Sustaining the Past, Embracing the Future:
Tourism Opportunities for Ping’an Village
Longsheng County, Guilin Prefecture, Guangxi Province, China

Findings by the Virginia Tech 2011 China Sustainability Initiative Team
Sustaining the Past, Embracing the Future: Tourism Opportunities for Ping’an Village

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Executive Summary

In May 2011, a team from Virginia Polytechnic Institute and State University (Virginia Tech) traveled to Guilin Prefecture in southern China as part of the Department of Natural Resources’ China Sustainability Initiative. The team visited several sites within Guilin including the Guilin urban core, the resort town of Yangshuo, and Ping’an Village in Longsheng County. (Figure 1: Overview of Guilin Prefecture). The group’s mission was to study the tourism industry through the lens of sustainability. Group members included undergraduate, graduate, and doctoral students, most of whom are pursuing advanced degrees in Natural Resources or Urban and Regional Planning. Many have substantial work experience in a variety of disciplines including forestry, natural resource consulting, landscape architecture, mapping, finance, and public health.

The Virginia Tech team participated in forums with two government agencies that oversee development and tourism in Guilin Prefecture. The team participated in a forum with the Urban Planning Bureau that focused on opportunities and challenges to sustainable development in the region. The team also met with the Tourism Bureau where the discussion addressed many environmental and cultural issues facing Guilin Prefecture. These discussions primed the group for research that was subsequently undertaken in Ping’an Village.

While staying in Ping’an Village, the Virginia Tech team participated in meetings with the local Communist party leader and the former village mayor. Both men discussed the development of the tourism industry and its effects on Ping’an Village. Over the course of three days, the team conducted interviews with tourists (domestic and international), shop and restaurant owners, and farm workers. The purpose of these interviews was to gain diverse perspectives from multiple stakeholders in the Ping’an Village tourism industry.

The purpose of this report is to identify sustainable ways to enhance the experience of tourists to Ping’an Village while improving the economic opportunities and preserving the cultural heritage of local villagers. Suggestions and recommendations included in this report are made with the intention to provide a helpful outside perspective regarding the sustainable development of the Ping’an tourism industry. These are based on limited information gathered by the Virginia Tech team during its short time in China and cannot fully account for the social and cultural complexities of this ancient society.
Figure 1: Regional Overview of Guilin Prefecture
Chapter One: Introduction

Ping’an Village is a small village nestled high in the Longji Mountains of southern China. The scenic beauty of its surrounding rice terraces has helped transform this remote village into a popular destination for tourists. In addition, the unique history and culture of the local Zhuang and Yao ethnic groups is a draw for both domestic and international visitors. As tourism has expanded in Ping’an Village so have the economic opportunities of the local people. These new opportunities involve providing tourism-related services instead of the traditional occupation of cultivating rice, reducing the number of residents available to maintain the terraces; however, well-maintained rice terraces are essential to preserving the allure of Ping’an Village for tourists. Construction of tourism-related projects such as private hotels and restaurants has thrived, increasing the capacity for tourists; however, these additions should be accompanied by water infrastructure and waste management systems to accommodate the influx of visitors. Ultimately, the sustainability of the environment, continued economic improvement for all residents, and social cohesion will require an appropriate balance between tourism development and the preservation of the village’s unique heritage and fragile landscape.

Developmental Goals & Report Objectives

To better understand how to address issues of sustainability; it is helpful to recognize the goals and assumptions of the parties involved. The National People’s Congress formally adopted the twelfth Five-Year Plan (FYP) in March 2011. Key themes in the current FYP include rebalancing the economy, addressing social inequality, and protecting the environment (APCO, 2010). The 12th FYP places emphasis on redirecting the economy to one that is consumer based. Development is focused greater inland and in rural parts of the country. China hopes to attract foreign investments in the agricultural and environmental protection sectors. At the same time there is a desire in China for better social services and safety measures. The National People’s Congress was conscientious of drafting goals that strive for a sustainable future in China.
During a meeting with Guilin’s Urban Planning Bureau, the Virginia Tech team learned more about how these national goals are being implemented in Guilin. The Planning Bureau is striving to achieve the following:

- Protect development by sustaining economic growth
- Preserve the natural beauty
- Construct tourism–related infrastructure

While these goals are compatible with the national government’s broader goals associated with the twelfth FYP, they are not easily reconciled. Guilin’s economy is heavily dependent on the tourism industry. The Urban Planning Bureau’s objective to sustain economic growth relates to the construction of tourism friendly infrastructure. However, it is the area’s natural beauty that sparked initial touristic interest in the Guilin area. Therefore, the natural beauty must be maintained while construction and economic growth is occurring; or the economic growth based on tourism will suffer and there will be no need for the tourism friendly infrastructure. Preserving the natural beauty while expanding the tourism industry is not completely dichotomous, but there are inherent tensions.

At the local level, the goals for Ping’an Village are to improve the quality of life through economic growth, yet still maintain the historical culture and traditions. According to the various governmental agencies the Virginia Tech team spoke with, the economy of Ping’an Village has benefited greatly from tourism. The economic benefits facilitate the construction of tourism-friendly infrastructure such as water reservoirs, waste management facilities, private hotels and other similar building projects, which are indirectly affecting agricultural activities and the social fabric of Ping’an. However, it is imperative that the local culture is not lost within the rush of tourism and economic development. Some villagers acknowledged having less leisure time due to tourism, which has reduced participation during annual festivals and led to the degradation of the some rice terraces. The local government must balance the economic growth and development of the tourism industry with the preservation of the natural landscape and cultural heritage.

The objective of this report is to outline a possible framework for initiatives that could have the capacity to preserve the environment, culture, and rice terraces of Ping’an. By no means does this remedy the conflicts derived from economic expansion and infrastructure. Nor does the report provide the solution to save an agricultural society. This report is intended to assess the status of the Ping’an Village’s ecology, analyze the possibility of a cultural center, and evaluate various methods to attract
greater revenues. Further research would be necessary to realize any of the initiatives outlined in this report. It is the Virginia Tech team's hope that this becomes a catalyst for socially equitable policies in Ping’an Village.
Chapter Two: Assessing Environmental Conditions

The rice terraces are a vital asset to Ping’an Village and the surrounding communities. For the last 500-700 years, the Zhuang residents of Longsheng have relied on terrace farming for food and sustenance. Terrace farming is an ingenious technique to utilize mountainous terrain as farmland. By digging numerous flat horizontal surfaces resembling a stairway on a steep sloping hillside, the Zhuang have been able to produce sustainable rice harvests. Terrace farming methods employ sustainable techniques indigenous to the region centuries before any sustainable agricultural movement was conceived; only recently is their continued existence threatened. The terraces are a man-made environmental feature vulnerable to erosion and decay if left unattended. They are fragile structures, requiring extensive year-round maintenance and a population willing to spend the hard hours working there. An abundance of water is necessary to successfully farm rice terraces. However, the terraces are designed such that water cascades downslope into lower terraces, rather than running off the land surface. Even so, the terraces are now competing with the tourism industry for both water and human resources to care for them, leaving some abandoned. Other terraces have been deserted because of pollution and poor waste management systems. Due to the lucrative nature of the booming tourism industry, the cultural heritage derived from terrace farming is jeopardized by the onslaught of tourist activity. Even while promoting sustainable tourism, the increase in sheer numbers of visitors and associated demands for water and waste management resources could overwhelm the villagers of Ping’an and their ability to farm the terraces, preserve the ecology, sustain their culture and accommodate tourists.

Rice Terraces

The development of terraced rice paddy fields is a laborious process based on indigenous agricultural techniques. As noted earlier, the terraces represent adaptive farming which allows the utilization of steep mountainsides for rice harvesting. According to the Food and Agricultural Organization of the United Nations (FAO), the rice terrace farming method is a recognized Globally Important Agricultural Heritage System (GIAHS). In order to understand the genius of this closed agricultural system one must understand its characteristics. Each terraced step and associated dikes are constructed by hand and are sturdy enough to retain water year-round. Underneath the water is a layer of soil which is plowed regularly to prepare for the rice growing season. The plowed soil sits atop the
artificially compacted subsoil or plow pan (Shimpei, 2007). A drainage system accompanies the manicured landscape. Spillways are openings along the dike allowing water to cascade to lower terraces. In addition, drainage conduits are insular portals where water can be drained from the terraces before sowing and transplanting seedlings (Shimpei, 2007).

The water retention and drainage system provides not only an adequate water supply, but also allows the terraces to be used for fish breeding, which replenishes the soil quality (Shimpei, 2007). Year-round irrigation is a unique and critical component to terraced rice paddy farming. Spring waters are regulated by irrigation channels originating further up the mountains. Forested areas filter and regulate spring water flows. Deep root systems maintain the shelf water levels necessary to irrigate the rice terraces. Due to their water retention capabilities, the perennial waters within the terraces can be used as a breeding ground for fish, eels, and waterfowl. Encouraging a healthy aquaculture provides much needed nutrients to exhausted soils; for example, through photosynthesis the vegetation consumes excess carbon, releasing oxygen for the aquaculture (Shimpei, 2007). The oxygen is consumed by the fish; in turn the fish droppings become nitrogen rich fertilizer for the crops. The fish also serve as regulators of invasive weed species. In actuality the rice terrace can be considered a complete ecosystem.

![Figure 2: Neglected terraces at base of Ping’an Village](image)

Despite their importance to tourism as a result of their aesthetic qualities, the rice terraces are in danger of neglect and collapse due to competing employment prospects for farmers created by tourism. Farmers are pursuing tourism-related business ventures because the income potential greatly exceeds that of rice farming (Yuanyuan, 2008). Tourism businesses can be time consuming and often take up most of the available daylight hours. As a result, some of the terraces are neglected and quickly become overgrown with weeds and other plants. When rice terraces are not properly maintained, deep
cracks form leading to water leakage and possible collapse (Shimpei, 2007). The terraces adjacent to the village appear to be declining the most, while those outside the village remain pristine. This observation seems to suggest that farmers with land closest to the village are more inclined to participate in tourism-related ventures, while those with land further away from the village continue to focus primarily on agriculture. Regardless of a villager’s rice paddy location, the effects of ecological decline are myriad. In addition to the direct threat of labor shortage related to tourism, the terraces are also subject to various environmental threats such as the availability of water.

The economic incentive to grow bamboo for industrial purposes also threatens the terraces. Abandoned terraces are prone to rapid decline and erosion. Erosion is further exacerbated by an agricultural shift to bamboo production. Deforestation of pine forests and the loss of their complex root system erode the watershed used for irrigation (Shimpei, 2007). A presentation by Professor Hu, who is associated with the Guilin Tourism Investment Company, informed the Virginia Tech team about the economic demand and incentives for growing bamboo in the Guilin region. Bamboo thrives off a very shallow root system and therefore does not provide adequate support for the terraces, resulting in soil erosion. In addition to a shallow root system, if left unchecked, bamboo can overrun an entire agricultural area. The economic preference for bamboo along with the over logging for construction purposes exacerbates the environmental conditions present in Ping’an Village today. These manmade influences are also compounded by the steep topography of the area.

The rice terraces are critical to the identity of Ping’an Village. These manmade wonders have survived centuries of change and sustained the local people for generations. It is imperative that the terraces remain a focal point for the community and their maintenance must be prioritized in tandem with tourism-related ventures. From a sustainability perspective, protecting the terraces is a multi-pronged endeavor that is critical to the long-term vitality of the village. Providing adequate resources such as a year-round water supply, protective periphery vegetation, and trained manual labor will ultimately be the key to their survival. Additionally, transforming the terraces into profit producing entities beyond their scenic value through rice-branding strategies on the domestic and international markets could provide an economic incentive for their maintenance in the future.

![Figure 3: Pristine terraces outside of Ping’an](image)
Recommendations

- **Formal transfer of knowledge**
  Terraced rice farming is an intricate process. The knowledge required to successfully maintain the terraces has been passed down through generations. This transfer of knowledge has been informal but effective because rice farming has been necessary for survival. Now that tourism has created alternative income for the villagers, rice farming is becoming less of a priority, particularly for the younger generations. This trend could lead to knowledge gaps in the terraced rice farming trade. The community should consider formally documenting the methodology of terraced rice farming in the form of a written manual or audio/visual aide. Compiling a standardized document that maintains the critical transfer of farming knowledge will be invaluable as lifestyles in the village continue to evolve.

- **Utilization of outside labor**
  As the tourism industry continues to grow in Ping’an Village, it will become increasingly difficult for farmers with tourism businesses to adequately manage both ventures. As noted earlier, tourism businesses are more lucrative than rice farming; therefore, the community should consider expanding its utilization of labor pools from outside of the village to farm the terraces. We gathered from our field research that this strategy is being used currently, but in a limited fashion. It seems that it would make sense for more village farmers to utilize this approach and use income generated from tourism businesses to pay outside farmers to maintain their terraces.

- **Education on importance of rice terraces**
  The importance of the rice terraces to Ping’an Village cannot be understated. They serve as the primary tourism draw, provide food, and represent the agricultural heritage of the villagers. Given their value, the village leadership should consider actively promoting the economic importance of the terraces and their direct link to tourism to the village population. This could be done formally in the schools, or informally at community gatherings. It could take the form of a marketing campaign, or a communication strategy. Regardless of the form, the message must clearly articulate the value of the rice terraces and their critical role in the village’s tourism economy.
**Water Systems**

The Li River, which contributes to the Guilin region watershed including the area around Ping’an Village, is vulnerable to adverse effects originating from the tourism industry. The Li River is approximately 214 kilometers in length and covers 6,500 square kilometers. It originates in the Xing’an County’s Mao’er Mountains traveling from north to south. The government also recognizes the Li River as a vital asset to tourism. According to the Guilin Tourism Bureau’s “Sustainable Development of Tourism Industry of Guilin” (2011) presentation, heavily polluting industrial factories were located along the Li River and its tributaries well into the 1960s. In 1982 the national government established the Lijiang River National Scenic Area and forced the factories to move or close. To further address potable water issues the Chinese Communist Party established the Water & Soil Conservation Law of 1988. As stated in Article 8 of the Water & Soil Conversation Law, “The State encourages strict economy on the use of water, greatly promotes water-conserving measures, spreads the use of new technologies and techniques for water-conserving, develops water-conserving industries, agriculture and services, and builds a water-conserving community” (Liu 2004). Even with the legal acknowledgement of water’s relevance it has become threatened across the country. The Li River is not immune to trends of running dry, erosion, and the effects of invasive vegetation, pollution, and grey infrastructure development.

**Describing the Infrastructure**

Tourism-related development and its effects on the water supply in Ping’an Village are evident. While sitting at a local restaurant, the Virginia Tech team interviewed a local resident about her experience with the water system in Ping’an Village. She married into a large family of 14 that operates a guesthouse, restaurant, and their own rice terraces. She provided valuable insight into the separation of water systems: one for human waste that is collected into a special container to be used as fertilizer, while the other is the running water used for irrigation purposes. Drinking water originates 1,200 meters uphill from the village. The water supply throughout the village is inconsistent in its application. While some water piping systems were interwoven into the village and insulated, other water pipes are not insulated properly, leaving the running water exposed to the elements. Sometimes the running water is not piped at all and is left vulnerable to direct input of garbage and runoff pollution. One local elder acknowledged the water system’s degradation claiming that he refuses to wash his produce in the streams as was once customary.
**Pollution**

The sustainable agricultural methods used to construct and maintain the rice terraces are being threatened by pollution. Terrace farming techniques are proven methods that reduce surface water runoff. Excess water runs off into the next terraced rice paddy and the cycle continues downward. While rice is a water-intensive agricultural crop, the terraces maximize the water’s potential. The modernity of nitrate fertilizers, pesticides, and herbicides augment farming techniques like waste fertilization methods. While a majority of the rice terraces are situated at the headwaters and are unaffected by human derived pollutions, as the water travels downward, fertilizers, herbicides, and human/animal wastes accumulate by the time the waters reach the bottom where the village’s entrance is located. The chemicals are producing adverse effects on the rice terraces. Of the 35 terraces that are abandoned as of 2011, a third of them are due to contamination, namely by raw sewage. Others have dried up completely because they lack access to the irrigated water supply originating in the pine-forested mountains. To remedy the situation, some village elders are considering the construction of a hydraulic system to pump water into dried terraces.

**Access to Water**

Regardless of the water efficiency terrace farming provides, factors outside Ping’an Village may affect the availability of water. Ping’an Village receives its water from the forested areas above the terraces. These waters contribute to the Li river system. Many scholars in Guilin have questioned the availability of water in the near future, stating it is of utmost concern compared to any other environmental issue. Others point to receding water levels on the Li River. Traditionally, water access issues are resolved by the construction of manmade structures. While in Ping’an Village, the Virginia Tech team heard discussion of a possible hydraulic water pump and passed by an agricultural reservoir under construction. Without protecting the headwaters from deforestation and other jeopardizing acts, manmade constructed solutions are futile if the river system is drying out.


Recommendations

- **Install a uniform water pipe system**
  Assess the possibility of unifying the water piping system. Insulate exposed pipes in the traditional method of hollowed bamboo. Seal all gaps between pipes of the same diameter. Where water is completely exposed to the elements and difficult to pipe, hang fine netting above and around the exposed water runs to prevent solid waste such as plastic bottles, bags, and packaging from polluting the spring waters. Research local, provincial, or national financing options.

- **Water collection for tourism**
  Research the logistics of a separate water system, specifically for tourism-related uses. This additional water system would separate the competing interests of farmers and the tourism industry. Tourism participants would be responsible for its maintenance and filtration. A preferable source would be to irrigate waters from locations undisturbed by current farming irrigation systems. A likely candidate would be the sources in and around Ping’an Village’s drinking water supply.

- **Reforestation**
  Consider a moratorium on logging around areas vital to irrigation in order to study the effects of deforestation and over-logging in and around Ping’an Village. Identify areas where the spring waters originate in relation to deforestation. Implement buffer zones around forests vital to the rice terraces and Ping’an Village. Establish a pine forest nursery providing resources to construct traditional shelters. Prevent deforestation of hardwood trees in favor of bamboo by educating villagers on the adverse effects of bamboo cultivation including the exacerbation of soil erosion. Research green infrastructure alternatives to the construction of storm water management structures.

- **Bioremediation**
  Research vegetation that could reverse the effects of pollution on the rice terraces by absorbing pollutants from the water and replenishing exhausted soils. A species that will grow outside of the rice harvest season would be ideal. If this plant were to produce a harvest of some sort it could lead to further economic diversification while remediating polluted terraces.
Waste Management

Waste management is a primary concern for both local residents and tourists. In order to preserve the rice terraces, an appropriate and workable waste management plan is necessary. The rice terraces provide not only nourishment for the villagers, but also foster a culture carved from the mountainsides, representative of the natural beauty, harmony, and balance of the scenic natural landscape. The two goals of preserving the terraces and the natural landscape are critically linked; if either were to fail, the culture and traditions of the local people could be jeopardized. Attainment of these interrelated goals is complicated by many factors. The general modernization of Chinese society, a desire for modern goods and conveniences, easier access to products and retailers, and the more localized and growing issues posed by a desire to cater to global and regional tourism all threaten the sustainability of the rice terraces. Although tourism has appeared to be on a gradual increase, in fact and in the context of historical tradition, it has been a meteoric rise with resultant changes in how the people in provincial villages feel about their environment (Huang, 2008). Without proper management of waste, recyclables, and potentially hazardous chemicals at all levels, the culture, rice terraces, and revenue generated by the growing tourism industry could evaporate if residents are sickened by pollution. Traditional methods of waste disposal are not adequate for garbage generated from modern products and packaging. Burning or burying modern trash creates health hazards to both humans and the environment. Additionally, it’s important to note that these hazards are particularly dangerous to rural people engaged in subsistence farming where the relationship with the environment is close and entirely vital. The introduction of waste and/or waste by-products into the air, water, and soil is preventable, even in a rural setting such as Ping’an Village.

Historically, much of the waste generated locally was organic. Even if it was openly disposed of into the surrounding environment, the waste was largely biodegradable and caused little harm to the people or the rice terraces. This has changed with the increased modernity found throughout the region, particularly in Ping’an Village where the growing tourism industry has rapidly increased the volume of inorganic modern product packaging refuse generated in the area. The adoption of unsustainable practices relative to waste management are driven by many factors, but economic pressures and the rapid introduction of external market forces have introduced a number of new problems with no traditional answers (Koohafkan & de la Cruz, 2011).

For waste not composted or openly discarded, the traditional waste disposal technique of open-pit or barrel burning is the alternative favored by most local households. There are obvious concerns
with any type of bonfire or open burn within the limits of a village constructed largely of timber and lacking a wholly functional fire-suppression system or formalized local emergency response capability. In addition, dioxins, furans, and heavy metals present in the smoke and flue ash of incinerated plastics and inorganics have been shown to be health hazards. Direct inhalation of the smoke allows the entry of carcinogens into the human body which can cause a host of health problems from cancer to birth defects. The flue ash and other waste by-products that result from open pit and barrel burning not only affect local air quality, but also allow toxins to contaminate the soil. This can have serious and lasting impacts, particularly in farming communities like Ping’an Village. Secondary concerns that arise from the open burning of wastes involve tourists and the choices they make when planning to stay in the region. Before tourists decide to visit Guilin, they research the region and make their decision based the perceived attractiveness of the area (Honggang & Jigang, 2007). Unsightly waste and concerns regarding health hazards associated with burning trash may lead many tourists to stay elsewhere.

Burying waste and landfilling are not plausible solutions in Ping’an Village because of land scarcity. Most of the usable land in the area is needed for the production of food. In many areas of Ping’an Village and the surrounding countryside, waste—most notably product packaging—is therefore openly discarded or piled into large trash heaps. The trash heaps are comprised largely of non-biodegradable product packaging; any waste products that could be fed to livestock, composted, or is readily bio-degradable, is largely absent from the observed heaps. As with the open burning of trash, the sight of large quantities of trash piled in the village and strewn along trails is unattractive to tourists who come to experience the scenic beauty; it also may imply present and future risks to visitors, villagers, and the environment they rely on. Even without burning, certain plastics such as polyvinyl chloride (PVC), polystyrene, and polycarbonate plastics are known to leach harmful toxins and carcinogens into the surrounding soil and water resources (Greenpeace, 2004). These toxins have been known to cause health problems ranging from cancer to immune and reproductive system disorders. These risks are heightened due to open irrigation and storm water management systems that are used to both water the rice terraces and direct runoff through the terraces and away from the village. Trash and associated by-products and toxins are prone not only to wash into and collect in irrigation and storm water systems as a result of waste mismanagement, but also to end up in naturally occurring streams and pools found throughout the countryside. All three of the aforementioned categories of plastics, and a host of other plastics and inorganics, are readily recyclable and, with appropriate waste management planning and resources, could be significantly diminished as a risk to health and the environment.
In the larger cities and towns of Guilin province, and elsewhere in China, local municipalities have effectively planned for and implemented waste management strategies. These strategies have been successful in part based on access to a sizable and active labor force collecting and disposing of waste. Furthermore, increases in scientific understanding and the modernization of waste disposal techniques and management methods are becoming areas of greater national interest and allocation of resources. Even so, adapting programs that have shown results on a larger urban scale to the microcosm of Ping’an Village will be a challenge. Ping’an Village has far less access to the resources and technologies that have been integral to the planning and performance of successful waste management strategies elsewhere in the region. Environmental education that shows clear, lasting results nearly everywhere it is implemented is a simple and accessible first step in promoting a more dynamic and healthier relationship between man and environment. This approach also promotes the quality of the natural environment as a tourist attraction in villages like Ping’an (Honggang & Jigang, 2007). This, coupled with the promotion of responsible consumerism among both residents and visitors, should form the foundation of any small‐scale waste management strategy. If implemented and adhered to by an educated population, a waste management plan that meets the needs of tradition while allowing for gradual modernization and the growth of the tourism industry is certainly within reach.

It will be a challenge for villages and rural communities in China to plan and implement waste management programs that can mitigate or eliminate the growing problems and inherent risks. Regional governmental tourism agencies are primarily focused on fostering tourism and are struggling with problems that may include, but do not emphasize environmental concerns and may not effectively prevent environmental degradation (Honggang & Jigang, 2007). Although the larger cities and towns in Guilin are moving ahead effectively in managing waste, the question remains as to whether the strategies that work in more urbanized areas can be adapted to more rural environments. Regardless, a response must be developed quickly and change must begin with the people who are responsible for generating waste.

In spite of their small size, local villages such as Ping’an have business organizations, agricultural agencies, and markets and cooperatives that could function as the source for local education and change to clean up and manage waste. In addition to health and environmental concerns, the connection between waste management and the economic growth must be made evident to community leaders. Visitor satisfaction strongly depends on environmental quality and superior preservation of natural features (Honggang & Jigang, 2007). If local community leaders are enthusiastic about developing and implementing waste management strategies, they must find ways to build
incentives for community-wide support and participation. Cultural and environmental preservation must be inextricably linked to economic growth and sustainable tourism in the minds of the local people.

Community education may be used to promote the relationships between community, culture, environment, tourism, economic growth, and waste management (Yuanyuan, 2008); however one-time education and training on the links between economic success and environmental health may be insufficient to effect lasting change. Mass action can result from a community-wide commitment to sanitation, waste management, and environmental protection, but it is critical that programs leverage and promote the existing love of the village, local history, and cultural traditions (Huang, 2008).

Government support and participation will also be instrumental in success, in combination with knowledgeable professionals who can introduce new ideas and assist in planning programs and infrastructure requirements (Huang, 2008). Beyond local strategic planning, government and project professionals may assist in development of integrated regional approaches, coordinated communication plans, and distribution of educational materials to ensure waste management doesn’t stop at the edge of any community but succeeds across the region. Over time, regional integration and consolidation of educational planning, integrated policy management, and sharing of resources will make waste management programs and initiatives more consistent and affordable.

**Recommendations**

- **Conduct structured strategic planning**
  
  To ensure a managed approach to waste management, regional and local leaders should develop objectives, goals, and an implementation schedule for program initiatives at all levels of participation. Cost, performance, and timing should be incorporated in the framework to address feasibility, key performance indicators, and milestones. This initial plan will provide a foundation for detailed planning and should be maintained as a “living document” to guide future management activities.

- **Involve individuals, households, and communities**
  
  Programs in which process owners participate in planning are often more successful than those programs imposed through a strictly “top down” approach. Regional and local leaders should conduct individual interviews, community forums, and/or “town hall meetings” to discover and document individual concerns and willingness for action. These concerns and levels of support
for waste management objectives should be reflected in planning documents and support requirements for change management and educational initiatives.

- **Develop processes and tools**
  Processes and tools to disseminate information and capture feedback will be critical to the implementation and sustainability of waste program initiatives. Regional and local leaders should develop resource materials and tools appropriate for individual, household, neighborhood, village, and regional perspectives. They should also involve individuals and communities in disseminating information on waste management programs, policies, responsibilities, achievements, and implement tools.

- **Leverage other government and professional resources**
  Government support and participation, in combination with assistance from knowledgeable professionals who can introduce new ideas and assist in planning programs and infrastructure requirements, should be solicited and secured. Access successful strategies and lessons learned from similar grassroots or community programs across China.

- **Local advocacy and assistance**
  Communities should leverage local resources to establish program components for on-site advocacy and intervention as a way to help local people and regional communities solve problems while ending non-compliant or harmful practices. These responsibilities could be assigned on a collateral, part-time, or voluntary basis dependent upon the level of need.

- **Incentivize, recognize, and reward**
  Support and participation from the individual to the regional level is integral to success and program planning should include those incentives most valuable at each level. Program managers can establish a scaled system of waste management program incentives to recognize and reward individual, household, neighborhood, village, and regional performance when it meets or exceeds goals. Incentives, recognition, and rewards should be used consistently to strengthen commitment and build local trust in program value.
Chapter Three: Development of New Initiatives

In the context of sustainable tourism, one must balance and proactively address environmental, economic, and social needs. Ping’an Village must find ways to conserve the scenic rice terraces, develop sufficient and sustainable infrastructure to meet the growing demands on the village, and maintain its cultural identity in the face of a growing tourism industry. The Virginia Tech team has identified several possible opportunities for new initiatives. These initiatives seek to highlight the cultural and recreational opportunities of Ping’an Village in a symbiotic manner, mutually benefitting the community, the environment, and the tourist’s experience. Several proposed initiatives involve landscape education and interpretation opportunities. Landscape interpretation is “the process of providing the visitor with the tools to experience the landscape as it existed during its period of significance or as it evolved to its present state” (Birnbaum, 1994). It can have a significant influence on realizing sustainable tourism development in natural areas (Ballantyne & Uzzell, 1994). Tourist behavior can be modified through increased knowledge and awareness of their surroundings. Interpretation can be viewed as “both a program and an activity” (Hwang et al., 2003). Interpretation that impacts behavior is best achieved through experiences that are intellectually challenging, emotionally stimulating and/or provoke an emotional response (Markwell & Weiler, 1998), and that are related to the visitor’s life experiences (Hwang et al., 2003). A study on interpretation satisfaction in Taiwan’s national parks found that visitors’ satisfaction with interpretation increased as the national parks provided opportunities for increased visitor attachment and tourist involvement in park-related issues. Place attachment was achieved by providing information that connected the visitors’ life experiences with the parks (Hwang et al., 2003). In addition, interactive content has been found as key if interpretation is to help achieve the goal of sustainable tourism (Tubb, 2003).

Ping’an Village contains a cultural landscape influenced by natural features and reflexive of the “complex relationships between human and natural forces” (Melnick, 1983). Interpretative components for Ping’an Village and the surrounding areas to be described in this chapter include active demonstrations and participatory opportunities (such as cultural heritage demonstrations), graphically compelling maps, strategically placed signage, and a proposed cultural center. These initiatives can all positively impact tourists’ understanding of the importance of the landscape and culture they are experiencing while identifying appropriate ways for visitors to interact within that setting.
Cultural Center

A cultural center could serve as a tremendous resource for Ping’an Village and the surrounding areas. The Longji terraced landscape was identified as a “well developed and operated folk cultural heritage tourism region” in a 2008 market analysis for a prospective folk cultural heritage exhibition center (Zhang, 2008). Additionally, Zhang’s study supports the idea of both need and demand for cultural heritage opportunities for tourists, highlighting the need for additional facilities, investment, and promotion of cultural and heritage tourism in this region. Key to the vibrancy, success, and impact of a cultural center in Ping’an will be the accurate identification/development of appropriate themes, goals, and programming. Virginia Tech and Clemson University conducted a joint study on creating a tourism centerpiece for Rocky Knob, which is an area along the scenic Blue Ridge Parkway near Meadows of Dan, Virginia (Goetcheus et al., 2009). As part of this study, a series of community meetings and surveys targeting local stakeholders and tourists were used to develop themes, goals, and programming. “Major areas of consideration” identified by the community members in the study included:

- Authenticity: Historical, natural, and agricultural.
- Sustainability: Water issues, light pollution, built in scale with the surroundings, utilizing local resources (agriculture, artisans, builders, workers, etc.).
- Respect: for local residents, existing businesses and projects, and the integrity of the parkway.
- Positive Economic Impact: for the community.
- Political Sensitivities: minimize misinformation, keep stakeholders involved in an equitable way.
- Target Markets: minimize negative tourism impact, keep land prices reasonable.
- Programming Tips: themed visitor center.

These areas of consideration pertain to a cultural center in Ping’an as well. Market studies of cultural heritage tourism in Longsheng County identified tourists’ interests and priorities, in order of importance, as the following: enjoying the terraced landscape, visiting a folk village, experiencing a folk festival, and other tourism products (Zhang, 2008). Similarly, in 2007, sample studies identified enjoying the terraced landscape, experiencing folk custom, experiencing rural life, and tasting folk food as
interests of tourists in the area. Experiencing folk architecture was also identified as a significant area of interest to tourists (Zhang, 2008).

A cultural center in Ping’an Village should respond to these documented opportunities. Additionally, it could serve a variety of complimentary purposes and benefit tourists and residents alike by having programmatic components that address both needs of visitors and of the community. It could improve visitors’ experiences and encourage extended stays by providing:

- Orientation to the area through a model of villages.
- Small working model of the terraces highlighting the history; construction; functionality; labor demands; seasonal highlights and milestones; current and future challenges; and how visitors can contribute to preservation.
- Graphically compelling displays and videos highlighting the different minority groups of the surrounding area.
- Physical displays that highlight traditional minority attire and describe the meanings behind details such as color, bands, and other embellishments.
- Information that highlights areas of environmental sensitivity and/or threats and ways tourists can have a role in sustainable tourism development.
- Information highlighting local products and introducing signage/branding that could be added to locally made products throughout the villages.
- Information on local flora, fauna, and ecosystems and how they can be maintained.
- Opportunities to highlight local foods and products.

A cultural center could offer many shared opportunities for interaction and mutual benefit between residents and tourists. Local minority docents (paid positions for locals) could be available to share additional information about the community, highlight activities to do while visiting, and assist with any questions visitors may have. If crafted correctly, this interaction could have layered benefits including the sharing of information and culture, an income source for participating residents and a means of contributing to sustainable tourism through education. Studies by both Tubb (2003) and
Hwang et al. (2003) have found that interpretation, “if carefully designed, is capable of contributing to the goals of sustainable tourism development.”

The cultural center could include both indoor and outdoor performance spaces where local culture could be highlighted through dance, story, music, etc. Such performances could encourage more overnight stays (similar to the well-known evening performance of Impression Sanjie Liu in Yangshuo), employ more villagers, and increase both local and visitor knowledge and appreciation of the various minorities, cultures, and histories native to this area. An opportunity for tourists to watch traditional singing and dancing was mentioned at a local restaurant in Ping’an, but details were sparse and the Virginia Tech team found no evidence that these events occurred on a regularly scheduled basis. The cultural center could also include space for cultural heritage demonstrations including metal work/jewelry making, textiles, and tribal heritage.

The physical structure for the cultural center (its design, construction, and maintenance) is full of opportunities as well. The center could serve as an architectural model for future development in the village in terms of materials, character, and resource efficiency. Residents could be included in the design and construction process, imparting new skills to the village community. The design could include a designated community space for festivals and a public gathering space for individual and community-wide functions. The following section describes the various and versatile possibilities for a proposed cultural center. Additional information and examples of visitor’s centers of a variety of scales and purposes can be found in Appendix A.

The following suggested cultural activities give purpose to the Cultural Center by offering an immersed experience for the tourists as to the living environment and customs of Ping’an, while also preserving the local knowledge and integrity.

**Geotourism Brochure**

The National Geographic Society (NGS) defines geotourism as “tourism that sustains or enhances the geographical character of a place—its environment, culture, aesthetics, heritage, and the well-being of its residents” (Toutelot, 2010). It further outlines ways such information can be incorporated into an educational brochure conveying geotourism information through a map, text blocks, and pictures. The resulting brochure promotes the types of tourism that sustain the natural and cultural attributes of a place while benefiting the local community. For example, featuring local handcrafts may inspire tourists to purchase those particular items created in the community keeping more revenue local.
A geotourism brochure would highlight cultural and educational items addressed in the proposed cultural center. This would make it an ideal souvenir from the center and a memory aid for visitors as they recall their experiences to family and friends when they get home, possibly inspiring later visits from people all over the world. The brochure is also a means to reach those visitors unable to tour the center due to scheduling constraints. Including a detailed map on the brochure would allow tourists to better navigate the region.

The National Geographic Society requires active local participation as a means to generate ownership of the project and to ensure accurate content (Toutellot, 2010). Unfortunately, the limited time the Virginia Tech team spent in Ping’an Village precluded the type of study and local interaction necessary to compose an adequate draft brochure. Even so, Appendix B contains a rough draft of a brochure for Ping’an Village to be used only as a visual aid. Local support and input would be critical to producing a useable document, particularly in a location such as Ping’an Village where much of the necessary information is unavailable anywhere else. For example, terrace farming is very specific to a location and much of the content in the draft brochure was ascertained from literature specific to other locations that while nearby will undoubtedly have slightly different practices. Further, the map itself is not drawn to scale and better information could be obtained on site.

The geotourism brochure can also better inform local residents about the unique character of their village, including cultural and environmental assets that require protection and how enhancing them provides tourism benefits (Toutellot, 2010). This is particularly relevant in Ping’an Village where inspiring greater pride in working the terraces and keeping them pristine is critical to the long-term sustainability of both the terraces and the tourist industry attracted to them.

**Cultural and Historic Documentation**

In addition to exploring ways to enhance cultural and recreational opportunities for visitors, there is also a need for cultural and historic documentation of this area. This need was evident in the lack of attainable information on the construction of the rice terraces as just mentioned. A detailed inventory of the current landscape and its significant features, as well as its past history, could be used to support and inform development of cultural resources for tourists while also serving as an important community asset and a baseline for future growth and development decisions. One possible model is the Cultural Landscape Report used by the National Park Service in the United States. A Cultural Landscape Report (CLR) “documents the history, significance, and treatment of a cultural landscape. A CLR evaluates the history and integrity of the landscape including any changes to its geographical
context, features, materials, and use” (Birnbaum, 1994). A report of this nature would be particularly relevant for the rice terraces in and around Ping’an Village given concerns about the knowledge transfer of agricultural techniques as discussed in Chapter 2.

Cooking Classes

The popularity of “exotic” foods and “gastronomic” tours has grown tremendously with the advent of television networks solely devoted to food, such as The Food Network. Henderson (2009) identifies food tourism as an area of excellent prospects and numerous commercial opportunities. The unique cuisine of Ping’an Village and the surrounding area could be the highlight of a gastronomic tour to Guangxi Province. For tourists interested in not just eating but also food preparation, cooking classes could be popular. One such class held in Yangshuo was both entertaining and educational, which included the preparation of Gong Bao chicken, steamed dumplings with pork and vegetables, and a local specialty, beer fish.

The recent popularity of the slow food movement and “locavores” could allow successful promotion of Ping’an Village as a perfect example of a locally grown food system. Many of the local restaurant and guesthouse proprietors grow most, if not all of the ingredients served in their establishments. For example, during a single meal at a guesthouse in Ping’an Village the Virginia Tech team enjoyed bamboo rice; noodles cooked with vegetables and eggs; eggplant; pancakes with bananas; small fried doughnuts made from pumpkin; beef with carrots, celery, onions and red peppers; stir-fried beans with garlic; Gong Bao chicken; and fresh bamboo shoots with mushrooms. All of the produce was grown locally according to the proprietor. Any food-related tourism activity also provides an opportunity for promoting the Ping’an Village branded products to be described in Chapter 4.

Language Classes

Several Mandarin language schools exist in nearby Guilin and Yangshuo. It would be relatively simple to establish a similar entity in Ping’an Village. An intensive morning course could be followed in the afternoon by a recreational pursuit. Such a facility associated with the Cultural Center could also encourage more exchanges between local residents and international tourists. This may also occur as more local residents learn other languages and subsequently specialize as tour guides, docents, or instructors for international visitors.
Cultural Heritage Demonstrations

Tourists come to an area not just to see it, but also to enjoy as much local “flavor” as possible. Many tourists enjoy learning new things and, at least for international tourists and domestic urbanites, Ping’an Village is a cornucopia of novel activity. This type of tourist activity preserves the cultural heritage of residents and shares it with a wider population. There are several local activities that are part of Ping’an Village’s culture heritage, such as metal work/jewelry making, textiles, rice harvesting/cultivating, and Tribal Heritage stories. Classes or demonstrations could be combined with any of the other activities listed in this section to further enrich the visitor experience.

Hiking

Ping’an Village is relatively undiscovered and undeveloped in terms of backpacking and day hikes. Currently, the majority of day hikers and backpackers are European, where there is a strong tradition of trekking as recreation. Hiking and backpacking have not taken hold in Asia as a popular form of tourism; however, there are outdoor recreation stores in Yangshuo and Guilin. A small local outdoor recreation equipment retail outlet associated with the proposed cultural center may be helpful for sparking new interest and supporting existing interest in climbing, hiking, and camping among tourists visiting Ping’an Village. There is a rich history of greenway development in China (Yu et al., 2004), and an unofficial riparian greenway already exists to connect the various rice terraces and nearby villages. As such, a recreational greenway for the purpose of hiking and backpacking could be easily and economically developed. At the moment, the most significant impediment to the growth of this form of recreation is lack of information. There are no readily available trail maps or trail markers. Suggested strategies to address these issues are described in more detail below.

Figure 4: Hiking routes around the rice terraces
**Improved signage/maps in key areas**

Most of the existing signage within Ping’an Village is too vague to be useful to an average day hiker or even someone attempting a more rigorous, multi-day excursion. A common example seen in guesthouses is provided below. A simple and relevant topographic map could be referenced to signage on the ground, remote villages, areas of notable scenery, etc. It would also be useful to include information on rest shelters, concession stands, and restroom facilities if for no other reason than their infrequency may appropriately deter hikers with less stamina from advancing too far. Ideally the geotourism brochure outlined previously would contain the type of map that would satisfy this need.

**Addition of Mileage Markers**

Mileage markers along the trails would be helpful for both orientation and safety purposes. Markers could be added to the currently signed rice terrace hiking routes and documented on the aforementioned improved hiking map. The physical design of the markers should be smaller in scale but consistent in material and typography to the existing directional signage. Additionally, mileage references and geographical maps could be added to existing rest shelters. Utilizing the existing shelters avoids unnecessary signage clutter in the landscape that may detract from the hiking experience. Rest shelters could be named, numbered, and documented as such on the hiking map as another means of orientation and way-finding for hikers.

Geographic Positioning System (GPS) units could also be used as a means of way finding and self-exploration. “One of the critical aspects of the self-guided travel routes is the ability for an individual to feel like they are wandering into the unknown to discover interesting things, yet feel safe that they will not get lost in the process. This suggests that it may be an effective tourism development strategy to use GPS units preloaded with detailed information on lodging, dining and entertainment options, local history and other attractions...throughout ...designated travel routes” (Goetcheus, 2009).
**Photography Expeditions**

The scenery in Ping’an Village and the surrounding rice terraces is without equal and is a perfect candidate for photography expeditions. Local guides could specialize in leading groups of photographers to the most picturesque locations. The improved hiking map described above could also enhance the visitor experience in locating each of the publicized photographic viewpoints. Given photography’s popularity as a hobby in China, such excursions could attract both domestic and international tourists.

**Niche Tourism Development**

Volunteer vacations give tourists the opportunity to experience a new culture in a more authentic way than simple tourism may allow. They allow tourists to have a unique, cultural immersion experience (Lo and Lee, 2001) and also allow participants to feel they have contributed to something important and done something productive with their time away from home. Tomazos and Bulter (2009) describe volunteer tourism as the new ecotourism, and McIntosh and Zahra (2007) demonstrated that volunteer tourism was a very viable option for sustainable tourism.

Many of the more common volunteer vacation themes, such as working with at-risk youth or health care services, may not be appropriate to Ping’an Village, but the village does have a few significant opportunities for this type of tourist to provide much needed resources to the area. For example, establishing fire prevention measures or improving the water system would require the supervision of a few knowledgeable professional volunteers but a willing volunteer group could do much of the labor.

Agrotourism is another means of engaging tourists in the everyday tasks of village life. Agrotourism can be defined as a “form of rural tourism whereby paying guests can share in farming life either as staying guests or day visitors on working farms” (Busby & Rendle, 2000), resulting in new income sources for agricultural societies (Akpinar et al., 2003). Many of the ideas described in this report, such as recreation, educational experiences (cooking classes), entertainment (festivals), and on farm direct sales (rice) could be classified as agrotourism (Akpinar et al., 2003). An additional agrotourism opportunity in Ping’an Village could be found in organizing opportunities for tourists to participate in assisting with planting, maintenance, or harvest in the rice terraces. An excellent example of agrotourism in practice can be found in Austria, where at least 25% of farms accept tourists and have done so for the past 100 years (Busby & Rendle, 2000).
Nearby Recreational Opportunities

Ping’an Village and the broader Longsheng County offer an array of recreational possibilities for visitors to enjoy. Activities that are not traditional features of Chinese society can still be a large draw for international visitors. For example, according to the World Wildlife Federation, there are over three hundred species of fish in the ecoregion of the Li River (2011). While the “catch and release” style of recreational fishing popular in the United States is not present in China, marketing fishing to tourists may spark more domestic interest while attracting international anglers to the area. Water sports such as kayaking and canoeing are just beginning to gain popularity on the Li River. Continued promotion of activities dependent on close interaction with the river may lead to greater respect for the environment as a whole. Likewise, environmental appreciation can also be expanded through marketing designated campsites along hiking routes to promote Ping’an Village and surrounding areas as an “ecotourism” site and attract more international travelers looking to participate in sustainable activities. Recreational activities outside Ping’an Village should not be overlooked as opportunities to attract tourists to the village, but this report focuses only on those activities specific to the village.
Chapter Four: Domestic Revenue Generators

Rice has historically been a central focus of agricultural production in China. China remains the largest producer of rice, producing 35% of the total world rice production in 2008 (Food and Agriculture Organization, 2011). The culture of rice eating and production underscores the importance of rice in China. “Rice production, post-harvest activities and the processing of rice into other products provide the main source of employment and income for at least 50 million families” (Food and Agriculture Organization, 2004). In addition to its importance as food, culture and heritage, terrace-grown rice also creates breathtaking landscapes that draw tourists to Ping’an Village.

The Characteristics of Ping’an Rice

During the short time the Virginia Tech team spent at the Longji Rice Terraces, the community graciously highlighted the different utilities the rice terraces supply. The typical, high-yielding rice produced in most of China is not grown in Ping’an Village. Instead the local community referred to their rice as “new rice.” The rice in Ping’an Village is low-yielding, has a longer growing season, and according to some villagers, is more delicious than the typical rice found elsewhere in China. The rice is planted in May and harvested in October, where an average growing season is more than 180 days. A few villagers described delaying the rice harvest until after China’s National Day, October 1, in which a week-long national holiday is taken for celebration. This suggests the importance of tourism over cultivation.

In addition, the Virginia Tech team gathered that the rice is cultivated mainly for subsistence by local farmers. “We don’t have the old rice, instead we plant the new rice—it is more delicious and we just eat it,” a local rice farmer stated. Home consumption of the rice in Ping’an Village was echoed in a statement by the owner of a local hotel, “We grow rice in the terrace for home consumption and for guests.” As income increases in Ping’an Village due to tourism, rice cultivation in the terraces are maintained and harvested for local consumption.

It was reported to the Virginia Tech team that 20 mu (1 mu = about 1/6 of an acre) were not in production this year. This was due to water shortages (about 10 mu) and pollution from sewage (about 10 mu). Overall, this is an improvement from 2010 when 42 terraces were left fallow [Personal interview with Communist Party representative for Longji, May 22, 2011]. The estimated number of terraces left fallow is quite limited in comparison to the number of terraces that are maintained. In order to continue maintenance of the rice terraces, preserve traditional farming practices and to create economic benefits
for Ping’an Village, the community may want to consider exploring strategies that will create a profit from the rice grown on the terraces. The hope would be that an increased profit from the rice would help sustain the rice cultivation and serve as an economic development incentive for rice farmers to continue growing rice in the terraces.

The Ping’an community may want to consider expanding the tourist experience through the addition of locally branded rice and value-added rice products from the Ping’an Village rice terraces. This would widen the scope of tourism in Ping’an to include food as an important incentive and economic prospect of tourism.

*Rice and Rice Derived Products*

Food is considered both a cultural and social experience (Clemens, 2008). As competition for tourism destinations takes hold in an increasingly interconnected world, a unique and memorable food product can help to set a destination apart and promote the sustainability of the destination (Lin, Pearson, & Cai, 2011). The Longji Rice Terraces, encompassing Ping’an Village, have a strong identity that can be further established with branded food products. Food products branded by Ping’an Village will contribute to sustainable tourism through preservation of cultural practices (e.g. rice terrace farming), environmental sustainability and economic incentives (e.g. employment) (Marsden & Smith, 2005).

Domestic and international tourists travel to Longsheng to view the picturesque Longji Rice Terraces. These tourists have the potential to become further immersed in the rice terraces by being able to taste the rice grown on the terraces. A component of tourism that still has the potential to be marketed in Ping’an Village is food tourism. Tourists would be able to not only view the breathtaking rice landscape but they also taste the unique rice grown in the terraces or sip on the locally produced fermented rice wine. In addition to tasting the experience, tourists would have the opportunity to bring products of the terraces home to share with their family and friends, promoting the terraces at home.

Tourists that visit Longsheng County pay a premium to see the rice terraces; if they were able to take home a small amount of the rice grown in Ping’an Village to share with family and friends, many international tourists (and potentially domestic tourists) would likely take that opportunity. “It is recognized that the kind of foods and drinks on offer for tourists can have major implications for the economic, cultural and environmental sustainability of tourism destinations, with researchers arguing that a focus on locally sourced products can result in benefits for both hosts and guests” (Sims, 2008).
Through the branding of Longji terrace rice, the rice farmers would have the ability to set the price of the rice and rice products (Clemens, 2008), leading to a positive economic impact for Ping’an Village and more satisfied tourists.

The branding of rice and value-added products like rice wine from Ping’an Village would link these “highly valued traditional and cultural products with regulatory and legal structures (logos and trademarks)” that would assist with marketing and protection of the branded commodities (Marsden & Smith, 2005). However, for Ping’an Village to brand the rice it first must be determined if the rice meets the general requirements for branding a product. The definition of branding used for this report is, “A branded good ties a product to a particular place, connects the product to its seller and differentiates the product from similar products” (Clemens, 2008). Ping’an Village rice has a long history and unique qualities based on the characteristics of the terraces. In Ping’an Village, the community grows new rice, not the high-yielding rice ubiquitous in most of China. The rice in Ping’an is low-yielding, has a longer growing season, and is considered more delicious than the atypical rice found elsewhere in China. In addition, the special geographic area in which the rice is grown and the longer growing season serve to limit the quantity of rice produced.

Through branding of rice, Ping’an Village has the opportunity to sell premium rice and products to tourists. Anticipated benefits include increased employment, continued maintenance of rice terraces, and additional source of revenue for the community. Increasing the value of the rice cultivated will ensure the terraces continue to be maintained and terraces currently left fallow are cultivated. It is anticipated that capitalizing on the untapped niche of branded local food products, like rice, will improve the tourists’ experience and create a currently absent revenue stream. “Food-related activities (for example, food-related festivals and exhibitions of agricultural products) allow food to be treated as both a commodity and symbol, which can provide a meaningful experience for tourists” (Lin, Pearson, & Cai, 2011). In addition, branding of the rice based on its traditional and cultural qualities unique to Ping’an Village will encourage preservation of Ping’an Villages traditions. The branding of rice and rice products in Ping’an will help set the village apart from other destinations while increasing spending per capita.

An illustrative example of improving tourism through food can be found in tourism to beautiful landscapes within the United Kingdom. Sims (2008) reviewed two tourist destinations in England that are currently driven by the beauty of the natural landscape—the Lake District and Exmoor. Similar to Ping’an Village, tourists visit the Lake District and Exmoor to view the natural landscapes. In her paper Sims argues that “local” food and drink products can improve the economic and environmental
sustainability of both tourism and the rural host community through encouraging sustainable agricultural practices, supporting local businesses, and building a “brand” that can benefit the region by attracting more visitors and investment. The branding of local food creates an incentive for tourists to spend more money while in the region in order to gain a more “authentic” experience. The brand creates regional recognition and sets this area apart. In addition to viewing the scenery, Ping’an Village can offer a more “authentic” experience through the offering of rice and rice products as further insight for tourists into the culture and heritage of the village.

To support her hypothesis, Sims (2008) interviewed 78 tourists in the Lake District and Exmoor to understand the relationship of branded food to their tourist experience: “Over 50% of the tourists interviewed said that they had bought, or were definitely planning to buy, food and drink souvenirs of their holiday, with less than 10% saying that they were not interested in doing so.” The food products were varied in this area for example: “the Cumberland sausage and Kendal Mint Cake can be found in the Lake District, and cream teas, fudge and cider are on Exmoor.” For tourists to gain a further appreciation of the culture aside from viewing the area, they engaged in eating authentic food and planned to purchase food as souvenirs to share with friends and family (Sims, 2008).

Food was able to help this tourist destination in England to “create an image” and in turn attract more tourists, making tourism in the region sustainable through local economic growth and increasing annual visitors. For Ping’an Village, the community can maximize the potential food market through the bamboo rice dish, the locally grown rice, and fermented rice wine. “Food and drink products are a particularly effective means of creating such an image because they can be linked to the kind of ‘traditional’ landscapes and farming methods that tourists will ‘gaze’ upon during their holiday” (Sims, 2008). The application of a food and drink from the local rice would be a worthwhile addition to the cultural and scenic experience that Ping’an Village offers visitors.

Currently villagers are selling the bamboo rice steamed in the narrow alleyways of Ping’an Village for local and tourist consumption. The villagers can build on this by incorporating the selling of locally-grown and branded rice in the boutique shops. As the Virginia Tech team understands it, a common name in Ping’an Village is Lioo. Therefore, the Ping’an community could consider branding their rice as “Lioo” rice. This would be similar to estate tea or estate wine, where a family’s name would be on the packing as a matter of local, familial, and regional pride.
**Value-Added Rice Products**

The brand created for Ping’an Village rice could be extended to value-added rice products in Ping’an Village, as well. A value-added agricultural product defined by the United States Department of Agricultural is an agricultural product that has, “A change in the physical state or form of the product (such as milling wheat into flour or making strawberries into jam); the production of a product in a manner that enhances its value, as demonstrated through a business plan (such as organically produced products), and the physical segregation of an agricultural commodity or product in a manner that results in the enhancement of the value of that commodity or product” (such as an identity preserved marketing system) (United States Department of Agriculture, 2011).

Another example of an agricultural product that is produced into value-added products is cocoa, the beans used to make chocolate. The cacao plants produce the cocoa seeds that are used in the production of cocoa liquor, powder, butter, and chocolate. There are many different ways to produce cocoa into value-added products and depending on the infrastructure and capital needed, some can be done at the household level, while other value-added production of cocoa requires a community investment. In Hawai’i for example, there is a high-end chocolate confection industry producing chocolate covered macadamia nuts. In this case, the cocoa produced in Hawai’i is often sold as beans to hobbyists and small-scale chocolate makers. The production of high-quality chocolate products can create a premium product to be sold at a higher price and encourage recognition of the product and improve agrotourism (Hebbar, Bittenbender, & O’Doherty, 2011).

In Ping’an, the fermenting of local rice into rice wine is an ideal example of a product that will increase in value, from rice to rice wine. The rice wine could be produced at the household or community level depending on the size of production Ping’an Village would prefer. The benefits of community level production would include potential increase in job creation, shared infrastructure and start-up costs, and product consistency and quality. In comparison a household level production of rice wine would enable relatively small start-up, but product consistency may suffer as a result.

The production of value-added rice products has the potential to create more sustainable tourism in Ping’an. The value-added rice products, such as rice wine would contribute to the preservation of Ping’an Village rice wine making traditions, increase job opportunities and economic benefits for community members, and improve the tourist experience. However, both branding and value-added production of rice in Ping’an Village have constraints that should be considered.
Challenges

Despite the opportunities branding and value-added agricultural products could bring to Ping’an Village, there are challenges that need to be addressed. A clear challenge would be assuring that the entire community will benefit from the increased price of the branded rice. The possibility of community members paying a higher premium to feed their families rice would be a negative consequence of branding the rice and would be a key consideration before implementing this strategy. In addition, it is not clear whether there would be government constraints on branding a commodity such as rice. For example, the Government of China may impose public health regulations for packing and distributing locally produced food and agricultural products. Another expense of branding goods may involve expanded infrastructure to abide by government regulations. These government constraints and others would need to be explored further before considering a branding strategy.

Another constraint may be ensuring product consistency. It would be necessary to create a brand of rice for the entire region as opposed to by terrace. Since many families maintain the terraces, a joint understanding and growing protocol would need to be followed to ensure a consistent product. In addition, before a branding strategy is put into effect, the community will need to determine who will share the cost of branding, certification, and marketing.

Currently the challenges and motivations presented within this report are merely illustrative. To understand the true effectiveness of branding rice to improve the economic and environmental suitability of tourism while improving the tourist experience it is recommended that Ping’an Village conduct a pilot project. It is suggested that the community choose a couple of rice products such as the rice and the rice wine, to brand initially. Through a pilot project the community could test how the branding and marketing of rice and rice products could improve the sustainability of tourism in Ping’an Village, both economically and environmentally. It would also be important to understand if the locally produced and branded rice products create a more “authentic” experience for tourists improving their experience of Ping’an Village both socially and culturally.
Chapter Five: Outside Investment

Most of the opportunities for new initiatives identified in this report will require some degree of up front capital for development and implementation. While the suggested activities are focused on sustainability, it is likely that the capital required will come from outside the village. In fact, as tourism continues to expand in Ping’an Village, investment activity originating outside the village is becoming an increasingly influential component to the local economy. It is useful to examine the impact of outside investment because it can drastically change the dynamics of village life. Outside investments create opportunities, but can also pose threats to the village. Understanding the various impacts of outside investments is important for sustaining the vitality of the community through the tourism boom.

Observed Forms

The joint venture model is the primary strategy used by outside private investors to access the tourism market in the village. Joint ventures allow outside investors to leverage existing villager-owned property, and transform it into an income producing business. While the variations and nuances of the joint venture model are vast, several general categories have emerged in Ping’an Village as described to the Virginia Tech team during interviews conducted within the village. Some local villagers lease their property to outside investors who open and independently-run a tourism-related business. This form of the joint venture model involves an active outside investor. Other villagers manage the day-to-day operation of a tourism business from their property while outside investors provide capital for the business. This form of the joint venture model involves a passive outside investor. Hybrid versions have also been observed in which outside investors provide the capital and also manage the operation of the business alongside the local property owner. Despite the varying forms of joint ventures, in most cases the outside investor provides the necessary capital to make the business competitive in the local market.
Government investment also plays a significant role in the growth of the tourism economy in Ping’an. Several government and quasi-government entities have financial interests in the village including the Guilin Tourism Bureau, the Guilin Tourism Company, and the local Ping’an government. The primary source of revenue for the government, and the Guilin Tourism Company in particular, is the entrance gate at the base of Ping’an village. This entry point provides a steady stream of tourism revenue. While some of the earnings are channeled back into the community by the Guilin Tourism Company, our field research was inconclusive regarding the amount and frequency of this monetary disbursement.

**Opportunities**

Outside investment in Ping’an Village presents many opportunities for the residents, and the overall health of the village economy. The most direct economic benefit is the infusion of capital into local tourism ventures. These businesses create jobs for local residents (day-to-day operations, construction/renovation) and provide a means of capturing tourism revenues.

Tourism ventures established by outside private investors also develop and promote new skill sets throughout the village workforce. Skills such as business management, accounting, hotel/restaurant operations, marketing, and distribution logistics are required for tourism-related businesses. These skills are vastly different from the traditional agriculture trades and provide an opportunity for residents to expand their employment prospects.

Outside investment in tourism also improves infrastructure in the village. As buildings are constructed and renovated by investors, improvements to the surrounding infrastructure are made to accommodate the tourists. Walking paths, water pipes, and lighting are examples of the infrastructure needed to handle the influx of tourists. Residents directly benefit from these improvements.

Outside investors also diversify the business landscape in the village. The type, size, and quality of tourism ventures have expanded through outside investment activity. Shops with outside ownership have access to different products, which can influence competition and innovation. Overnight accommodations have expanded from only guesthouses to hotels and hostels with varying levels of amenities. Market diversity increases the range of travel preferences that can be accommodated, which ultimately increases the pool of potential tourists Ping’an Village can attract.

Lastly, outside investments have helped expand tourist capacity in the village. As more tourists explore the village, many of which stay overnight, tourism-related revenues increase. Many of the
villagers are directly benefiting from these revenues, either through ownership in a business, employment by a tourism business, or direct employment by tourists. The financial well-being of much of the village population has been improved by tourism and outside investments increase opportunities for residents to participate directly and indirectly in Ping’an’s tourism economy (Appendix C).

**Threats**

Despite the numerous opportunities created by outside investment activity, it is also important to note the threats posed to the village by these investments. Economic leakage is a major drawback to outside investment activity (Wapole & Goodwin, 2000). Economic leakage occurs when revenues generated in a community are funneled out of the local economy and thus become unavailable for reinvestment in goods and services in the source economy (Gollub, Hosier, & Woo, 2003). As outside investors increase their presence, the likelihood of tourist revenues funneling out of the local economy also increases.

Increasing outside investment may also puts the village at risk for gentrification. As properties continue to transform into lucrative business establishments, the improvements to the structures, as well as earning potential of their location will cause surrounding property values to rise. This directly threatens the livelihood of longtime residents who may not be able to afford the inflated housing expenses. Over time, as property ownership in the village is diluted by outside interests, villagers could face challenges finding affordable housing, and could be forced to live outside of the village proper, or reside in smaller dwellings.

From an equity perspective, it’s also important to note that all villagers do not enjoy the economic stimulation created by outside investment. Many longtime residents, particularly the older generations who are not employed by the tourism industry, may not reap the same level of benefit from the new revenue streams. Over time, this can create class divisions, which could significantly alter the social dynamics of the village. It is important to note however that as the tourism economy in the village matures, the economic benefits could potentially reach a wider range of the population. This could be achieved by a cooperative ownership model that builds on existing intra-village organization and division of labor mechanisms.
Lastly, outside investment can weaken cultural heritage in the village. Outside investments bring external influence into local affairs. The introduction of new products, services, and amenities can shift local tastes and preferences. While tourism itself can negatively impact cultural heritage, outside investment activity can accelerate this process.

From a sustainability perspective, it will be critical for local leadership to closely monitor and coordinate with outside investors. Facilitating a cooperative dialogue will ensure the villagers have an active role in tourism growth. If outside investment proceeds unchecked, many inequities could arise around income distribution and infrastructure financing, the latter of which was identified as an emerging issue by the former village mayor during our fieldwork in Ping’an Village. These issues could be mitigated through some form of regulatory framework structured around Ping’an’s tourism industry. As noted earlier, outside investment interest signals a prosperous economic climate, and represents a significant opportunity for the village. It is important for the villagers to be active participants in tourism business development so that adequate portions of these revenue streams can be captured and used to benefit the community as a whole.
Chapter Six: Conclusion

After centuries of subsistence farming along the Longji mountainside, the residents of Ping’an Village have experienced rapid change over the past two decades. The beauty of the rice terraces has made the region an international and domestic tourist destination providing many opportunities as well as challenges for residents.

The economic well-being of the villagers has no doubt increased along with the number of tourists to Ping’an. The influxes of new revenue streams, as well as the new responsibilities associated with providing services to tourists are leading to new social and economic pressures. Already, the village is experiencing a shortage of available labor to work both the tourism facilities—guesthouses, restaurants, and stores—as well as to provide the extensive maintenance required by the rice terraces. The greater immediate economic incentive lies with providing tourism services and as a result, some of the rice terraces have been abandoned as residents chose not to maintain them. While this is a rational decision for the individual farmer making short term decisions, the choice to participate in tourism activities at the expense of agriculture is not economically sustainable in the long-term. If the beauty of the terraces is not maintained, tourists will no longer travel there.

At the same time, the rapid development activity has put stress on the community’s resources including water, waste management systems, and its labor pool. Both the tourism industry and rapid growth often present significant challenges to infrastructure construction in any location. Ping’an Village must address the expected issues associated with rapid development while managing its effects on a very fragile environment. Already the increased water usage for non-agriculture purposes has depleted the water supply required for the terraces leading some to dry out. Others have been abandoned as a result of pollution due to the increased waste management demands in the village. Achieving a balanced approach to improving economic vitality with preserving the environmental, cultural, and agricultural attributes of Ping’an Village is essential. Sustainable tourism development should emphasize the quality of the life of the host community, the quality of the environment, and the quality of the visitor experience (Tubb, 2003). The tourism suggestions in this report meet those criteria, but they will need to be combined with improvements to infrastructure. None of these things will be easy, but the scenic beauty and cultural heritage of Ping’an Village are well worth the effort.
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Appendix A: Visitor Center Case Studies

The following pages highlight case studies of ten visitor’s centers across the United States. The highlighted visitor’s centers range in scale and focus as well as ownership (public, private, non-profit) and cost (free or admission charged). Unless otherwise noted, all quoted text was taken from the listed visitor’s centers respective websites.
**Bedford Welcome Center**

**Location:** Bedford, Virginia, USA

**Website:** http://www.visitbedford.com/welcomecenter.shtml

**Focus:** To “showcase the area’s many attractions and amenities as well its commerce and vision for the future”.

**Interpretative features/exhibits:**
- displays
- museum
- community meeting space
- outdoor seating space
- close proximity to County destinations
- well staffed
- sells local products

**Architectural details:** The building was designed and oriented to take advantage of views of the Peaks of Otter and the National D-Day Memorial. Its architectural details reflect the area’s “rustic flavor”: porches, clapboard siding, shadow casting shingles, a decorative cupola, picnic area and terraces. “The facility is comprised of 10,700 square feet of exhibit, display, meeting, reception, and community space in addition to the administrative offices of the City and County’s joint Tourism Department.”

**Hours of operation:** Hours of operation are January thru December 9:00am to 5:00pm. seven days a week. The Center is closed on Thanksgiving, Christmas and New Year’s Day.

**Admission cost:** none
Blue Ridge Parkway Visitors Center

Location: Asheville, North Carolina, United States

Website: http://www.blueridgeheritage.com/node/1019

Focus: Highlighting a broad region. Features “film and exhibits which highlight the natural and cultural heritage, economic traditions, and recreational opportunities found in Western North Carolina and along the Blue Ridge Parkway.”

Interpretative features/exhibits: Has a “22-foot interactive map of the entire Blue Ridge Parkway which provides multimedia information on places to visit on and near the Parkway. Other exhibits focus on the history and heritage of the Parkway and Western North Carolina.”

Architectural details: Building is LEED certified and “incorporates active/passive heating and cooling, radiant floor heating, a “green” roof, and other energy efficient features.”

Hours of operation: 9 am to 5 pm daily, year-round. Closed on Thanksgiving, Christmas Day, and New Year’s Day.

Other: Has 1.2 mile loop trail off of building (common for all visitors centers on parkway).

Admission cost: none
Folk Art Center

Location: Asheville, North Carolina, USA

Website: http://www.blueridgeheritage.com/attractions-destinations/folk-art-center

Focus: “Showcases outstanding examples of traditional and contemporary Southern Appalachian craft and is the most visited attraction on the Blue Ridge Parkway.”

Interpretative features/exhibits: The Folk Art Center houses three exhibit galleries, a craft library, an auditorium, and the Allanstand Craft Shop, and the oldest continuously operating craft shop in the nation. Exhibits feature crafts from current members of the Southern Highland Craft Guild as well as samples from the Guild’s 3,500 piece collection of craft objects dating back to the turn of the 20th century.

The Folk Art Center also offers live demonstrations by master crafters on a daily basis and a series of educational events seasonally. Opened as a cooperative effort by the Guild, the National Park Service, and the Appalachian Regional Commission, the Folk Art Center also houses the Eastern National Bookstore and Information Center. The Southern Highland Craft Guild represents over 900 craftspeople in nine southeastern states.

Hours of operation: January-March: 9 am - 5 pm / April-December: 9 am - 6 pm. Open daily except on Thanksgiving, Christmas, and New Year’s Day.

Admission cost: none
**Heartwood: Southwest Virginia’s Artisan Gateway**

**Location:** Abingdon, Virginia, USA

**Website:** [http://www.heartwoodvirginia.org/](http://www.heartwoodvirginia.org/)

**Focus:** Showcase for region (19 counties/4 cities) – reproducing the cultural heritage and natural resources of the area and serving as a sale center for local artisan crafts. They are looking to “mine the rich heritage and natural resources of the area in new ways that can’t be exhausted or outsourced.”

**Interpretative features/exhibits:** Local artisans work is displayed and sold; artisan demonstrations. Website lists artisans with hyperlinks to their pages. Artisans are listed by craft: Clay, fiber, glass, jewelry, metal, mixed media, natural materials, 2-dimensional art, wood.

The facility offers performance space, which is available for concerts for regional musicians. They also sell local, hand-made instruments and other locally made products (jams, ..etc). They also have a wine and coffee bar that allows visitors to taste regional wines before purchasing.

**Architectural details:** 29,000 sq. feet. The facility designed to host events. Heartwood describes itself as “the ideal venue for hosting celebrations and events big and small.” It also contains a restaurant that serves lunch and dinner (local foods).

**Hours of operation:** Monday – Thursday: 8:00 am – 7:00 p.m.
Friday: 8:00 a.m. – 6:00 p.m.
Saturday: 8:00 – 7:00 p.m.
Sunday: 9:00 a.m. – 5:00 p.m.

**Other:** Facility is an effort of the SW Virginia Cultural Heritage commission, a public/private partnership (state and local government, businesses and individuals) whose goal is to sustain a creative economy based on the above listed assets and let the world know about it. Their website is excellent and is aimed to assist visitors with trip planning to explore the region. The website also offers a virtual tour of the building, a variety of compelling videos, has an online store, and lists upcoming events.

**Admission cost:** none
Hurtsville Interpretive Center

**Location:** Maquoketa, Iowa, USA

**Website:** [http://www.jacksonccb.com/HIC.html](http://www.jacksonccb.com/HIC.html)

**Focus:** The center is designed for multiple uses, with an emphasis on environmental education and resource protection at the Jackson County scale. Target uses include school programs, field trips, special events for the public, serving as a meeting place for youth & civic groups (Community Room) and summer school programs.

Aim of the center can be described in the following quote: “In the end, we will conserve what we love, love only what we understand, understand only what we are taught.” ~ Baba Dioum

**Interpretative features/exhibits:** The Interpretive Center’s displays include a wetland diorama, prairie exhibit, waste reduction kiosk, historic photos, and an H2O scale model of the Hurstville Lime Kilns. The displays help visitors understand the story behind these natural and historic resources found in Jackson County. The Center also provides volunteer opportunities, loaned materials for schools, teacher assistance, and cooperative programs with other agencies.

**Architectural details:** A community room and kitchen are available for workshops and meetings on a reserved-fee basis.

**Hours of operation:** Monday-Friday, 9AM - 4 PM / Saturday-Sunday: January - March CLOSED; April - October 12-5 PM; November - December 12-4 PM

**Holiday Closings:** Easter Weekend, Veterans Day, Thanksgiving/Weekend, Christmas Eve & Christmas, New Year’s Eve & New Years

**Other:** Grounds contain a restored native prairie with a 1/2 mile loop trail, a butterfly garden of native plants, a fishing lake, and picnic shelter. The Center provides outdoor recreation use such as picnicking, fishing, hiking, nature study, and is closed to hunting, trapping, and public camping.

**Admission cost:** none
Lady Bird Johnson Wildflower Center - University of Texas at Austin

Location: Austin, Texas, USA

Website: http://www.wildflower.org/

Focus: The mission of the Lady Bird Johnson Wildflower Center is to increase the sustainable use and conservation of native wildflowers, plants and landscapes. The center has an educational focus and its parent organization was founded in 1982 by former first lady Lady Bird Johnson, and actress Helen Hayes to protect and preserve North America’s native plants and natural landscapes.

Interpretative features/exhibits: 1995 was the grand opening for the 43 acre center site described as “a model of “total resource conservation” and with an emphasis on “the importance of native landscapes.” An additional 136 acres were acquired in 1999. Interpretative trails, signage, and conservation practices are found throughout the site. The center has a gallery, store, café, places for educational programs, and many indoor interpretive features as well.

Architectural details: The center is a wonderful showcase of regional architecture, conservation, interpretation and beauty. Facilities include:

- Aqueduct: featured part of the Center’s 70,000 gallon rain water collection system
- Auditorium: with 232 tiered seats and state of the art A/V equipment
- Visitor’s Gallery: available for special events (rental: weddings, meetings, parties)
- Wildflower Center Store
- Little house: a one room house geared for kids. This space as material for reading, puzzles, supplies for drawing, and small nature displays.
- Wildflower Café
- Observation Tour: offering a bird’s eye view of the center and also serves as a 10,000 gallon cistern
- Library
- Administration building: office for all staff
- Learning Center: multi-purpose facility
- Research Building: seed lab, seed bank, and herbarium

Hours of operation: 9 a.m. to 5:30 p.m. Tuesday through Saturday / Noon to 5:30 p.m. Sunday / Closed Mondays
Closed July 4, Thanksgiving and Friday, December 23, through Monday, January 2, and reopen on Tuesday, January 3.

Other: Excellent mapping and online audio and video tour: http://www.wildflower.org/map/
Interesting photographer policy: free for amateurs. Fee charged for professionals ( http://www.wildflower.org/visit/)

Admission cost: $8 Adults
$7 Seniors 65 years and older
$7 Students 13 years and older
$3 Children 5 through 12
Free for Members and Children 4 years and under
**Red Rock Canyon Visitor’s Center**

**Location:** Los Vegas, Nevada, USA

**Website:** http://www.redrockcanyonlv.org/

**Focus:** RRC Visitor’s center is a “focal point for visitor orientation. The multiple facilities offer information and interpretation about recreation opportunities, wildlife, wild horses and burros, vegetation, geology, cultural resources and much more.”

**Interpretative features/exhibits:** Visitor’s center blends well with landscape, highlights natural scenery, views, flora, and fauna and gives passive and interactive interpretive opportunities.

Guided hikes are offered. Hikes are limited to 15 people or less, and limited to 10 people or less in wilderness areas. Participants must be signed up ahead of time to partake in any hiking activity, unless otherwise noted. With regards to non-hiking programs, it is up to the Red Rock Canyon Interpretive Association or BLM program leader’s discretion.

**Architectural details:** Sensitivity to the surrounding landscape is shown in the design of the facility.

**Hours of operation:** The Visitor Center is open every day with operating hours are 8:00 AM- 4:30 pm. The scenic loop is open every day of the year with times changing slightly according to the season:

- Nov - Feb - 6 AM to 5 PM
- March - 6 AM to 7 PM
- Apr - Sep - 6 AM to 8 PM
- Oct - 6 AM to 7 PM

**Other:** Simple but compelling video on website.

**Admission cost:** Daily Car Fee - $7
Daily Motorcycle Fee - $3
Daily Bicycle Fee - $3
Daily Pedestrian Fee - $3
Scenic Drive Annual Support Pass - $30.
Sacajawea Interpretive, Cultural, and Education Center

Location: Salmon, Idaho, USA

Website: http://www.sacajaweacenter.org/

Focus: The Center is “dedicated to honoring and providing education about America’s great historical heroine, Sacajawea, an Agai Dika Lemhi Shoshone, and her role in the Corps of Discovery. Cradled in the Lemhi River Valley between the Salmon River and the Beaverhead Mountains, the Center lies in the heart of Sacajawea’s homeland.”

Interpretative features/exhibits: Interpretive exhibits focus on Sacajawea, her role in the Expedition, and the Agaidika Shoshone perspective. Artifacts, other displays, knowledgeable volunteers, and a small gift shop await the visitor. Plan to spend some time when you visit as we have lovely walking trails, and plenty to do.

They also have an outdoor school, the The Salmon Outdoor School, that “provides hands-on primitive living experience and education.” Participants can “learn about plants for healing, soften a deer hide for clothing, and prepare sinew for thread, turn stones and bones into useful tools, fashion baskets out of natural materials, and reestablish a timeless connection to your own ancestral self and discover the thrill it brings!”

Architectural details: In addition to the Interpretive Center, the facility also has a theater and an outdoor amphitheater (Meriweather Theater). The Meriweather Theater is located in a classic red barn, seats 75 people, and serves as a venue for plays, classes, and presentations. The amphitheater is a natural formation. They host a variety of events there including concerts and an annual Heritage Days festival.

Hours of operation: The Visitor Interpretive Center is open during the late spring - early fall months, Mon-Sat,9am-5pm / Sunday 12:30pm-5pm

Other: Facility is owned and operated by the City of Salmon, in partnership with the Bureau of Land Management, the Idaho Governor’s Lewis & Clark Trail Committee and many others. Community Gardens are also on site, as is a ropes challenge course, a center office, a research library, and a ranch yard (festival space).

Admission cost: none
Shenandoah River State Park Visitor Center

Location: Bentonville, Virginia, USA

Website: http://www.dcr.virginia.gov/state_parks/and.shtml

Focus: This visitor’s center supports the state park and offers interpretive information about the area, with a focus on history, wildlife, and recreation.

Interpretative features/exhibits: “The new exhibit area features many informative displays which provide an opportunity to learn more about the Shenandoah Valley’s history, wildlife and recreational opportunities. A touch-screen exhibit provides information on local civil war history and agriculture. Native American artifacts found on the park’s property during construction are displayed here as well. Those interested in birds can use an interactive display to learn about the different species found in the park. Three digital picture frames hung in the hallway will feature rotating photograph displays of park events, scenes and wildlife. Many beautiful taxidermy birds and mammals of the area are mounted throughout the center. In addition, three large fish tanks, containing several species of fish, offer visitors an up close view of life in the river.” - Jennifer Saik, Park Interpreter, Shenandoah River State Park

Architectural details: LEED Silver (Leadership in Energy and Environmental Design) building. Building spaces and features include an exhibit room with a variety of animal species on display, a water feature, a gift shop, a reception desk, a conference room, four offices for park staff, and rest room facilities.

Hours of operation: Open 7 days a week from 8-4:30. During their busy season, Memorial Day to Labor Day, it stays open on Fridays, Saturdays, and Sundays until 7pm. Closed on holidays including Easter, Thanksgiving and Christmas.

Other: In 2010, the park had 141,808 visitors, 17,432 of which stayed overnight and 130,367 were day use. Economic impact on local economy was estimated at: $3,393,416

Admission cost: none
**Tamarack Center: The Best of West Virginia**

**Location:** Beckley, West Virginia, USA

**Website:** http://www.tamarackwv.com/about/history_of_tamarack.aspx

**Focus:** The center’s vision is to be “recognized globally as a dynamic catalyst and premiere showcase for all aspects of advancing West Virginia arts, crafts and food products and those who produce or perform them.” It was “created to boost the state’s economy by fostering a market-driven approach to selling indigenous products. The Tamarack facility is the focal point of the Tamarack distribution system, which markets West Virginia-made products throughout the state.”

**Interpretative features/exhibits:** The center showcases West Virginia handcrafts, fine arts, and regional cuisine and offers working studios for resident artisans, a fine art gallery, a theater, and A Taste of West Virginia food court.

**Architectural details:** The facility is 59,000 sq. feet with an additional 22,500 sq. feet of special occasion/meeting space. In addition to the aforementioned features, the center also contains a retail store, selling regional handcrafts and fine arts.

**Hours of operation:** Open every day but Christmas. From January 5 through March 1, 10:00 a.m. until 7:00 p.m. / From March 2 through January 4, 10:00am to 8:00 p.m. Closes at 5:00pm on Thanksgiving Day, Christmas Eve, and New Year’s Eve when we close at 5:00 p.m.

**Other:** Economic impact of the center: http://www.tamarackwv.com/foundation/default.aspx

**Admission cost:** none
Ping’an Village is one of several villages located among the Longji Terraced Rice Fields of Longsheng County. Also known as the “Dragon’s Backbone,” the terraces were constructed by the Zhuang Minority Population 700 years ago. The terraces were originally devised as a necessary means to expand the available growing area—and food supply—for a growing population.

It has only been in the past 20 years that tourism has become the village’s primary industry. Now, the farmers have less time to spend in the fields and some of the local water resources are being diverted for use by the guesthouses and other tourism related businesses. Residents must now find ways to protect the terraces that made Ping’an a tourist attraction.

As you walk around Ping’an, take note of the unique food, crafts, and culture associated with the local ethnic groups—the Zhuang and the Red Yao.
Ping'an Village

Hollowed bamboo may be used to supplement the downward flow of water provided by the spillway.

Due to the high altitude and cool weather, only one crop of rice is grown each year in the Longji Terraces. In most other parts of China, two crops can be harvested per year.

Dike walls are typically constructed from compacted clay soil. Even when dikes are constructed from stones, they are covered in the local clay-like soil to prevent water leakage that can lead to crumbling and terrace collapse.

Some terraces are too narrow to support a mechanized plow or water buffalo. Plowing these terraces requires the use of a special wooden tool and the coordinated work of two men—one to pull the tool over the shoulder in the front, and the other to push the tool from the back.

The labor required illustrates another reason the terraces are irrigated year-round. Without keeping the soil moist, the clay would become very hard, making tilling the soil even more difficult.

Cross-section of Rice Terrace
Adapted from Shimpei, 2007.

Drainage conduits allow for rapid emptying of the terraces when necessary; otherwise they are plugged with packed soil to prevent water leakage from anywhere other than designated spillways.

Terraces are irrigated year-round to prevent the clay walls from drying out, to prevent the soil from becoming too hard to plow in the spring, and to store water during drier seasons.

In addition to rain, water in the terraces originates from higher altitude mountain streams. Irrigation channels have been dug from the streams and each downstream family is allocated a portion of water for their terraces.

Hand crafts
Yao women are known for their fine cross-stitch and sewing skills. They often sew colorful embroideries on their collars, cuffs, belts, and skirts.

Traditional Red Yao Dress
Red Yao women often wear bright pink or red collarless jackets that open on the side and pleated skirts.

Long Hair
A distinctive feature of the Red Yao women is their long hair. Often worn in intricate coils, the women take it down during special shows and events or simply for the routine traditional practice of washing it in the local streams. Women cut their hair only once—as teenagers when they are ready to signify to the world that they are ready to marry.

The Red Yao people enjoy singing and dancing. Look for frequent performances!

Traditional Ganlan Construction
The traditional buildings in Ping'an are constructed alongside the topography of the mountains. There is no other plan for situating the structures. Due to the limited land area along the mountainsides, the upper stories overhang the lower ones to enlarge the living area. The ground floor typically has few if any windows and is used as a stable for domestic animals. The living room is located on the first floor. The bedrooms are situated around the living room or one floor above. Traditional construction is almost entirely made of wood making fire an ongoing threat to village life. As families have become wealthier, some use concrete as a safer building material but continue to wrap the concrete in wood to preserve the exterior aesthetic.

Embroidering
Zhuang brocade is renowned for its distinctive design, color, durability, and wide range of use, including carpets and aprons.

Traditional Zhuang Dress
In Ping'an most women wear embellished white tops with blue or black pants. Three colored bands on the sleeve indicate an unmarried young woman, two bands indicate recently married, and one striped band is worn by the older generation.

Bamboo Rice
Hollow bamboo tubes are filled with glutinous rice, wind-dry meat, peanuts, sour bamboo shoots, and sweet potatoes before being burned over a small fire.
Appendix C

Ping’an Village Interviews

Questions for business owners:
1. Are you from this area or elsewhere?
2. Do you have any other business besides this one?
3. How much do you make a year?
4. Do you split your time between tourism and farming?
   a. What are peak tourism times?
   b. When are your more intensive farming times?
5. How do you manage waste?
   a. Solid
   b. Sewage
6. What improvements do you want to see in the village in the future?
7. What do you think of the tourism company?
8. How is tourism impacting the social structure of the village?
9. Is the younger generation coming back here or are they leaving? Are they willing to farm?
10. Do you have any environmental concerns for the area?

Questions for tourists:
1. Where are you from?
2. Why did you come here?
3. How long are you staying?
4. What are you doing while you are here?
5. Would you come back? Would you recommend this place to others?
6. What have been your favorite/least favorite experiences here?
7. Entrance fees – what do you think of them? Would you be willing to pay more?

INTERVIEWS:

1. Tourist Interview in front of Long Ying Hotel
   From Beijing
   - 4 people in the group
   - Just arrived and they are only here for the day – then heading back to Guilin
   - They stayed in Yangshou for 6 days
   - While in Ping’an they plan to walk around. They have not been here before.
   - We spoke to one of the 4 in the group – he is an artist and wants to see the place for quick inspiration – and then he will go home and paint. He said he thinks a photographer would want to stay longer in this place.
   - His views on development: from the villagers’ viewpoint, he thinks they need change, but not too fast; from a tourism point of view, they want to be able to stay in nice places (not old homes). He feels Ping’an needs the government to help them balance the old and new.
   - Entrance fee: he felt the 80 RMB/person was a reasonable fee, especially if part of it goes to villagers. He feels increasing the entrance price may have a negative effect.
2. **Tourist couple from France**
   - Have stayed for 2 nights
   - Felt that is a long enough time to stay: 1 day is good for just Ping’an. Two days are good if you plan do a long hike.
   - They have also been to Yangshou and Guilin
   - They enjoyed the surroundings in Yangshou but not the village. They liked the show (Impression Sanjie Liu) a lot.
   - They were surprised (pleased) by the level of accommodations in Yangshou

3. **Employee at the Ping’an Guest House**
   - She is from this area (Longsheng county)
   - Works in the restaurant (there is also a hotel upstairs)
   - They have a lot of guests daily – more international guests than domestic
   - Some people just come for lunch
   - Those who do stay in the hotel mainly stay for one night
   - We asked her about trash collection. She said there is a woman who takes a bag down to
     the parking lot (near entrance gate). There is a big trash facility where all the trash is taken
     and burned.
   - They do separate out recyclables (plastic, glass, paper...)
   - We asked her how the village has changes in the last five years: she said buildings are much
     better as well as room decorations (all indoor things), both for residential and tourism.
   - Her family farms but not the terraces.
   - Her children are in the Longsheng County Boarding School
   - She and her husband rent a place to live in Ping’an
   - She would like to see more tourists and more money coming in.
   - She makes 10-20,000 RMB/year

4. **Dress Shop Owner – Ms. Liou**
   - She is 22 years old
   - Is from Ping’an village
   - She had nothing to do so she opening a store. What she sells highlights local art/skill of
     villagers ~ the elders wives sew the details for her clothing.
   - She doesn’t have to pay any taxes
   - And she said she doesn’t make that much profit
   - Her family doesn’t farm anymore because they don’t have time. They rent their terraces out
     to someone else to work – people from other villages.
   - She doesn’t want to see too many houses here or it will ruin the original feel of the village.
   - She is not sure if she will stay here or not for the long term – she’s not sure if there if the
     outside market would embrace the types of goods she is selling or not.
   - She went to boarding school – through high school – in Longsheng County
   - In the future, she wants the government to put more trash cans in and to be more organized
     in the village.
   - She has 7 people in her family.
   - We asked her how she viewed outside investors: she said she felt they could work together
     with them peacefully.
   - Her family has a hotel and restaurant and works out in town.
5. **Renter (selling products and renting a space to do it)**
   - 3000 RMB/year (pretty sure that was in reference to how much she pays for rent, though I didn’t actually write that down)
   - Stays in Ping’an most of the time and lives upstairs
   - She is from Zhong-Liu (middle village we passed on the hike)
   - There were originally 8 in her house; now just 4 – her, her husband and 2 kids
   - Her husband is a teacher at the Dhazhang Village School. He teaches Chinese language
   - She works here (store) and in the rice terraces. She also raises pigs.
   - She makes about 10,000 RMB/year
   - Her husband earns 17,000 RMB/month
   - Her shop earns her 40/day; in the best time, 50-80/day
   - She has rented the shop for 6 months.
   - She has 2 children – a son who is 20 and a daughter who is 16.
   - She doesn’t know if her children will continue to wear traditional dress
   - Her son is working in Guando. She doesn’t know what her son will do (stay there or come back here). He is earning more there and sends money back home.
   - She hopes for more tourists to come

6. **Meeting with Restaurant Owner (where we had lunch during the interview) – Jia Xiou Liao**
   - She has been here for about 6 years.
   - Before 2003, her family rented another place closer to the center of Ping’an. But after tourism picked up, they came back to renovate their house and open a restaurant.
   - She feels it is harder now to do business b/c of increased competition and foreign investors who have more money to invest.
   - She is 29 years old.
   - She talked some about the role of men and women – in Ping’an both work equally. Carrying luggage is considered a lighter job. Running restaurants and shops are also easier and women do that. Men work in the field – harder job. Some women work in the field too as needed.
   - She has a big family – 14 people. They have a big home. They rent part of it out to other businesses.
   - All of her family work in the rice terraces too: in the day they work in the shop/restaurant; in the afternoon they work in the fields
   - May thru October is peak tourism time
   - May – August is the busy time for the field work because tourists come to see the fields.
   - June – they plant seedlings in the terraces
   - October – they harvest
   - Everyone has traditional garments. Hers is mainly while and is easy to get dirty so she doesn’t wear it when she works at the restaurant. They wear it when they go to greet the buses. The top layers of her garment have significance – 3 stripes= young girl, unmarried; 2 stripes = young girl, just married; 1 strip = older generation. Jwong minority wears white and blue
   - Now people intermarry between minorities. Before, they could not.
   - She hopes to have a better life than she does right now, even though it is better than it was before.
   - She is willing to build a bigger house for better business
   - They are all very concerned about fires because the houses are wood and are so close together.
   - They can early 20-30,000 RMB/Year.
   - Better life = building a bigger house with brick and wood outside.
- They do not pay any taxes to the government
- On the tourism company – she is not sure what percentage the village gets. Her family receives 4-5,000 RMB/year. This is pretty little compared to what the tourism company is receiving. The distribution of funds will now be based on who many people are in a household. Before, it was based on how much labor you put into the road (paving).
- She has seen increased pollution from tourists.
- We asked her if there was anything in place to address this pollution from the tourists and she said – there are some designated cleaning people hired by the tourism company. Also, every year they have a big village-wide clean up. One person from each family comes.
- They all recycle (most all shops)
  o Beer bottles – 3 cents
  o Tin
  o Plastic
  o Paper – 20 cents/1/2 kilo
- They have two systems (for water/waste):
  o From the bathroom – every family has a special container for that and it goes to the fields as fertilizer
  o Running water is used for irrigation

7. Couple from Belgium (tourists)
- They are here for 2 days
- They were in Yangshou before – they felt it was too touristy but the accommodations where nice.
- They felt the accommodations in Ping’an were basic.
- Their hotel in Yangshou was an environmental hotel – the Yangshou Mountain Retreat

8. Shop and hotel owner (two hotels and restaurants, one adjacent shop)
- He opened his business and borrowed money to build a hotel.
- He/family are still working in the fields as well.
- He borrowed money from the Longsheng County Bank – for the hotel
- He opened his store in 1998. He opened the adjacent hotel in April 2011 – cost to redo the hotel was 1 million RMB
- Most of the time, the elders of the village work in the fields and the younger people work in the hotels.
- He anticipates they will have to hire people to tend to the fields in the future – the younger generations don’t want to do it
- They have 5 people in his family
- They have 3 moo for their family – one is for regular plants and two are for growing water rice. They use the food grown for their family needs and to supply their restaurant.
- They have more and more foreigners staying with them.
- He likes tourism
- He worries about the terraces getting worse. In the future, he doesn’t know what to do. Young people don’t want to do the field work. They only want money. 20-30 years ago, their terraces looked beautiful but not they are not well maintained and he doesn’t know what to do.
- He is unaware of any government incentive to work in the fields.
- He feels they get very little money from the tourism bureau.
- He feels the environment is getting worse – stream is getting dirty now. He used to wash his fruit/veggies in it, but doesn’t any longer (he is at the base of the village)
- He feels there is less community spirit here now – people just focus on money.
9. **official at the gate**
   - She graduated from college and worked for the government for several years
   - She requested to come here and lives in the county.
   - She’ll only be here for one year.
   - The company office is located at the place where we switched buses.
   - The company is on the stock market: part of it is government owned and part is company owned.
   - She makes a good salary for living
   - She wanted to come here b/c of the scenery
   - Her company is responsible for moving trash from the village base.
   - They burn it at a separate place.

10. **Two lady luggage carriers**
    - The women outlined the village’s fair system of organizing the porters. There are five different rotating groups. Their group has 60 people (comparable in number to the other groups) and each individual has an unchanging number in the individual rotation. If everyone doesn’t get to carry luggage on a given day, when the group next works, the individual rotation begins with the first number who did not get to carry the last time. On a busy day they may get to carry luggage as many as three times in a single day.
    - They earn 2,000-3,000 RMB/year as a porter—more than they earn from the rice fields.
    - They also noted that carrying luggage is much easier than working in the fields.
    - Most families still work the rice fields with only the wealthiest having stores or hotels. Even so, everyone has a much better standard of living now.
    - While life is better, it is still hard, and they hope their own children will grow up and find work outside the village.
    - They would like to see more tourists and were reluctant to make disparaging comments or discuss problems with trash/polluted water because they didn’t want to deter us from coming back.