PRELIMINARY ANALYSIS OF RURAL BUSINESS INCUBATORS, SMALL DIAMETER WOOD SUPPLIES, AND PROCEDURES TO ESTIMATE THE POTENTIAL FOR A SMALL DIAMETER WOOD INCUBATOR IN THE STATE OF NEVADA
PRELIMINARY ANALYSIS OF RURAL BUSINESS INCUBATORS, SMALL DIAMETER WOOD SUPPLIES, AND PROCEDURES TO ESTIMATE THE POTENTIAL FOR A SMALL DIAMETER WOOD INCUBATOR IN THE STATE OF NEVADA

Thomas R. Harris

and

Robert Dick

Thomas R. Harris is a Professor in the Department of Resource Economics and Director of the University Center for Economic Development at the University of Nevada, Reno.

Robert Dick is an Instructor in the Department of Economics in the College of Business Administration at the University of Nevada, Reno.

June 2005
This publication, Preliminary Analysis of Rural Business Incubators, Small Diameter Wood Supplies, and Procedures to Estimate the Potential for a Small Diameter Wood Incubator in the State of Nevada, was published by the University Center for Economic Development in the Department of Resource Economics at the University of Nevada, Reno. Funds for this publication were provided by the United States Forest Service, United States Department of Commerce Economic Development Administration under University Centers Program contract #07-66-0567. This publication's statements, findings, conclusions, recommendations, and/or data represent solely the findings and views of the authors and do not necessarily represent the views of the U. S. Forest Service, U.S. Department of Commerce, the Economic Development Administration, the Nevada Rural Development Council, University of Nevada, Reno, or any reference sources used or quoted by this study. Reference to research projects, programs, books, magazines, or newspaper articles does not imply an endorsement or recommendation by the authors unless otherwise stated. Correspondence regarding this document should be sent to:

Thomas R. Harris, Director
University Center for Economic Development
University of Nevada, Reno
Department of Resource Economics
Mail Stop 204
Reno, Nevada 89557-0105
Phone: 775/784-6499
Executive Summary

The University Center for Economic Development conducted a study of rural business incubators, small diameter wood supplies, and potential for small diameter wood incubators in the state of Nevada. This study was sponsored by the U.S. Forest Service and the Nevada Rural Development Council. This publication is divided into three sections:

Section I provides an overview of rural incubators,
Section II estimates available pinyon-juniper harvest supplies, and
Section III provides procedures to complete an in-depth feasibility analysis of a potential small diameter wood incubator in the State of Nevada.

Overview of Rural Incubators

- The National Business Incubator Association estimates that in excess of 900 business incubators are currently in North America with 3,500 operating worldwide.

- Over 13,000 clients, affiliates, and graduates have been served by incubators and over 85 percent of businesses that started from incubators are still in operation.

- The high-rate of success of incubated businesses speaks highly of the use of incubators for start-up business economic development.

- Successful incubators must be more than a multi-tenant facility with little more than a reception service and copy machine. A successful incubator must have assistance that is sophisticated enough to lead client businesses to self-sufficiency.

- An incubator encourages entrepreneurship, supports the development of new ventures and thus new jobs, as well as stimulates and encourages community growth through fostering economic diversification.
Nationally the most common types of businesses using incubator services are light manufacturing, technology and service businesses, and/or those developing new products or engaged in research and developing a product. The latter would cover a small diameter wood incubator in rural Nevada.

The success of an incubator depends upon the degree that the incubation program staff understands and meets the demands of their clients. In reality because of funding limitations, incubator management and staff spend most of their time performing building maintenance or pursuing incubator funding rather than developing an entrepreneurial climate for their incubator clients.

The most successful incubators in the United States are directed by highly skilled managers who understand entrepreneurship and can address the unique issues facing small and growing young businesses.

An organization for a small wood diameter incubator would have to be sure that it fits the technology and marketing needs of small diameter wood entrepreneurs.

An incubator must determine rules for graduation. As a rule, incubator clients should graduate once they have achieved predetermined milestones and have become established.

An incubator should first focus on service to clients and then on real estate issues. Having a strong philosophy on client service may not be enough if financing is not available as well as other issues.

Incubators are not the same across industries. Therefore a feasibility study for a rural Nevada small diameter wood incubator should contain a detailed market demand and supply analysis to determine if a small diameter wood incubator is feasible.

**Estimates of Available Pinyon-Juniper Harvest**

- Previous estimates of the total area of pinyon-juniper forests in all of Nevada set the value at about 9 million acres.

- Estimates of available supplies in White Pine and Lincoln counties range from 3.6 million acres to 10.8 million acres.

- Most professionals, however, appear to believe that the Nevada Gap Analysis Project (GAP) figures greatly underestimate the actual supply of pinyon-juniper available in these counties.
• Projections by the BLM in Ely are to thin 5,800 acres over the next five years. At an estimated yield of approximately seven tons (7 tons) of biomass per acre, this would mean that 40 to 45 thousand tons will be available over the five year span or an average of 8 to 9 thousand tons will be available per year. However, these averages are highly variable due to uncertainties due to future federal budget funding for the BLM and potential legal actions by environmental and/or other groups. Without legal problems and given enough federal budgetary support, it is expected that the amount of biomass available will increase in the future.

• A supply of approximately 9,000 tons per year would not necessarily be available for start-up enterprises in Lincoln County or White Pine County. Current thinning projects have had no surplus output because private contractors have absorbed the surplus amount.

• There would be a great amount of competition for a relatively limited supply. Currently, Honey Lake Power in Lassen County, California is operating at one-third of its capacity due to the lack of biomass supply.

• For feasibility analysis, the competition for the limited supply of biomass will be substantial and a subsidy would be required. It also appears that any start-up industry would immediately compete with established firms.

STEPS FOR FEASIBILITY ANALYSIS OF A SMALL DIAMETER WOOD INCUBATOR FOR THE STATE OF NEVADA

• Incubators benefit a county economy in two general areas. First, incubators benefit small businesses by helping them survive. Second, incubators launch small businesses that create new jobs and opportunities in the local economy.

• In developing a feasibility analysis of a potential small diameter wood incubator in rural Nevada, four essential questions should be answered:

  i. Is there sufficient demand for an incubator and/or the services which an incubator provides?
  ii. Is the managing agency committed to the success of the incubator?
  iii. Is there a suitable site where an incubator can be built or renovated that is convenient to potential tenants and existing businesses/markets?
  iv. Is there community support for the incubator idea?
Once the decision to develop a small diameter wood incubator has been reached, there are six basic steps in developing an incubator feasibility analysis:

i. Conduct a market analysis.
ii. Select an incubator site.
iii. Facility design.
iv. Selection of support service offered by the incubator.
v. Prepare an incubator financing plan.
vi. Incubator organization and management.

Marketing of an incubator is essential for future success of an incubator. The best methods for marketing involve contacts with past tenants.

Young incubators need to conduct operations in a manner that generates good contacts and references from their tenants. Satisfying initial tenants and making unofficial network contacts early in an incubator’s life will ease the need for formal marketing in the later years of incubator operation.
PART I:

Overview of Rural Incubators
Business Incubators: An Overview

The National Business Incubator Association (2005) estimates that the number of business incubators has been growing at the rate of one per week since 1986. It is estimated that in excess of 900 business incubators are currently operating in North America with 3,500 in operation worldwide. It is anticipated that the number of incubators will continue to increase as communities, countries, and private investors recognize the value of this effective business development tool. Over 13,000 clients, affiliates, and graduates have been served by these incubator programs and over 85 percent of businesses that were started through an incubator are still in operation (National Business Incubator Association, 2005). However, nationally approximately 80 percent of start-up businesses fail if they do not utilize incubators. The high success rate of incubated start-up businesses speaks highly of the use of incubators for start-up business economic development. The NBIA also reported additional statistics concerning incubators in a joint study by the University of Michigan, Ohio University, NBIA, and Southern Technology council:

- Incubator businesses typically stay in an incubator for two or three years then graduate from the incubator,
- Business incubation programs create new jobs for relatively little public funds. The study estimated that the cost was $1,109 per job which compares favorably to the job creation cost of other programs.
- Approximately 84 percent of incubated businesses stay in their community,
- Most incubated businesses provide employee benefits, despite their youth.

The study results indicate that far more resources are required for a successful incubator program other than just a multi-tenant facility with little more than a reception service and copy machine. A successful incubator program must have on-site staff to
coordinate and deliver business assistance to client businesses. The assistance also needs to be sophisticated enough to lead client businesses to self-sufficiency within a set period of time.

**Incubator Description, Focus, and Goals**

Business incubation offers one of the most comprehensive strategies to foster economic development. A business incubator encourages entrepreneurship, supports the development of new ventures and thus new jobs, as well as stimulates and encourages community growth through the fostering of greater business diversification. Business incubators provide shared facilities and comprehensive support services as well as mentoring assistance to entrepreneurs through their start-up stages of operations. Incubators with the highest returns are those that have been well organized, have management capable of catalyzing entrepreneurship in their communities and that prioritize staff time toward working proactively and in depth with client businesses. An incubator may be guided by a mission of local job creation, promotion of economic self-sufficiency among a specific population, diversification of the local economy, transfer of technology from universities or corporations, or the development of specific industries.

Business incubators are designed specifically to nurture start-up businesses through the first few precarious years of operation. Successful incubators have found that they need to provide more than shared space and office services to make an incubator program. Many successful incubators focus their attention on enhancing the capacity of their client businesses to compete and succeed instead of simply providing below market real estate from which to operate from. Incubation programs offer a wide range of
tangible and intangible services that affect every aspect of a new venture. The services also include custom advice and emotional support from the incubator manager as well as contacts (formal and informal networks) that can lead the business to new customers or sources of financing. The more successful incubators usually provide the following:

- Flexible and affordable leases, usually at or below market rates, and options to grow into the rented space.
- Entrepreneurial synergy – networking and commercial opportunities with other tenants of the incubator
- Business development, management and technical assistance
- Shared office services (i.e. phone answering, bookkeeping, desktop publishing, fax, and copy)
- Group rates for health, life and other insurances
- Assistance with obtaining financing for company growth

These elements touch on the purpose, design and management of business incubators. The primary goal of most business incubators is to produce successful businesses that are able to operate independently of the incubator and ultimately become financially viable. Some business incubators take on the added goal of providing services to already established businesses to assist them with becoming financially stable, expand operations and/or market services as community’s attempt to attract businesses to the local area.

Nationally, the most common types of businesses using incubator services are light manufacturing, technology and service businesses and/or those developing a new product or engaged in research and development of a product. There are a limited number of construction-related, sales and marketing or wholesale and distribution businesses using incubators. Retail operations rarely find a fit within an incubator. Some incubators have been known to provide services to a mix of businesses, but others focus on serving businesses from just one particular segment of industry.
Incubator Programs

Business incubation programs are generally unique and tailored to meet the specific needs of the market they serve. There are three common types of incubation programs:

Facility-Based Business Incubation
This type of incubator program is run from a multi-tenant facility and is the most typical type of business incubator program found. These programs commonly offers value-added benefits to clients including coaching, mentoring, networking, referral to professional services, access to capital, and training as well as a host of other additional services. Even though the facility component is incorporated the essential element of the program there is a wide variety of services and support provided to clients.

Service-Based Business Incubation
This type of program is often referred to as a “virtual” incubation program, and focuses efforts on delivering coaching, mentoring, networking, and other services to client businesses at their existing place of operation.

Affiliate-Based Business Incubation
This type of program is a hybrid of the two above business incubation programs. A facility-based component exists as well as programs extending common incubator services to clients located outside the incubator facility.

Incubator Management

Successful incubator programs generally follow the management principles below:

Best Practices
A key component of business incubator best practices concerns how incubators move through the initial real estate phase to program and enterprise development. Incubator research suggests that incubators that spend the greatest percent of their resources on business development also have the largest impact on there local economies.
Local economic benefits typically result from job growth following the development and expansion of competitive growth businesses started through the incubator.

Beyond the enterprise development perspective successful business incubator programs also pay close attention to the overall operations of the incubator business. The most effective incubators seem to comply with strict operating procedures and follow best practices established for business operations. Five areas of generally accepted best practices include:

- Conducting an outside audit of incubator finances annually
- Maintaining close ties with postsecondary educational institutions and/or research institutions
- Developing a clear and concise mission statement on which policy and funding decisions can be based
- Collaborating and reaching agreement on the part of the incubators board of directors (governing body) and its management regarding the incubator’s mission, vision and goals
- Utilizing efficient and effective new technology’s to support incubator client businesses

Literature also suggest that incubators operating within best practices develop an intimate understanding of each of their client business ventures, and undertake regular review and analysis of clients against pre-set financial milestones. These regular reviews are designed to adequately access the performance of the incubator clients. Furthermore, the performance of incubator client businesses is one procedure by which an incubator can prove its overall effectiveness to funding entities and the community within which it operates. High performance incubators are also highly selective in the placement of incubator resources, and match the development needs of their clients with appropriate consulting resources based on cultivated business development networks.
Organizational Structure

According to the National Business Incubation Association (NBIA) incubators located within the U.S. are typically organized and developed through a variety of similar entities. The most common scenario is for a government or nonprofit organization to develop an incubator to support other local economic development activities. Partnerships among local governments, social agencies, economic development groups, and other groups and individuals are also common. Following is an overview of the most common incubation development strategies, again according to the NBIA, encountered throughout the U.S.

Nonprofit, Public or Private
An estimated forty-nine percent (49%) are sponsored by government and/or nonprofit organizations. These entities are primarily started to support economic development activities including encouraging job creation, economic diversification, and/or expansion of the tax base.

Academic-Related
An estimated thirteen percent (13%) are affiliated with universities and colleges and share some of the same objectives of public and private incubators. In addition, they provide faculty with research opportunities, and alumni, faculty and associated groups with start-up business opportunities.

Hybrid
An estimated eighteen percent (18%) are joint efforts among government, nonprofit agencies, and/or private developers. These partnerships may offer the incubator access to government funding and resources, and private sector expertise and financing.
Private, For Profit
An estimated twelve percent (12%) are administered by investment groups or by real estate development partnerships. Their primary interests are economic reward for investment in client businesses, new technology applications and other technological transfers, and added value through development of commercial and industrial real estate.

Other
An estimated eight percent (8%) are sponsored by a variety of non-conventional sources such as art organizations, American Indian tribal governments, church groups, chambers of commerce, port districts, etc.

Given that most incubators operate as a non-profit and that tax advantages exist to organize a small diameter wood nonprofit incubator, the role and responsibilities of an incubator board of directors become a critical component. The directors on the board of a business incubator typically serve as volunteers and provide oversight to the overall incubator programs and operations. As part of this oversight role, board members give guidance to the incubator manager and assist with formulating the mission of the incubator program. Board members also provide networking assistance to tenants, and/or serve on a client advisory board.

Management and Staffing
The success of an incubator business depends largely on the degree that incubation program staff understands and meets their clients’ demands. Ideally the best organizational arrangement is to have incubator management and staff coordinating the responsibilities to provide quality services to incubator client businesses. The majority of time should be spent on business development and consulting as well as facilitating an environment that supports entrepreneurial synergies. Based on review of incubator
research the reality is, largely due to limited resources or commitment, that incubator management/staff are forced to spend most of their time performing building maintenance functions or incubator fundraising activities rather than developing an entrepreneurial environment for incubator clients. An international survey of incubators found that on average, nearly seventy-five percent (75%) of incubator managers’ time was being spent on non-incubator responsibilities and incubator real estate issues such as rent collection, maintenance and the management of tenant improvements or refurbishment of tenant spaces. A median of only ten percent (10%) of incubator managers’ time was spent providing direct tenant business development assistance (Duff, 1987). Given this type of focus it is unlikely that entrepreneurial synergies would be successfully developed.

There are several options to staffing an incubator and choices largely depend on budget limitations. Regardless of the number of staff, efforts should be made to plan for the offering of business development mentoring and assistance. One arrangement may be to have a lean staff that provides for permanent and ongoing basic services (e.g. clerical support, equipment troubleshooting, and building maintenance) and rely on external consulting services (e.g. professional, and/or volunteer sources) to provide specialized consulting services and education and training opportunities. Another arrangement is to staff the incubator a bit more heavily (two to six staff) and direct the incubator manager to take specific responsibility for providing an environment that supports entrepreneurial synergies and value added benefits to incubator clients. Building maintenance and upkeep responsibilities would be contracted out. Given this arrangement the manager would
spend the greatest percent of his/her time as an incubator facilitator performing tasks such as:

- Building and managing entrepreneurial networks
- Facilitating business relationships between tenants
- Developing relationships with suppliers/production networks
- Delivering one-on-one/free for services counseling to incubator clients
- Drawing in university and private consultants as appropriate
- Acquiring funds for incubation operations
- Interviewing and screening potential incubator clients
- Collecting fees for client technical assistance services and rent

The most successful incubators in the U.S. are directed by highly skilled managers who understand entrepreneurship and can address the unique issues faced by small and growing young businesses. Likewise, these individuals are effective in marketing, facilitating the use of value added resources and services, and establishing broad collaborations among stakeholders and supporters. An incubator manager in particular can play a vital role in assisting the incubator client businesses with the launching of their individual businesses. Ideally an individual with a wide background in business development practices, management and operations will be identified to lead the incubator. It is typical and desired for an incubator manager to know a great deal more than an incubator client about the entrepreneurial process. An incubator manager should also have skills and expertise with strategic planning as it relates to small businesses as well as have an established network of contacts and small business resources within the community served by the incubator.

Relationships and volunteer human resources should be developed such that volunteer and consulting services are readily known and able to be utilized when needed. Typically incubator managers and staff are burdened with incubator facility management as well as fundraising activities to support the incubator. These activities are known to
take excessive amounts of staff time and only serve to take the staff away from the incubator’s mission to provide entrepreneurship training and education opportunities. A strategy to deal with the issue of not being able to provide enough or high enough levels of entrepreneurship training and education is to utilize volunteer services from nonprofit organizations, government agency staff (e.g., SBA, IRS), bank representatives, successful entrepreneurs, and private consultants.

No matter what organization and structure is developed and which manager is selected, each of the choices made should focus on what “fits” the development goals of the incubator. A small diameter wood incubator would concentrate on small diameter wood technology and marketing of small diameter wood products.

Clients and Operational Roles

Clients

Incubator clients typically fall within one of three categories: affiliate companies, anchor clients, and clients residing in the facility. An affiliate company pays fees to participate in an incubator’s service programs and activities, but is not an occupant within the incubator facility. An anchor client is located in the facility, but pays market rent rates and does not typically participate in the incubator’s service programs and activities. For most incubators, affiliates and anchor clients represent a relatively small percentage of total clientele. Incubator clients residing within the facility are those most apt to participate in an incubator’s service programs and activities.

Operational Rules

The typical environment that causes a business to become an incubator client varies accordingly to the types of incubator, entrepreneurial climate, and regulations of
sponsoring agencies. However there may be unique and/or special circumstances of clients in an incubator that cannot be planned or anticipated. The most common operational rules usually include enrollment, reporting, duration of stay, and exit policies.

**Entry Rules**

As a rule of thumb, nonprofit, entrepreneurial development-based incubators would in most cases require a well-planned business plan as an entry requirement, while others may want to see a well-developed business idea in lieu of a business plan. In some cases, the requirement of a business plan as an entry policy would encourage entrepreneurs to have a solid and serious attitude about their investment and aid in their entrepreneurial opportunity for success. Although the latter requirement may not be as desirable as the former, it provides the incubator manager and the individual client with the framework to work with and to turn the well developed idea into a functional blueprint for business development. Entry procedures require the full commitment of the incubator manager to support the efforts of the entrepreneur who shows a strong personal and financial commitment to succeed but who needs assistance in developing a business plan.

**Additional Screening Rules**

Sometimes additional entry screening rules are incorporated and demanded to assure potential clients each have an opportunity to succeed; for instance, clients may be required to sign on to a package of management assistance to strengthen their business development plan. The purpose of these additional requirements is to help incubator clients solve small business problems while still at a manageable stage. Example areas requiring focus typically include: conflicts with start up capitalization, product
development, marketing research, personnel selection, and the making of decisions that will impact the business venture.

**Reporting Requirements**

Although relatively new as an industry requirement, many incubators are now stating directly in their contracts that businesses receiving direct assistance from the incubator provide the incubator with certain records, and regular reports regarding the financial status of their business, if they participate in the program. The incubator itself, particularly if it receives any public dollars will need to account for the positive contribution it is making to the community, particularly as it relates to business and economic development and resulting job creation will rely on these reports. Information that is typically collected from participating client businesses includes: operating expenses, gross sales, and staff growth.

**Duration of Stay**

The rules for the duration of stay vary according to the philosophy of the business incubator. Introducing a policy to gradually increase rent for commercial space on an annual basis appears to be an appropriate procedure to motivate incubator client businesses to move out of the business incubator. During their stay, incubator client businesses can expand their operation by renting more space and taking advantage of all services offered by the incubator. In some instances, incubator client businesses are allowed to stay in incubation for long periods of time as justified by the number of jobs they support. As a rule, incubator client businesses should be encouraged to graduate once they achieve predetermined milestones and have become established.
Exit Policies

Exit criteria or requirements to graduate from the incubator are flexible in most cases. Some incubators may require a lease or contract renewable annually, semi-annually, or in some cases, on a month-to-month basis. Although this requirement may not be negotiable, some incubators will work with individual entrepreneurs to find the best solution if the lease or rental agreement would interfere with the client’s future success. Sometimes clients have been known to return to the incubator after “graduation” in order to offset the prevailing market’s rental demands or other economic conditions that were not anticipated such as rapid growth, high payroll, high-debt repayment schedules, and, in general, unmanageable business conditions which are placing their ventures in jeopardy. Incubators take these cases on an individual basis and may require specific rental conditions as criteria for re-entry. Some rules for entry or exit in incubators are determined by the entrepreneurial spirit or climate as predominant in settings such as tribal or other minority-based economic development centers. The nature of the requirement in these cases depends on location, type of incubation (e.g., incubators without walls, tribal councils), and sponsorship organization (e.g., nonprofit minority associations, government-funded women/minority incubators).

Incubator Facility Requirements

A facility can and will likely be an integral part of the incubator program. In order to function efficiently some physical facility will ultimately be necessary for incubator operations. The size of the facility and its specific requirements will ultimately be dictated largely by the type of incubator developed and the business plan of the developers. While there are some successful “virtual” programs, having an actual facility,
even if small, will be beneficial largely from the perspective that the incubator business will have a location in which to meet and work with incubation participants. From an incubator client point of view having more elaborate or sophisticated facilities that space can be rented from is desirable from several perspectives including:

- **Image**: Entrepreneurs have an option of working from an established looking office facility that will send positive image messages to potential and current clients, as well as investors. It is common for many business owners to instead start out by working from their home, garage, or low-cost office space until they become established.

- **Operational Efficiency**: Entrepreneurs have access to a facility that is already outfitted enabling the entrepreneur to instead spend time focused on the development of the firm’s core business. Business owners typically spend great amounts of time and energy on operational concerns such as setting up phone systems, outfitting an office space with furniture, and dealing with equipment purchases and upkeep.

- **Responsiveness**: Entrepreneurs have ready access to their “business development coach” when they have a specific challenge or need that they are working through. Likewise, the incubator coach has ready access to clients and may identify an issue prior to it becoming problematic for the business.

- **Peer Support**: Entrepreneurs have access to both intellectual as well as emotional support as they kick start their businesses. Incubator clients also have the ability to share resources, strategies, and technologies that they might not otherwise be able to afford.

One of the greatest benefits that incubator clients cite regarding their facility is the flexibility it provides. Small start-up businesses often find the process of having to come up with bank guarantees and references overwhelming, and that lease terms (often at least three years) are often difficult to stomach given the uncertainty of their business. Lease agreements are often intimidating and require legal council which adds to the cost of a business moving into the leased space. Added to this is the fact that start-up businesses
are often forced into relatively large scale spaces so that the space meets the businesses long-term vision. The problem with this is that many start-up businesses can not carry the monthly overhead costs along with the retrofitting and furnishing of the often too large space.

The flexibility of an incubator space is inherent from the offering of small lease spaces, and short-term leases with as little as one months notice required for lease severance. Furthermore, incubator buildings usually contain spaces in a variety of sizes providing options for a firm to move to as it grows out of its current space. Additionally, incubator lease agreements are typically short (a few pages) as well as straight forward. The clean cut nature of these contracts provides for easier entrance and exit from lease terms.

**Incubator Service Requirements**

One of the most important endeavors of a small diameter wood incubator is to assess the demands of its intended client base and then coalesce a variety of services into a comprehensive business assistance program designed to successfully maintain those intended clients. This client demand identification is an ongoing process. Early in the incubation process daily meetings with the management team, staff, and clients may be necessary until a level of maturity is reached. Later in this process, meetings can be held semi-monthly or as needed.

The entire menu of value added services that an incubator can offer is quite broad. Below is a list of most common services which may or may not be offered at a small diameter wood incubator in rural Nevada:
• Core Business Basics: Business planning from basic business plans to cash-flow projections, product distribution, marketing, accounting, management, and equipment needs.

• Professional Services: Reduced rate consulting services that may include assistance with marketing, negotiations, financing, legal services, intellectual property management, staffing and recruitment, accounting, bookkeeping, and business practice trainings. These services are able to be offered at a reduced rate through the incubator due to negotiated agreements made between private consulting firms and/or local and state public entities.

• Networking Opportunities: Facilitation of both formal and informal connections and networks between the facility tenants. Benefits from this effort will likely include increased sales, job creation, lower costs, enhanced capabilities, reduced risks, moral/psychological support, and improved skills.

• Seminar and Trainings: Programs and trainings geared towards both clients and non-clients that provide an ongoing educational atmosphere for clients and the incubator with a steady source of potential future clients and potentially a small revenue stream.

• Resource Library/ Computer Lab: Access to a comprehensive resource library including a cross section of business literature. Having access to good sources of relevant information can make a world of difference for a business that is in its infancy and needing to better understand the local business environment.

• Mentoring/ Coaching/ Facilitation: Access to business knowledge and experiences to guide and assist through business challenges. Incubator staff can facilitate the use of specialized resources or instruct the client on how to do something in such a manner that the client can complete the task themselves.

• Internet/ Website: Training and assistance with techniques addressing how to establish a presence on the web as well as trainings on how to use the web as a resource.

• Shared Administrative Services: Assistance essential to any business such as shared receptionist, answering service, conference room, photocopying, and document preparation. Few start-ups can afford the burden of the added staff necessary to perform these functions. Through the sharing of services cost can be kept down and entrepreneurs can more efficiently allocate their time.

• Phone Systems: Access and use of a sophisticated phone system.

• Security: Shared use of security resources protect valuable information and equipment and add to greater peace of mind.
• Space/ Building Services: Access to more sophisticated office space set-up including amenities such as a kitchen, bathroom, and janitorial services. Having the ability and flexibility to expand or retract a business space as necessary is a strong selling point for some businesses.

• Marketing/ Promoting Clients: Sophisticated marketing knowledge practices and the potential for sharing of advertising space.

• Affiliate Programs: Services, including administrative and business assistance outreach activities developed for clients not located in the incubator primary building (i.e. virtual technical assistance). These services serve to increase the scope of the incubator and also increase revenues.

• Micro-loan and Financing Programs: May include an in-house business loan and grant program(s) to complement available bank and/or government-guaranteed bank loans. These micro-loans are typically financed through both public and private entities. The Small Business Administration and the Economic Development Administration both have federal micro-loan programs that at times have been housed within an incubator business.

• Pre-loan Application: Assistance with the pre-loan application process so that applications can be completed more quickly and efficiently with greater access to community loan programs as a result.

• Capitalization and Venture Partners: Assistance with identifying alternative funding options. Important to promising clients ready for the next stage of growth or entrepreneurs looking for an exit strategy.

• University Collaboration: Linkages to higher education resources. Universities are filled with the knowledge of professors, information for libraries, and a talented work force of students.

Adkins et al. (2002) surveyed fifteen rural business incubators east of the Mississippi River to derive the mix of services offered by rural business incubators. Table 1 shows the mix of services provided by rural incubators found by Adkins et al. (2000) and could provide information as to potential services offered to the proposed small diameter wood manufacturer.
Table 1. Percentages of Common Incubator Services Offered

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help with business basics (developing business plan, etc.)</td>
<td>100 %</td>
</tr>
<tr>
<td>Help with accessing commercial bank loans</td>
<td>93 %</td>
</tr>
<tr>
<td>Networking activities among incubation program clients</td>
<td>93 %</td>
</tr>
<tr>
<td>Shared administrative/ office service</td>
<td>86 %</td>
</tr>
<tr>
<td>Accounting/ financial management</td>
<td>86 %</td>
</tr>
<tr>
<td>Marketing assistance (market research, advertising, promotion)</td>
<td>86 %</td>
</tr>
<tr>
<td>Linkages to higher education resources (interns, lab facilities, etc.)</td>
<td>86 %</td>
</tr>
<tr>
<td>Internet access</td>
<td>86 %</td>
</tr>
<tr>
<td>Human resources/ personnel development/training</td>
<td>80 %</td>
</tr>
<tr>
<td>Help with accessing noncommercial loan funds/ guarantee programs</td>
<td>73 %</td>
</tr>
<tr>
<td>Federal procurement assistance</td>
<td>73 %</td>
</tr>
<tr>
<td>Management team development</td>
<td>66 %</td>
</tr>
<tr>
<td>Assistance with manufacturing practices, process, and technology</td>
<td>66 %</td>
</tr>
<tr>
<td>Comprehensive business training program</td>
<td>60 %</td>
</tr>
<tr>
<td>Regulatory compliance</td>
<td>60 %</td>
</tr>
<tr>
<td>General legal services</td>
<td>60 %</td>
</tr>
<tr>
<td>International trade assistance</td>
<td>60 %</td>
</tr>
<tr>
<td>Linkages to angel or venture capital investors</td>
<td>53 %</td>
</tr>
<tr>
<td>Assistance with e-commerce</td>
<td>53 %</td>
</tr>
<tr>
<td>Specialized equipment/ facilities (kitchen, forklift, etc.)</td>
<td>40 %</td>
</tr>
<tr>
<td>Mentors/ shadow boards</td>
<td>40 %</td>
</tr>
<tr>
<td>Business management process/ inventory management</td>
<td>40 %</td>
</tr>
<tr>
<td>Economic literacy training</td>
<td>40 %</td>
</tr>
<tr>
<td>Commercializing technology</td>
<td>33 %</td>
</tr>
<tr>
<td>Intellectual property management</td>
<td>33 %</td>
</tr>
</tbody>
</table>

Source: Adkins et al. (2000)
A common axiom in the incubator business is, “The heart and soul of an incubator is the assistance it provides to clients.” This is backed up by founder and president of the successful incubator company SPEED, Robert Meeder (1993), when he said that services come first, real estate second. If in the incubator business, supposedly you’re in the business of delivering services that add value to your client - as opposed to being a real estate location. Having this philosophy and providing a solid mix of services is sometimes not enough. The following obstacles and challenges have been identified by Adkins, et al. (2000) as the most common faced by incubators and/or their clients participating with rural business incubator programs.

- Unavailable financing options for companies
- Lack of an entrepreneurial background and experience with starting up a business
- Incomplete/ inadequate management team
- Distance or access to support networks/expertise is often too great or unavailable
- Limited market and potential for supporting the business – customer acceptance poor
- Lack of person economic resources, business literacy and/or education
- Insufficient technology literacy and available options

**Market Development Consideration**

A key component for market development would be a business gap or demand analysis. This would provide information as to potential demand for small diameter wood products in different areas of the state of Nevada. In addition using Geographic Information System (GIS) data, maps of potential small diameter wood supply in the state of Nevada would provide information as to potential location and supply of small diameter wood. Also, a questionnaire of the Nevada public could yield information as to numbers and locations of potential small diameter wood suppliers. This would also
provide information as to potential location of a small diameter wood incubator in the state of Nevada.

From the above analysis, a second question becomes as to how large the demand of the small diameter wood industry would be for using the services of an incubator. To sustain a small diameter wood incubator, business activity needs to be sufficient to provide a new group of businesses to the small diameter wood incubator every two to four years. The length of time may vary given the time to properly incubate the existing clients. For feasibility analysis, the number of clients that can be incubated will dictate the graduation process.

Overall it is important to recognize that business incubation is not the same across industries. Therefore for the feasibility study, market demand and supply need to be adequately estimated to determine if a small diameter wood incubator would be feasible.

This part of the report has given a general overview of common business incubator operations and best practices. The operations and practices are easily transferable to rural business incubators and should be considered in the evaluation of a small diameter wood incubator in rural Nevada.
REFERENCES


PART II:

ESTIMATES OF AVAILABLE PINYON-JUNIPER HARVEST
Estimates of the Available Pinyon-Juniper Harvest

AVAILABLE VOLUME ESTIMATES OF PINYON-JUNIPER

Previous estimates of the total area of pinyon-juniper forests in all of Nevada set the value at about 9 million acres (Intertech, 2005; Ffolloit, et al., 1999). Estimates of available supplies in White Pine and Lincoln counties range from 3.6 million acres to 10.8 million acres (Intertech, 2005). Most professionals, however, appear to believe that the Nevada Gap Analysis Project (GAP) figures greatly underestimate the actual supply of pinyon-juniper (P-J) available in these three counties.

The value of 9 million quoted by Ffolloit, et al (1999) comes from Born, Tymco and Casey (1992) and includes values for P-J woodlands that are in private hands. It also includes non-pinyon-juniper species (mostly mountain mahogany, but that is only about 2% of the total) (Born, et al., 1992). The more appropriate estimate for Nevada would be about 8.24 million acres. The Nevada GAP project, however, estimates about 7.11 million acres of total P-J for the state. It is not known if this figure includes private land or not. Born, et al., exclude areas of limited or prohibited access (Death Valley NM, Lake Mead NRA, the Nevada Test Site and the Desert NWR) and list P-J amounts for the Great Basin NP in a separate category. Again, it is not known if the GAP project also excluded these areas.

The data from which Born, et al (1992) drew their figures comes from a sample-based inventory using map data, aerial photo interpretation and field samples. Map and aerial data were samples using 1,000 m² plots (Born, et al., 1992). The data from the GAP Project used a resolution of 30 m². Because of the higher resolution, it is believed that the GAP Project provides better data.
The GAP Project split P-J woodlands into six sub-categories based on predominant species and the amount of canopy cover. These categories are listed in Table 2. In this analysis, all six categories were combined to arrive at the 7.11 million figure quoted above. Of that amount, pinyon and pinyon-juniper forests covering 30 to 60% (Pinyon 2 and Pinyon-Juniper 2) comprised almost 90% of the total acreage.

The amounts estimated for P-J in White Pine and Lincoln County also appear to be overestimated. Born, et al. (1992) estimates 1.939 million acres of P-J in White Pine County and 1.738 million acres in Lincoln County. This totals to 3.678 million acres for both counties. It is suspected that Morris (Intertech, 2005) made this estimate based on the Born et al. data (1992). The GAP Project, however, estimates that White Pine has a total of 1.237 million acres and Lincoln has .849 million acres for a total of 2.087 million acres (Table 3). This estimate is about two thirds of the Born et al. (1992) estimate.

The data from Born, et al. predates 1992. The data supplied by the Nevada Gap Project came from the Utah Cooperative Fish and Wildlife Research Unit (1996). Therefore the data does not represent changes that have affected the P-J woodlands in the past nine years. How much additional growth that has occurred is unknown. However, Born, et al. (1992) in their survey estimated that annual growth for P-J woodlands was about 1%. Pinyon was increasing twice as fast as juniper.

In addition, Nye County has about one million acres of pinyon-juniper. However, it was not determined how much of the coverage was in the eastern part of the county.
Table 2. GAP Classification Categories

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juniper 1</td>
<td>Predominant species is Utah juniper with canopy cover less than 30%</td>
</tr>
<tr>
<td>Juniper 2</td>
<td>Predominant species is Utah juniper with canopy cover from 30 to 60%</td>
</tr>
<tr>
<td>Pinyon 1</td>
<td>Predominant species is single leaf pinyon with canopy cover less than 30%</td>
</tr>
<tr>
<td>Pinyon 2</td>
<td>Predominant species is single leaf pinyon with canopy cover from 30 to 60%</td>
</tr>
<tr>
<td>Pinyon-juniper 1</td>
<td>Co-dominant species are single leaf pinyon and Utah juniper with canopy cover less than 30%</td>
</tr>
<tr>
<td>Pinyon-juniper 2</td>
<td>Co-dominant species are single leaf pinyon and Utah juniper with canopy cover from 30 to 60%</td>
</tr>
</tbody>
</table>

Table 3. Pinyon-Juniper Coverage in Lincoln and White Pine Counties

<table>
<thead>
<tr>
<th>County</th>
<th>Total Area (acres)</th>
<th>P-J Coverage (acres)</th>
<th>% Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lincoln</td>
<td>6,808,697</td>
<td>849,172</td>
<td>12.47%</td>
</tr>
<tr>
<td>White Pine</td>
<td>5,694,155</td>
<td>1,237,624</td>
<td>21.74%</td>
</tr>
<tr>
<td>Total</td>
<td>12,502,852</td>
<td>2,086,796</td>
<td>16.69%</td>
</tr>
</tbody>
</table>
**Available Volume**

Ffolloit, Gottfried and Kruse (1999) state that the average yield of P-J woodlands in Nevada is about 6.5 cords per acre. This yields about 464 ft³ (17.2 yd³) per acre in volume (Ffolliott, et al, 1999). The weight of a cord of wood is 1.2 short tons (2400 lbs). On average, each acre of pinyon-juniper forest contains 7.8 tons of biomass material (Intertech, 2005).

The above is total biomass per acre available. However, the actual amount will be less since the forests are to be thinned, not clear cut. Two factors will affect the amount of biomass that is available for harvesting. One will be the rate of growth of the P-J woodlands over the past 9 years. The other will be the rate at which the woodlands are thinned. Table 4 lists the volume available cross-tabulating the thinning rate with the growth rate. Thinning rates are analyzed at 10, 20, 25, 30, 40 and 50% and growth rates from 0 to 5% (with 10% and 20% rates also included). The analysis uses the GAP Project data. Table 5 does the same cross-tabulation by weight.

At a thinning rate of 50%, the expected volume available will be about 20 to 30 million yds³ or 25 to 35 million tons of biomass. The rate of growth that Born, et al. (1992) estimated may actually be greater. There seems to be a consensus that the amount of P-J is growing fairly rapidly. However, there are no estimates available except for those provided by Born, et al. (1992).
### Table 4. Estimates by Volume

<table>
<thead>
<tr>
<th>Growth Rate (%)</th>
<th>10</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3,589</td>
<td>7,179</td>
<td>8,973</td>
<td>10,768</td>
<td>14,357</td>
<td>17,946</td>
</tr>
<tr>
<td>1</td>
<td>3,926</td>
<td>7,851</td>
<td>9,814</td>
<td>11,777</td>
<td>15,702</td>
<td>19,628</td>
</tr>
<tr>
<td>2</td>
<td>4,290</td>
<td>8,579</td>
<td>10,724</td>
<td>12,868</td>
<td>17,158</td>
<td>21,448</td>
</tr>
<tr>
<td>3</td>
<td>4,683</td>
<td>9,366</td>
<td>11,708</td>
<td>14,049</td>
<td>18,733</td>
<td>23,416</td>
</tr>
<tr>
<td>4</td>
<td>5,109</td>
<td>10,217</td>
<td>12,771</td>
<td>15,326</td>
<td>20,435</td>
<td>25,543</td>
</tr>
<tr>
<td>5</td>
<td>5,568</td>
<td>11,136</td>
<td>13,920</td>
<td>16,704</td>
<td>22,273</td>
<td>27,841</td>
</tr>
<tr>
<td>10</td>
<td>8,463</td>
<td>16,926</td>
<td>21,158</td>
<td>25,390</td>
<td>33,853</td>
<td>42,316</td>
</tr>
<tr>
<td>20</td>
<td>18,520</td>
<td>37,040</td>
<td>46,300</td>
<td>55,560</td>
<td>74,080</td>
<td>92,600</td>
</tr>
</tbody>
</table>

### Table 5. Estimates by Weight

<table>
<thead>
<tr>
<th>Growth Rate (%)</th>
<th>10</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4,307</td>
<td>8,614</td>
<td>10,768</td>
<td>12,921</td>
<td>17,229</td>
<td>21,536</td>
</tr>
<tr>
<td>1</td>
<td>4,711</td>
<td>9,421</td>
<td>11,777</td>
<td>14,132</td>
<td>18,843</td>
<td>23,553</td>
</tr>
<tr>
<td>2</td>
<td>5,147</td>
<td>10,295</td>
<td>12,869</td>
<td>15,442</td>
<td>20,590</td>
<td>25,737</td>
</tr>
<tr>
<td>3</td>
<td>5,620</td>
<td>11,240</td>
<td>14,049</td>
<td>16,860</td>
<td>22,479</td>
<td>28,099</td>
</tr>
<tr>
<td>4</td>
<td>6,130</td>
<td>12,261</td>
<td>15,326</td>
<td>18,391</td>
<td>24,522</td>
<td>30,652</td>
</tr>
<tr>
<td>5</td>
<td>6,682</td>
<td>13,364</td>
<td>16,704</td>
<td>20,045</td>
<td>26,727</td>
<td>33,409</td>
</tr>
<tr>
<td>10</td>
<td>10,156</td>
<td>20,312</td>
<td>25,390</td>
<td>30,468</td>
<td>40,624</td>
<td>50,780</td>
</tr>
<tr>
<td>20</td>
<td>22,224</td>
<td>44,448</td>
<td>55,560</td>
<td>66,672</td>
<td>88,896</td>
<td>111,120</td>
</tr>
</tbody>
</table>
Further Considerations

The data available is relatively old. Additional data is required for improved estimate of the actual amount of P-J available. Conversion values for the volume and weight of chipped P-J need to be checked. There is a possibility that the weight is overstated. The actual amount removed in thinning operations needs to be pinpointed. Additional data would decrease the variability of estimates of the potential P-J harvest.

Another consideration is the possibility of expanding the source area into Nye County. The GAP Project estimates slightly more than 1 million acres of PJ in Nye County but the location and distribution is not known. Born, et al. (1992) estimates about 1.55 million acres of P-J in Nye County. Much of this appears to be located in the eastern portion of the county although actual acreage amounts are not given (Born, et al., 1992) See Figure 1.

An additional consideration that is not addressed here is to include parts of Western Utah as a potential source of P-J biomass. The vegetation landscape for Eastern Nevada and Western Utah are similar. O’Brien and Woudenberg (1999) discuss the abundance of P-J in Utah. Mitchell and Roberts (1999) employed maps of the P-J forests in Utah. They use two different mapping surveys to estimate the area from both surveys. However, the distributions of P-J are different for each survey. Both studies seem to indicate larger areas of P-J in southwestern Utah, particularly in Beaver, Iron and Washington counties.

In summation, the actual amount of biomass available may be smaller and will depend on how much of the acreage is actually thinned. Most of the thinning will be
done by the BLM. Currently, projections by the BLM in Ely are to thin 5,800 acres over the next five years. At an estimated yield of approximately seven tons (7 tons) of biomass per acre, this would mean that 40 to 45 thousand tons will be available over the five year span or an average of 8 to 9 thousand tons will be available per year. However, these averages are highly variable due to uncertainties of future federal budget funding.
for the BLM and potential legal actions by environmental and/or other groups. Without
legal problems and given enough federal budgetary support, it is expected that the
amount of biomass available will increase in the future (Coombs, 2005).

FURTHER CONSIDERATIONS

A supply of approximately 9,000 tons per year would not necessarily be available
for start-up enterprises in Lincoln County or White Pine County. Current thinning
projects have had no surplus output because private contractors have absorbed the surplus
amount. One contractor is reprocessing the chips in Cedar City, Utah and reselling the
pinyon-juniper biomass as mulch. A second contractor is supplying biomass to the
“Fuels for School” program in Ely. Interest in future output has appeared from an
Oregon company and a company in Susanville, California that produces biomass power
(Coombs, 2005). Therefore, there would be a great amount of competition for a
relatively limited supply. Currently, Honey Lake Power is operating at one-third of its
capacity due to the lack of biomass supply (Lassen County, 2005).

Unless new biomass supplies become available, a small diameter wood incubator
in Lincoln County or White Pine County based on biomass may require subsidization.
The amount of subsidy would be determined by a feasibility study. It also appears that
any start-up industry would immediately compete with established firms.
REFERENCES


Coombs, C. Phone conversation and e-mail communications. Fire Management Specialist/Fuels Program in the BLM Field Office, 2005.


Lassen County Board of Supervisors. Lassen County Board of Supervisors Regular Session, February 8, 2005.


PART III:

STEPS FOR FEASIBILITY ANALYSIS OF A SMALL DIAMETER WOOD INCUBATOR FOR THE STATE OF NEVADA
Steps for a Feasibility Analysis of a Small Diameter Wood Incubator for the State of Nevada

Introduction

Incubators provide two general areas of benefits (Weinberg, 1987). One benefit is to the local economy and another is, more obviously, the benefit to potential small businesses. Incubators benefit the local economy by expanding the economic base and by creating jobs. Incubators benefit small firms by providing assistance that will help them survive in the market. It should be noted that incubators are long run development tools. In the case of small diameter woods, results may be a very long run development. That is, results will not necessarily be seen immediately, but rather over a period of years. Secondly, incubators launch small firms that will create new jobs after the firm has successfully completed the incubation program. It should be understood that incubators are not a quick fix for economic woes.

A small diameter wood incubator would benefit rural Nevada as outlined by Weinberg (1987). Rural Nevada economies are characterized as “boom-bust” economies primarily based on natural resource industries. A small diameter wood incubator could provide an avenue for rural Nevada to diversify its economy and employ the natural resources that exist in rural Nevada.
Four Essential Questions for Feasibility Analysis

In developing a feasibility analysis of a potential small diameter wood incubator in rural Nevada, four essential questions should be answered:

1. **Is there sufficient demand for an incubator and/or the services which an incubator provides?**

   Does the demand exist for services that a small diameter wood incubator could provide? This information can be acquired by surveying the people and agencies that deal with small diameter wood incubators and people who would be potential entrepreneurs. This includes agencies such as banks, chambers of commerce, county extension offices, realtors, and others who are often approached by people needing information about starting a business. After it has been determined that there is sufficient demand for the construction and continued operation of a small diameter wood incubator then question two should be answered.

2. **Is the managing agency committed to the success of the incubator?**

   The incubator houses firms which require a high level of management assistance. The managing agency will be required to meet the needs of these firms and to utilize available resources to keep the incubator in operation. For the incubator to be successful, appropriate resources, efforts, and assistance will have to be offered. If the incubator management entity decides to go forward with incubator development, the next question is important.
3. **Is there a suitable site where an incubator can be built or renovated that is convenient to potential tenants and existing businesses/markets?**

   The incubator site is a highly crucial factor in the success of an incubator. A site should be easily accessible to potential tenants as well as potential customers. An accessible site lends itself to success. Tenants need to feel at ease with the facility and not have to worry about their customers finding their business. Customers prefer a business place that is easy to locate. Site selection can also impact the cost of the incubator program. For example, will an existing facility be renovated or will a completely new building be built?

   The proposed small diameter wood incubator could probably be built in either Lincoln County or White Pine County. Geographic Information Systems (GIS) could be used to outline the location of small diameter wood supply. Using data from question 1, the demanders for the small diameter wood incubator could be charted. Using layers of GIS, an optimal location for the proposed small diameter wood incubator could be located that would be close to the small diameter wood supply and demanders. Once the site and facility type are selected, there remains one more key ingredient for an incubator’s success.

4. **Is there community support for the incubator idea?**

   Incubators are designed to spawn new and viable small firms by reducing their costs and providing them with management assistance. This is good for the tenant firm; however, an existing small business may feel threatened by the incubator. The existing firm may feel that the incubator is providing an unfair advantage to its
competition. After all, firms that are launched from an incubator receive aid that will help them survive and compete in the market. Community involvement is essential in the smooth operation of an incubator. The community should be informed about the incubator and play some role in its development and operation. It is important to match the needs of the community with the goals and objectives of the incubator. This matching is best accomplished by creating an incubator advisory committee made up of local officials and business persons. The purpose of the advisory committee is to review incubator practices such as tenant selection. Judicious tenant selection can help prevent undue competition and too much of a particular business product or service.

Lincoln and White Pine Counties would encourage development of a small diameter wood incubator because of a need to diversify their economies. However for a successful incubator, a more detailed analysis of potential small diameter wood supply would be required.

**Incubator Start-Up**

Once the decision to develop a small diameter wood incubator has been reached, there are six basic steps in developing an incubator feasibility analysis. The essence of these steps is summarized from a recent publication by Peter Bearse (1993):

1. **Conduct a market analysis.**

   An accurate market analysis is the keystone to development of a small diameter wood incubator. The market analysis identifies potential tenants and the demand for an incubator and the services which it provides. If it is done accurately the analysis will help to define the needed incubator facility and its services. This is
done by measuring the size and needs of the market. Size of the market will
determine if there is sufficient demand for the construction of a small diameter
wood incubator. Demands of the market can mold the services and programs of
the incubator.

2. **Select an incubator site.**

The incubator site plays an important role in the success of an incubator.
Depending on the decision to renovate an existing facility or to build a new one, the
site selection process should occur based on the convenience to potential tenants and
their customers. The small diameter wood incubator site should be attractive and
project an image of success. The decision to renovate or build a new facility should
match the incubator’s goals as well as the needs of the market and community.
Renovated facilities are typically cheaper per square foot than new facilities.
Typically renovated facilities are aimed at providing affordable space. New facilities
are designed to focus on the provision of support services. If a community has a large
potential clientele and thus, a large demand for inexpensive space, a renovated facility
will best service this need. One the other hand, if a community does not have an
obvious client pool, thus less of a demand for space, a new facility might be better
suited. The location of small diameter wood supply and distance to demanders will be
key components for the site selection.

3. **Facility design.**

Once a facility site and building are selected it is important to review the design
of the facility for convenience factors. Convenience factors are arrangements in
the building itself. Important factors include the location of corridors and loading
docks. Tenants should have easy access to loading facilities. Location of office services, incubator personnel, and other services are also important to operation by the tenant. Facilities should be designed for easy occupation by a variety of tenants. Ease of adaptability of tenant space is important to reduce the downtime facing a tenant who is moving into the incubator. All of the factors dealing with the move into and operation of the business within the incubator should be reviewed prior to construction or renovation. A small diameter wood incubator should be well designed to allow easy access to tenants and their customers.

4. **Selection of support service offered by the incubator.**

What will the incubator offer to potential clients other than inexpensive space? Determination of the type and range of services is important. Incubators must be prepared to cater to the needs of several types of potential clients. For a small diameter wood incubator there could be many different types of clients which could influence the cost of building and operation of the incubator. Also, the incubator should consider how these services are to be financed. Will tenants pay for these services or will the incubator sponsor pay the provisions? Part of the financial planning for services needs to include the possible subsidizing of these services. Some incubators subsidize their services to further relieve the financial burden placed on their tenants. The funding source for this subsidy should be incorporated into the service plan. For a small diameter wood incubator subsidies will be required. The amount and timing would have to be calculated in a detailed feasibility analysis.
The types of services desired by potential clients are an important part of the market analysis. From a study in Oklahoma (1995), managers, tenants, and graduates were asked about the importance of the services they used. The three most important services for each group were as follows:

**Managers**
1. Management assistance
2. Duplicating
3. Machinery and equipment

**Tenants**
1. Management assistance
2. Machinery and equipment
3. Duplicating

**Graduates**
1. Management assistance
2. Duplicating
3. FAX

Funding limited the level of services that incubators provided. This further emphasizes the need to plan for the funding of the services so the incubator can efficiently service their tenants. For a rural Nevada small diameter wood incubator, funding may limit the viability of such an enterprise. The feasibility analysis would project funding needed to adequately develop a small diameter wood incubator in Eastern Nevada.

5. **Prepare an incubator financing plan.**

The financing plan will provide projections of how the incubator will operate for a five to ten year period. This plan must be created with reliable assumptions. Faulty estimates will nullify the effectiveness of the plan and jeopardize the soundness of the incubator. A financing plan needs to address how immediate and long-term capital needs will be met. The financing plan should determine if the incubator will be self-sustaining after five years.
Incubators received initial funding from a variety of sources, the most common being grants from various state and federal agencies. Some incubators hold a bond election, which is a good way for a community to show support for an incubator.

Incubators generate operating capital from rent and service fees. Other funds for operation and facility improvement are provided by the incubator’s sponsor. For a proposed rural Nevada small diameter wood incubator, the funding analysis will be essential in the feasibility study and could suggest different sources or ways to obtain funds for operation.

6. **Incubator organization and management.**

   Incubator goals and objectives should be drawn up in the organization phase. Incubator goals and objectives should be closely related to the goals of the community and their expectations of the incubator. Incubators may be profit or nonprofit organizations. Most incubators are set up as nonprofit. Management functions include the review of staff qualifications for the incubator. Incubator staff should possess knowledge of many areas to best serve the broad types of potential tenants entering the incubator.

   Once all of these steps are completed, they should be compiled into an overall business plan and/or feasibility analysis. This plan or analysis should be flexible and be updated with the changing conditions facing the incubator. One area not discussed previously that is important to the incubator in later operation is a marketing plan.

**Effective Incubator Marketing**

Attracting new tenants is crucial to the continued success of an incubator. For a small diameter wood incubator in rural Nevada, a plan to attract new tenants is essential. This task is more difficult than might be expected. The first and most basic form of
advertising for the incubator is location. A good location is important for public visibility. The facility should also be neat in appearance. As with other businesses, a poor first impression can be disastrous. A well-constructed and attractive sign displaying the name of the facility and the current tenant firm is an important first step in marketing. These efforts cater to the local business traffic. Other methods must be incorporated in order to attract a broader and continuous field of tenants.

A study by David Allen (1987), a professor at Pennsylvania State University, surveyed incubator contracts with respect to nine marketing tools to determine which of these was the most effective at promoting the incubator. The nine areas, ranked in order of importance, are:

- Informal external network (word of mouth)
- Affiliated agency/center referral
- Current tenant referrals
- Public speaking
- Mass media
- Brochures/pamphlets
- Newspaper classifieds
- Radio advertising
- Television

Marketing methods that deal with people on a one-to-one basis do the best jobs of promoting the incubator. Conventional advertising techniques fared poorly. Allen notes that the most effective marketing techniques were time intensive not cost intensive. Creating informal networks, making public presentations, and utilizing affiliated agencies takes time but is reported to be beneficial.

The best methods for marketing involve contacts with past tenants. This is difficult for new incubators who have not had time to develop such contacts. However, the future should not be overlooked by young incubators. Young incubators need to
conduct operations in a manner that generates good contacts and references from their tenants. Satisfying initial tenants and making unofficial network contacts early in an incubator’s life will ease the need for formal marketing in the later years of incubator operation.

For more information or help regarding small business incubators contact the National Business Incubator Association (NBIA), or the Small Business Administration (SBA) at the following addresses:

National Business Incubator Association
One President Street
Athens, Ohio 45701
Phone (614) 593-4331

Small Business Administration
Office of Private Sector Initiatives
1441 L. Street, NW (Room 317)
Washington, D. C.
REFERENCES


