

the formal education opportunities at all levels.

7. Finally, the museum entrance tax should be removed for citizens of Burundi and raised for tourists.

The aforementioned recommendations and observations have resulted from a six week study of museums and zoos in Burundi. More time and an in-depth systematic analysis of specific museums and zoos is necessary. Clearly, there are many policy decisions that need to be made regarding the course of education in this small African republic, and the relationship of formal to informal education. At the same time, a cadre of trained museologists is necessary to start

developing effective exhibits. This could result in the modification of existing exhibits and facilities. Last, but not least, access to these settings should be made available for all, and viewed as one step toward the development of a literate public. Although the instrumentation did not provide the rich collection of data anticipated by the researchers, each instrument (to the extent that it could be used) provided the basis for valuable anecdotal data and insights into the fertile area of international informal learning. In the final analysis, many developing countries may well choose to make major investments in informal learning since a larger and broader public can be reached at a lower cost than the alternatives. □

Visitor Response to a Native Plant Habitat Exhibit

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Native plant habitat exhibits are botanic garden displays of native plants designed to simulate the structure and visual character of a natural plant community. Intended to educate visitors about the value of native floras, plant ecology, and the need to preserve wild habitat areas, these naturalistic exhibits are becoming commonplace in American botanic gardens. A study at North Carolina Botanical Garden (NCBG) utilized exit interviews, unobtrusive observation of visitors, and visitor-employed photography to assess to what extent visitors appreciate and explore the native habitat exhibit environment, and, more importantly, identify the factors influencing their response to it.

Habitat exhibits at NCBG offer visitors the opportunity to see, hear and feel the unique environmental qualities of the Pine Savannah, Pocosin, and Sandhill plant communities of the North Carolina coastal plain region. Traveling along a boardwalk and path network, visitors encounter small (generally less than .4 hectare) stylized recreations of plant communities. Described as more diverse and lush than their natural counterparts, NCBG's habitat displays may be seen as concentrated, dramatized representations of native vegetation. Interpretation of the experience is provided by trail-side story labels which offer graphic illustrations and text explaining plant adaptations and other unique aspects of the habitats.

Method

Exit interviews with 77 visitors utilized naturalistic evaluation techniques (Wolf, 1979) to illuminate how personal background and experience influence visitor response to the exhibit. Questions such as, "Why did you come to the garden today?"; "What do you think is its purpose?"; "What would you do to improve it?" were used to initiate and direct interviews. All subjects followed the same 130 meter

route through the exhibit, and were chosen randomly from those visiting the garden during a 14-day period.

Results

Analysis of interview data asked two fundamental questions: "Did the visitor understand what the exhibit represented?" and, "Did the visitor appreciate and enjoy the experience?" Visitors who claimed an interest in native plants, ecology or natural history, or who came to the garden to "learn" expressed greatest appreciation for the habitats, finding the vegetation "interesting," "attractive," and "diverse." Conversely, visitors lacking such special interest or knowledge, or who came to the garden to stroll and "see pretty things" were the most likely to be puzzled by the unfamiliar habitats and respond negatively.

On the whole, visitor expectations of NCBG strongly influenced response to the exhibit. Many first-time visitors arrived at NCBG with expectations of formal, colorful garden displays and were often disappointed by the plant community exhibits which they described as "unkempt," "overgrown," and "depressing." As one visitor said, "It looks like a field ditch. I can see that along the side of a road."

These findings suggest that, for a significant number of visitors, a naturalistic exhibit of native vegetation is an unexpected, unfamiliar, or even unwelcome type of botanic garden feature. Further, they underscore the importance of providing interpretation which anticipates and ameliorates possible visitor confusion or disappointment, providing the information necessary for visitors to appreciate and understand the habitat exhibit's unique message and purpose.

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Exit Interview Results

Comprehending and Appreciative	42%
Uncomprehending, but Appreciative	28%
Uncomprehending and Unappreciative	30%

Other techniques examined visitor response to the specific features and visual qualities of the exhibit. Visitor-employed photography, a method of measuring perceptions of natural environments (Cherem and Driver, 1983), was used to inventory visual impressions of the display. Visitor subjects were issued an automatic camera and asked to travel a defined route through the habitats, photographing the features they found most interesting or that "grabbed their attention." They were instructed to carefully center the subject of their interest in the viewfinder, and told they could take between 0 and 24 photos, depending on how many scenes or elements they found interesting. Thirty-one subjects took over 360 photographs. After completing the photography exercise, each subject was asked to describe their photographic selections and their reasons for choosing the images they did. The location of each image was then charted to create a composite map of the subjects' photographic impressions of the exhibit.

To supplement and elucidate the photographic record, 67 visitors were unobtrusively observed as they moved along the same study route as the photographers. The locations where subjects engaged in some form of exploratory behavior—stopping to study, discuss, or handle exhibit plants and other elements—were charted to create a composite map of behavioral response. Wherever discernible, the display objects attracting and holding visitor interest were identified and also mapped. Observational data was then juxtaposed with photographic data, revealing substantial overlap and yielding a comprehensive picture of visitor response to the habitats.

Areas of the NCBG habitats shown to consistently elicit positive visitor response, drawing both photographic activity and exploratory behavior, are referred to as Perceptually Exciting Nodes (Cherem and Driver, 1983). PENS are areas bearing high perceptual interest; where there is a lot happening visually that we find stimulating and interesting. By understanding the components which comprise perceptual excitement in a natural landscape, designers of native plant habitat exhibits can create environments that are visually more interesting and appealing to visitors.

According to the principles of landscape design and findings in landscape preference research (Kaplan & Kaplan, 1982; Ulrich, 1983), floral color and any type of water feature are likely to attract the attention of visitors. This proved to be the case at NCBG. A substantial portion of the photographic activity and exploratory behavior was stimulated by floral color (marshalia, rhexia, solidago, etc.) or occurred around the two pond areas in the display. However, a finding not so expected or previously well documented was the power of landscape novelty and mystery to consistently influence visitor response.

Novelty may be defined as the stimulating effect of unfamiliar, unusual elements in the landscape. NCBG subjects consistently photographed or paused to examine plants or features they described as novel and interesting ("I'd never seen that before"; "That was really strange!"). In total, such elements were more frequently photographed than the display's floral elements. Among such novel elements were the fruits of *Hibiscus coccinea*, juvenile, *Pinus Palustris*, *Sarracenia*, *Opuntia*, *Typha*, grass seed heads, and charred tree stumps (from periodic burning of the pine savannah). Indeed, one of the habitat exhibit's greatest strengths, in terms of engaging the attention of visitors, was its placement of many highly novel, unusual plants immediately adjacent to the path, accessible for close inspection and handling.

Visitor-Employed Photography Results

(Not all photographs were categorized)

Water scenes	32%
Novelty in the landscape	24%
Floral color	21%
Signs and labels	5%
Insect life	4%

Mystery, the promise of additional visual information through forward movement or changing views was another landscape quality significantly impacting visitor response. A stretch of path disappearing into the darkness of a thicket proved to be among the most frequently explored areas in the habitats, and also among the most frequently mentioned in interviews. NCBG visitors generally slowed in their movement through this area, perhaps both apprehensive and curious, but exhibiting behavior indicative of involvement with the landscape.

Study findings suggest that in designing a native plant habitat exhibit, providing novel visual elements, mystery and a modicum of floral color – in a sense, stylizing a habitat replication to stimulate curiosity and exploration – can make a habitat exhibit more engaging and involving for a broader range of visitors. Such design strategies, combined with effective interpretation preceding visitor entry into the exhibit, can work to make the experience of being "immersed" in a wild plant community more enjoyable and informative for visitors.

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