustainably harvested wood and other products, it is also critical to ensure that this growth is not at the expense of the long-time residents, and that they are able to create and capture the new opportunities.

¹ Richard Florida, *The Rise of the Creative Class*, New York: Basic Books, 2002.

Forestlands (69 percent of the total area) are overwhelmingly under private ownership, although there are some national and state lands, most notably the Clinch District of the Jefferson National Forest. There is also a significant area of forests corporately owned by coal companies and a handful of large family ranches.

The region provides critical habitat for migratory songbirds, such as the hermit thrush, magnolia warbler and Swainson’s warbler, and imperiled aquatic species, including one of the world’s most diverse populations of rare fish and endangered freshwater mussels. A recent biodiversity survey found that the highest concentration of rare and imperiled species on the mainland U.S. occurs in the Clinch River watershed.

Beginnings of Sustainable Woods

Founded in 1995, Appalachia Sustainable Development (ASD) emerged from conversations among economic developers, environmental and community activists, a few farmers and landowners, and local businesses working together in hopes of getting beyond the “jobs vs. environment” challenge that usually had them in opposition to each other. ASD focuses on developing healthy, diverse and ecologically-sound economic opportunities through education and training, establishing ecologically-sensitive businesses, and developing cooperative networks and

ASD/Sustainable Woods Timeline

1995-1996	Solar kiln & horse logging demonstration projects
1998-1999	Forestry Standards developed with community members and adopted by the Board
1999	Land received from the county, started construction
2001	Sustainable Woods center opened
2004	Full production from solar kiln; initiated marketing in Charlottesville, VA; first large orders
2005	\$32,304 in sales
2006	Second wood-fired kiln opened in third quarter; \$110,000 in sales
2007	\$270,000 in sales
2008	Millworks opened in third quarter, emphasis on building markets closer to home

marketing systems that build upon regional strengths and enable communities to meet their own needs. The organization links consumers with producers and provides hands-on opportunities for learning, advocacy, and civic engagement. ASD works in 10 counties of the Appalachian section of Southwestern Virginia and Eastern Tennessee, in and near the watersheds of the Clinch and Powell Rivers. Portions of six of these counties fall within the 120-mile reach of Sustainable Woods. The total ASD service area is about 3,500 square miles and 400,000 people.

As in so many cases, key to the start of Sustainable Woods was a couple of visionary risk-takers. As respondents looked back one stated, “There was Anthony [Flaccavento]

with the vision and enthusiasm. He wanted to do it differently than most conservation groups. He wanted to start with the market, with production and infrastructure, and then he pulled the landowners in.”

Another key actor was Jim Baldwin, who was working at the Cumberland Plateau Planning District Commission, a multi-county agency. A longtime advocate for building on local assets, he saw Anthony’s vision as an alternative to “smoke stack chasing.” He states, “In such a depressed area, this offered some hope where opportunities for major economic creation aren’t that easy to come by. It was an idea that resonated with most folks, except with those looking for dramatic job creation. The Planning District had been at this for 30 years and the only changes were that population and employment were down. Folks were receptive to taking advantage of our assets for economic development. They could see that over 80 percent of the value of our timber was leaving the region.”

One of the first steps was to establish the standards for what would constitute sustainable harvesting, referred to as “ASD Standards of Sustainable Forest Management.” These standards form the basis for deciding what wood is purchased by Sustainable Woods. Flaccavento recounts, “Developing the standards was a difficult and contentious process. It included environmentalists (for example, the Nature Conservancy), a local horse logger (Jason Rutledge), the Forest Service, the state forester, other silviculturists, and folks advocating for businesses and job creation. We had to weave everyone’s vested interests together and it took two years of hard work. Sustainable forestry practices are harder to pin down than ‘organic.’ They have to be locally defined. FSC [Forest Stewardship Council] was economically unavailable for family parcels. We thought it was better to have our own standards that meet and even exceed those of FSC.”

ASD then went about developing the infrastructure for adding value to the wood locally. Flaccavento states, “If we were going to be true to our mission, we knew we weren’t going to be shipping our products out of the region. We needed infrastructure here to add the value locally.” Russell County had leadership that saw the vision and was very supportive. They were already discussing establishing a wood-processing center in a location that wasn’t receiving much attention. The County leased to ASD for one dollar three and a half acres in Castlewood for the development of the Sustainable Woods Center. However, when ASD required collateral to secure the original bank loan, the County donated the land to ASD for that purpose. The County also paid for grading the site and other site improvements, a total of \$120,000.

ASD spent a lot of time promoting the project and fundraising. They were able to build significant political good will, which served them well in the early start-up years. Local government, for example, agreed to be the co-applicant on several Federal grants, directly affecting their ability to apply for other grants for other priorities. Consistent with their focus on generating economic opportunities and a

market-driven approach, ASD most often applied for funds from donors and agencies supporting economic development and job creation, rather than those interested in conservation. Funders were interested and supportive, even if they didn't completely understand. Jim Baldwin recalls, "The state economic development agency called Sustainable Woods 'that wacky wood products thing down there.'"

Importantly, ASD framed both Appalachian Harvest and Sustainable Woods as elements of a sustainable economy. This was critical for gathering support for Sustainable Woods. According to Flaccavento, "Appalachian Harvest and the very visible farmers' market helped people to see the value of 'local;' they could then go the next step and see where wood fit in." Virginia Tobacco Commission (VTC) is an example. While they were involved in supporting Appalachia Harvest, they could see the link to Sustainable Woods. Flaccavento adds, "Sustainable Woods rode on the coattails of Appalachia Harvest and the Tobacco Commission has provided \$200,000 in support to Sustainable Woods over the years."

From Forest to Floor: How Sustainable Woods Works

Landowners hear about Sustainable Woods from any number of sources, but most often from someone currently participating in the program, the media, or from an ASD



education event. Initially, ASD conducted significantly more outreach, including walks in the woods and other information events, but found that word of mouth, coupled with the higher price it offers, was enough to generate interest. There is now a one-year backlog of interested landowners. Landowners want to take care of their land and don't want to liquidate their forest assets. In the words of one landowner, "We don't like to see our land all tore up." They tend to see their forests as major assets of personal wealth, often their retirement fund, but also as community assets.

The landowner calls ASD, and together they decide whether there are common objectives and adequate and accessible forest resources making it worth their while to move ahead. If yes, ASD engages **the forester** to develop the forest management and timber harvest plan, following ASD's environmental standards. Landowners, who are fully engaged in the process, want to manage their forests for multiple purposes, including aesthetics, wildlife habitat, clean water, peaceful refuge, wealth creation, and a legacy for their children and grandchildren. The timber plan captures these values. If the landowner decides they don't want to go ahead with the harvest, they pay for the plan.

The forester marks the timber and puts the sale out to bid. **Loggers** must follow the ASD environmental standards; they include both horse and mechanical loggers. Once the logger is selected, there is a three-way contract between the landowner, logger, and Sustainable Woods, as the buyer, with the logger receiving an average of 60 percent and the landowner receiving 40 percent of the value of the timber. On average, Sustainable Woods pays between 20-25 percent more than a traditional sawmill would and purchases most of the wood that is harvested, including a wide range of quality. As the manager of Sustainable Woods states, "Other mills wouldn't even take what we take – and pay for." The logger delivers the wood to Sustainable Woods, where it is graded, milled and dried.

To saw the logs, Sustainable Woods turns to a **local sawyer**, Charles Fugate. When they first met, Charlie had his own portable sawmill; he had to find the work, which was intermittent at best, and then transport his sawmill to each job. By partnering with Sustainable Woods, he could have a reliable supply of logs and not have to spend so much time marketing his services. He would also have a place to set-up – and keep up – his band saw. The partnership was equally beneficial to Sustainable Woods; they would have a saw on the same site as their kiln, dedicated to cutting their logs. Sustainable Woods wouldn't have to make a capital investment in equipment, assume the risk, carry insurance, or develop the required skill base. The arrangement was so advantageous to Sustainable Woods that it invested in additional equipment that allowed Charlie to double his production. The band saw Charlie uses is advantageous over a circular saw as it produces about 25 percent more, resulting in about a 70 percent yield from a tree (as opposed to only 60 percent with a circular saw).

Initially, Sustainable Woods produced dried lumber, primarily targeting cabinetmakers and other craftsmen. However, it soon learned that this market only wanted high quality and clear wood. There was clearly a need to develop products and a market for the vast majority of the wood the forest had to offer. Sustainable Woods focused on a mix of grades and species² of hardwood flooring, interior trim, wood

² Character Grade is the most popular; it is rustic and contains a considerable amount of natural wood characteristics (mineral marks, sound knots, pinholes, checks). Common Grade has more natural wood characteristics than "select grade," but less rustic in appearance than "character grade." Select Grade is free of the distinctive characteristics that are found in character and common grades.

siding and paneling. It was now necessary to add milling to the production chain. Building on their commitment to supporting local businesses and operators, Sustainable Woods then loaded and transported the dried lumber to one of the local millworks, where the boards were milled into final products. Sustainable Woods staff would often help out with the milling, thereby building their own experience and knowledge.

Challenges

A number of challenges have arisen over the early years of operations. At the outset, the limited drying capacity, in terms of both quantity and length of time required, was the biggest bottleneck. With the installation of the second



wood-fired kiln, Sustainable Woods can dry about twice as much product in less time.

The second critical bottleneck has been the millworks. Given that jobs are intermittent and often small, local milling operations tend not to prioritize Sustainable Woods' jobs. Delays and inconsistent quality have resulted in lost contracts. In addition, there are inefficiencies in handling and transportation, as dried lumber must be taken from the kiln, to the mill, and then to the customer. As long as Sustainable Woods uses an external facility, it will not have control of the quality and timing.

ASD made the decision to build the Sustainable Woods millworks and broke ground in April 2008. This will allow it to capture all of the profit, reduce handling and transportation costs, even out supply and reduce turnaround time, thereby improving cash flow (which is now at about 70 days). While Sustainable Woods will be better positioned to control quality and grade, managing the flow of products will be more complex.

The decision to be FSC certified (see discussion below) will also create challenges. FSC requires that wood sourced from FSC-certified lands be kept separate from wood sourced

from non-certified parcels, even when the same standards have been adhered to in both cases. With FCS certification, Sustainable Woods will need to keep separate log, lumber and milling inventories, requiring additional storage space and complex tracking systems.

Finally, increasing energy costs and a downturn in the economy are creating challenges. Unlike many of its neighboring traditional mills, Sustainable Woods is still operating at capacity. However, there is a concern that as transportation costs increase, the area that Sustainable Woods can cost-effectively draw its logs from is decreasing. Sustainable Woods currently draws from a catchment area of about 60 miles in any direction from the mill and is considering providing a fuel surcharge to loggers.

Marketing

While ASD was busy creating a reliable supply chain for wood products harvested from sustainably managed forests, it had to simultaneously create a market for these products. At the core of ASD's strategy is using a market-driven approach, rather than one that is project-based. As such, ASD seeks to identify, respond to, and influence markets and consumer choices, as opposed to locating unique partnerships for "demonstration projects." In the long-term, generating market demand for a constant stream of products is more sustainable than focusing on a series of demonstration projects, which generally take a long time to come to fruition and often don't leverage additional sales. ASD has been successful in attracting all kinds of customers, including public entities, non-profits, and individuals, with many of these providing opportunities for building awareness of these new products, such as the library in Bristol. But the relationship continues to be one of customer and vendor, rather than that found in a demonstration project, which may include: increased willingness to accept long turnaround times and less consistent quality; preferential buying; and hidden subsidies, among others.

ASD first started marketing in Charlottesville, Virginia, about a four-hour drive away from Castlewood. Residents in Charlottesville were already showing a small, but growing, interest in green building products. Factors contributing to this awareness include: the presence of a University and, specifically, William McDonough – world-renowned architect and designer and founder of an internationally recognized design firm practicing ecologically, socially, and economically intelligent architecture and planning – and proximity to Washington, DC, metro area, and an urban culture, among others. The use of McDonough's design principles in a high-profile retirement community further increased awareness of the role of consumer choices in supporting sustainable ecosystems, communities, and economies. To further strengthen the market, ASD provided education tours for architects, attended trade shows, and participated in other marketing efforts.

More recently, ASD is positioning Sustainable Woods

to be able to take advantage of the growing awareness and markets for anything green. According to one respondent, “Driving the momentum for all things green is the growing consensus among scientists on the dangers of climate change. In Virginia, for example, carbon dioxide emissions rose dramatically: 34 percent between 1990 and 2004 – a rate nearly twice the national average – according to U.S. Public Interest Research Group.” According to L. Preston Bryant Jr., Virginia’s secretary of natural resources, “The population in general recognizes that the need for clean air, water and lands doesn’t have to conflict with the economics of business.” The result is that increasing numbers of consumers are requesting “green” products from architects and contractors. Character grade is particularly high in demand.

One mechanism, whose use is growing exponentially, especially among larger-scale customers, is the LEED (Leadership in Energy and Environmental Design) certification program. Run by the U.S. Green Building Council, LEED offers three levels of certification based on a point system, including one point for sourcing the product locally (within a 500 mile transportation radius) and one point for using FSC-certified wood products. There are also an additional four points for innovation.

To further build on the interest in green buildings in general, and in LEED specifically, ASD is a founding member of the Greater Tri-Cities Green Building Coalition. The Coalition brings together businesses, environmentalists, consumers, and city officials to promote green and sustainable building practices (including a directory of services, encouraging growth of new green service and product providers and increasing market awareness), advocate for green policy changes, and educate the public. As one member stated, “We’re still informing the public of what green building is, what opportunities we have in the area and that it’s feasible to do. Most people think green building means that you’re going to be spending 50 percent more on your projected budget, but there have been numerous studies that show you could build a LEED certified project for one to two percent more of your operating budget than you may have for a conventional building.” The Coalition is offering an effective mechanism for getting the Sustainable Woods story into the marketplace.

In response to this growing demand for FSC-certified building supplies, and to be able to access this market and stay competitive, Sustainable Woods is in the process of certifying its operations and ASD is offering FSC certification to landowners. One of the biggest challenges facing relatively small landowners is the cost of certification. Not all landowners who practice sustainable forestry can afford certification. According to the forester, “FSC is not providing a premium for landowners, and it requires landowners to have at least 20 acres to be cost effective.” ASD is joining with other CBF practitioners to make a case for CBF as an innovation, thereby qualifying for four additional points.

To increase efficiencies and reduce transportation costs, and in support of its mission to support local economies, ASD is now taking steps to bring the market closer to home, primarily building efforts in Roanoke, Virginia; Knoxville, Tennessee; and Asheville, North Carolina, all within about two hours driving time from Castlewood. While more of a challenge, ASD is also targeting closer markets in Abingdon and the Tri-City area. Reflecting on these efforts, Nick Safay, marketing manager for Sustainable Woods, states, “There has been a dramatic increase in demand locally compared to one to two years ago.” In Abingdon, Sustainable Woods has entered into an agreement with Berry Homebuilders, which caters to contractors targeting middle income, custom built homes. Manager Stan Williams states, “We see a rising demand for green and locally-sourced products, especially as related to LEED certification. The market is primarily in custom homes and renovations. It’s the homeowner who is asking for it, or they’ve asked their contractor. Character grade is selling big.”

There is clearly a need to mainstream the values around green and local consumer choices. ASD is working hard to counter the image that only the wealthy can afford to make these choices and is targeting middle-class consumers.



Flaccavento states, “We are showing people that the increase is minimal when you think about it in the long term. There are a lot of people who can afford to make these choices, but they don’t think they can. All income levels love the forest, wildlife, etc. and the brand resonates everywhere, but when you get to dollars and cents, the differences emerge.”

Community Benefits

There are some obvious benefits for participants in the program. Landowners benefit as they now have an option to manage their forests more sustainably, while still making a return on their land. Landowners receive more income (20 - 25 percent more) than they would from the traditional system. They also receive a management plan that, when implemented, provides a long-term return. As opposed to the case with clear-cutting, with a 90-year or longer rotation, landowners now cut every 15 years or so. ASD offers services that are high quality and free. Jim Willis, the Forester, states, “Landowners are motivated by both wanting the forest to be healthy and by the return. They are really engaged in developing the forest management plan. They seem to find it an enlightening and exciting process.” Landowners also get a sense that they are doing the right thing; their land isn’t “all tore up.” These individual benefits translate into community benefits, including clean water, preserved habitat, and the beauty of a well-managed forest, among others.

These landowners are generally low to middle income – the economically vulnerable. They see these forest resources as their savings, their retirement plan, and security. ASD is creating the option to manage these assets for the benefit of present and future generations, rather than just liquidating them for the immediate return.

Jobs are also being created. Four jobs have been created at Sustainable Woods, with three jobs being added with the addition of the millworks, and two at ASD that are directly attributable to Sustainable Woods. In addition, there is increased work for a contract forester, as well as loggers, and the sawyer is able to run his business. As Sustainable Woods grows, so will the employment possibilities. Upstream and downstream enterprises and employment increase as dollars circulate in the community through adding value locally. Jobs are also being created for the on-going management of the forest. Latino residents often fill these jobs. ASD is contributing to the infrastructure and capacity needed to build community wealth that will, in turn, create employment and wages for the poorest of the poor. In the long-term, sustainable forestry generates enhanced forest value streams that build community wealth to the benefit of the majority of residents.

A range of community members has been engaged in the program. Diverse stakeholders were involved in development of the ASD Standards for Sustainable Forest Management, including landowners who were managing their land. Still others have participated in farm and forest tours and attended presentations, including the recent Green Building Expo attended by 45 people. As consumers, community

members have provided tangible support for healthy forests by choosing to buy Sustainable Woods products.

Sustainable Woods is owned by the non-profit ASD and, as such, is controlled by the ASD board, consisting entirely of local residents. The ASD Board is considering whether to open Sustainable Woods to additional investment provided by community members. Sustainable Woods provides the infrastructure where community members can have a more direct stake in the economic and ecological health of the community.

The Future

Sustainable Woods has success in its headlights: ASD and Sustainable Woods are well run and high profile; there is a stable, even growing, market for green and local building supplies that seems to be withstanding the declining economy; and there is a backlog of landowners wanting to participate

Economic Development Rooted in Local Ownership and Import Substitution (LOIS)

Global reach is weighing down larger firms with dramatic new inefficiencies in both production and distribution. The rising cost of oil is intensifying both. As oil prices rise, much of the manufacturing we need still can and will return home, but to smaller locally-owned, import-substituting (LOIS) businesses. Most importantly for our communities, the prices of imported goods, including many of those sold by chains, will rise. This will give new impetus to import substitution and local production. Part of the challenge of localization is to refocus every community’s ingenuity on creating efficiency and quality at a much smaller scale. Once the appropriate scale is chosen, innovation within that scale can bring down costs and increase profits. Sustainable Woods is an example of a LOIS business.

There are a number of advantages to LOIS businesses.

- *Long-term wealth generators:* Because their entrepreneurs stay put, LOIS businesses are more likely to be cash generators for many years, if not generations.
- *Fewer destructive exits:* The anchoring of LOIS businesses minimizes the incidence of sudden, calamitous, and costly departures. During economic downturns, out-of-town business will be more likely to move to a lower cost region to keep returns to investors high. To a LOIS entrepreneur, the option of moving is off the table.
- *More likely to be green:* Local ownership provides an important form of ecological accountability as the owner must breathe the same air and drink the same water and ultimately live side by side with the rest of the community.
- *Higher economic multipliers:* Local businesses spend money locally, creating a stronger local market for other local businesses.

Based on information in Michael Shuman, *The Small Mart Revolution: How Local Businesses are Beating the Global Competition*, San Francisco: Berrett Koehler (2006).

in the program. The key at this point seems to be increasing production, and that requires significant investment in: 1) patient capital by local investors; and 2) grant funds for operations that would mitigate risks for these investors.

Flaccavento also notes that he would like ASD to do more to support forest management and restoration after the initial harvest. As is so often the case, landowners lack the resources to maintain their forests. ASD is pursuing with MACED the possibility of registering forest acres with the Chicago Carbon Exchange, in the hope that funds received through payment for carbon sequestration will be invested in stewardship of the resources.

Lessons Learned

Several lessons emerge from the story of Sustainable Woods' including:

- **The role played by innovative, risk-taking individual leaders.** The initial vision that something can be done differently and that there are opportunities to be seized comes from individual leaders, who are often ahead of their time. Anthony Flaccavento and Jim Baldwin, among others, were risk takers, persistent, creative, and adaptable. Often, it is only when a community feels it is out of options that it is motivated to think out of the box and try new ideas.

- **Underlying ASD's success is that its approach is market-driven, rather than project-driven.** It seeks to identify, respond to, and influence markets and consumer choices and produce a stream of products. While institutional buyers will always be part of the business plan, a market driven approach is more sustainable and, ultimately, will facilitate the integration of products and sustainable values into the mainstream. In addition, framing its approach in terms of sustainable economic development, as opposed to conservation or forestry, opened additional fundraising doors and resonated with county officials and state development agencies.

- **ASD did not start, as so many groups do, with organizing landowners and the supply of wood. Rather, it let the pull of a sustainable management option and higher prices at the sawmill draw people in.** Flaccavento states, "I thought we were going to have to organize landowners, but so far we haven't. Instead, people have heard about us by word of mouth, public education, and other venues. The pull of the market is mobilizing the supply." With that said, ASD recognizes the need to now support landowners in their management objectives between harvests, which could be accomplished through some level of collective action.

- **ASD used an iterative and interactive approach to developing supply and demand.** While Flaccavento admits it was more difficult to create markets and supply chains at the same time, it was the best approach, given the lack of baseline data on what the market wanted – and what it was possible to produce from the forest. For example, the original focus on cabinetmakers, while a known market,

was not the right outlet for character grade wood and underutilized species. A central tenant of sustainable forestry is identifying – and building – the right market for what the forest has to offer. Similarly, ASD's efforts with other CBF practitioners to frame CBF as an innovation, thereby qualifying for additional points in the LEED certification system, demonstrates the need to proactively capture the "green market" for community benefit.

- **Social enterprises can be an effective means of paying for public services and benefits, such as environmental stewardship and job creation, through market revenues.** In the case of Sustainable Woods, adding value locally, building a market, and charging a premium for products make it possible to provide incentives for sustainable forest management and result in job creation. Thus, investment in these social enterprises is another strategy for ultimately delivering public impacts. Unfortunately, many typical foundations that want to invest in public services don't see supporting businesses as a viable approach, making it difficult for entities such as Sustainable Woods to access these funds.

- There is no doubt that investment capital is critical for the development of alternative enterprises that meet the triple-bottom line. But as increasing numbers of businesses focus on local and community ownership, the **key investment from outside of the community will be grant funds and program related investments** (i.e. low cost capital with very favorable conditions) to cover operating and inventory costs, thereby mitigating the risk for local investors.

- **Building partnerships with other businesses in your industry is an opportunity to grow local value and community wealth.** Through its collaboration with Charlie Fugate, ASD was able to help build and sustain a local entrepreneur, while also meeting its needs for a sawyer, while minimizing risk. In the longer term, the partnership resulted in benefits to both entities that wouldn't have been possible without the agreement. Similarly, the partnership with the existing millworks created an opportunity to build new skills and knowledge among the employees of Sustainable Woods. Finally, through the Greater Tri-City Green Building Coalition, local architects, builders, and firms providing energy conservation and sources of alternative construction materials, as well as Sustainable Woods, are building a local market they are able to meet, rather than relying on outside firms coming in and capturing the local demand.

- **CBF requires entrepreneurial and adaptive approaches.** There are many things about Sustainable Woods in 2008 that no one foresaw in 2000. Communities have to be able to cobble together multiple funding sources and opportunities; they have to be resourceful in reaching their vision.

- **Rural economies have to become more diversified to fully use all of their resources: natural, social, human, and financial.** True resilience mirrors the ecosystems and

economies of rural communities, with the goal being to move away from “forest-reliance,” to sustainable, forest-rich communities. Community-based forestry is evolving to take its place among several strategies a community may choose to pursue, balancing the opportunities it has. When local infrastructure (both primary and value adding) is built and landowners are linked to markets, the value of wood is increased and the flow of dollars reversed.

Conclusion

There is no doubt that change is afoot. Rising energy prices, environmental degradation, global climate change, increasing populations and land pressures, consumer choices based increasingly on values, and other trends are changing our economies, environments, and communities. As one respondent stated, “The way we’ve always done business is not the way we’re going to do it in the future.” Communities have to account for themselves more, relying on their assets and driving their own development.

Appalachia’s forests have the potential to be a critical element of a new sustainable economy that fosters self-reliance, meets the needs of communities, and restores essential natural systems. ASD is thinking about how to do business differently; it is piloting “new” approaches and using a business orientation to ecologically-sound forest management. Sustainable Woods, by providing a real alternative and return on investments made in sustainable forest management, is helping make these ideas reality. Sustainable forest management is not “just a good idea;” it’s a choice.

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