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African-American Environmentalism:
Issues and Trends for Teaching, Research
and Extension

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**African-American Environmentalism:
Issues and Trends for Teaching, Research and Extension**

By

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Introduction

The conservation/ecological/environmental research base is not fully developed for African-Americans. Although research has increased in several areas, it is often difficult to identify starting points for a comprehensive/ holistic teaching, research and extension practice. Beginning in 1972, I initiated major reviews of literature in the areas of: conservation of natural resources, natural resource recreation management (outdoor recreation), forestry, land loss/ownership, agriculture (small farms), forest history, landscape architecture, environmental history, environmental justice and sustainable agriculture.

In 1987, I presented a paper titled “The Environmental Heritage of African-Americans” at a conference on Environmental History at Duke University. The paper was expanded and updated in 1993.¹ At that time, there were few empirical studies in this area by natural resource professionals. Based on this review and analysis of the literature, I presented a rebuttal to popular theories and recommended that future research should be interdisciplinary and focus on the environmental heritage of African-Americans using the hierarchy-of-needs; economic, historical/cultural, the geographic identity, and the ethno-history models.² Since 1993 other researchers have explored this topic; however, I have not found one comprehensive interdisciplinary model that would be useful in making recommendations for future teaching, research and extension initiatives.

In 2006, using the collective findings from all these reviews and my work experiences, I conceptualized an interdisciplinary model for articulating “The Environmental Heritage of African-Americans.” It is at once a fluid and on going paradigm that acknowledges the African Diaspora but also includes rural and community resource development concepts and cultural artifacts. The model accepts the principles and theories of John Muir, Henry David Thoreau, Aldo Leopold and others, but also acknowledges the historical contributions of W.E.B. Dubois, George Washington Carver, John Hope Franklin and others. It is particularly mindful of the literary treatment of land/natural resources/environment by the Harlem Renaissance and contemporary African- American writers.

The basic elements of the model include historical antecedents such as customs and traditions of the major West African Ethnic groups, African natural resources influences, the middle passage, slavery and emancipation, American natural resources influences including western exploration, and the process of transformative evolution via land ownership, labor, and leisure. The model concludes with the manifestation elements of this environmental heritage in the literature, art and other cultural artifacts of the African-American people. I believe such a model would be helpful in addressing intractable issues facing African-Americans and others such as:

1. Ensuring Environmental Justice
2. Strengthening Rural Roots
3. Feeding a Hungry World
4. Sustaining Small Farms

5. Preparing Youth, and
6. Responding to Globalization

The purpose of this paper is to review major research and trends, discuss the rationale for an interdisciplinary model, outline the major elements of this model, provide a representative illustration for each section of the model, suggest an updated environmental philosophical base, and identify future issues and challenges.

The Environmental Justice Movement

In the late seventies significant research and editorials started to focus on the concept of environmental justice as a response to perceived and documented environmental racism (Hare, Pollack & Grozuczak, Taylor and Caron).³

Environmental racism is defined as racial discrimination in environmental policy making and the unequal enforcement of environmental laws and regulations. It is the deliberate targeting of “people of color” communities for toxic waste facilities and the official sanctioning of a life threatening presence of poisons and pollutants in people of color communities.⁴

In 1994, Jim Schwab published Deeper Shades of Green: The Rise of Blue-Collar and Minority Environmentalism in America. He wrote that his research documented the convergence of two great American movements – conservation and the struggle for social justice.⁵ Also in 1994, Robert D. Bullard edited Unequal Protection: Environmental Justice and Communities of Color. He wrote:

Whether in urban ghettos and barrios or in rural “poverty pockets” and native American reservations, pollution presents potential threats to public health that individuals with affluence or political clout are unwilling to accept...Over the years, disparities have been created, tolerated, and institutionalized by local, state and federal action. ..The current system provides greater benefits and protection for middle and upper-income whites while shifting costs to the poor and people of color. Moreover, the dominant environmental protection paradigm reinforces, rather than challenges, the stratification of *people* (race, ethnicity, status, power, etc), *place* (central cities, suburbs, rural areas, unincorporated areas, Native American reservations, etc.), and *work* (i.e., office workers are afforded greater protection than farm workers).⁶

In 1997 (Arp and Boeckelman) published “Religiosity: A Source of Black Environmentalism and Empowerment?” Their study compared and contrasted the environmental participation of active Black church members as opposed to non-active Black church members. The sample population consisted of respondents located along the Mississippi River between Baton Rouge and New Orleans, LA. They concluded that the church plays more important political roles for African Americans than for Whites - Church Religion is a factor in explaining Black environmental activism. However, they concluded that “religious factors fade into insignificance when other predictors of Black

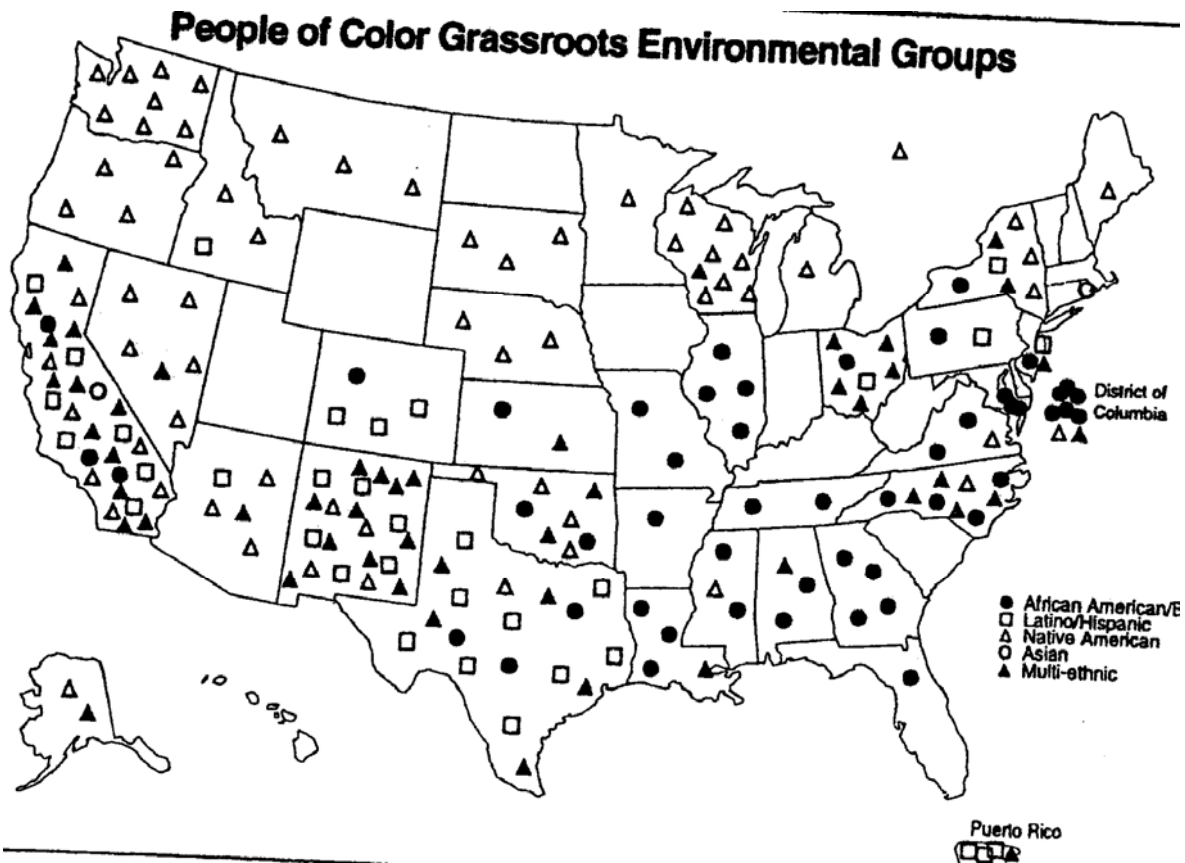
activism are present, such as income, levels of anger, and, most important, levels of community participation.” In the Black community participation may be driven by the perceived relative importance of the issue and potential harmful impacts within the Black community.⁷

In 1999 Parker and McDonough published “Environmentalism of African Americans: An Analysis of the Subculture and Barriers Theories.” According to the subculture theory, African-Americans have different environmental attitudes and behaviors than Euro-Americans. The barrier theory suggests that African-Americans and Euro-Americans have similar environmental attitudes but due to differences in participation styles, barriers to joining environmental groups and feeling of disenfranchisement and powerlessness, African-Americans are less likely to act on their environmental concerns.⁸ Although the authors concluded that their study provided insights about these two areas, they acknowledged the limitations of their sample size (720) and area of the country (urban Midwestern city).

Today, major researchers in the environmental justice movement include Robert D. Bullard at the University of California at Riverside⁹ and Paul Mohai and his colleague Bunyan Bryant¹⁰ at the University of Michigan. Mohai concluded in a 2003 study that African American concerns about the environment are not a recent phenomenon that begins in the 1980s with the environmental justice movement. “These concerns have existed for sometime and are supported by data. Although concern is significantly related to environmental participation, the differences in participation rates between blacks and whites cannot be attributed to differences in levels of concerns.”¹¹

In his 2003 article - “African American Concern for the Environment: Dispelling Old Myths”- Mohai effectively summarized the 1980s environmental justice movement as a grassroots protest over toxic waste and pollution in people of color communities and introduced the concept of black environmentalism.¹² Mohai differentiated types of environmental concerns in five categories:

- Pollution issues with implications for human health (air pollution, water pollution, and hazardous wastes);
- Nature preservation issues (loss of wildlife habitat, loss of natural scenic areas, and oil spills);
- Resource conservation issues (scarcities of energy, water, and other natural resources);
- Global environmental issues (global warming, ozone depletion, and acid rain); and
- Neighborhood environmental issues (litter and garbage in the streets, exposure to lead, and local air and water pollution).¹³



Robert D. Bullard, editor, *Unequal Protection: environmental Justice and communities of color*, P. 8

Based on his research Mohai made the following conclusions:

- The results of this research contradict the notion that African –Americans are not as concerned about the environment as are white Americans;
- While African-Americans are not members of traditional environmental organizations in large numbers, there are a number of community organizations and groups working in this arena (see map insert);
- People of color environmental organizations are working on an array of environmental issues that are more reflective of the concerns and priorities of the American public than those that have been the traditional focus of the national environmental organizations, namely park, wilderness, and wildlife protection issues; and finally,
- African-Americans are strong environmentalists based on expressed concern, individual actions, membership in environmental groups, or votes by African – American members of Congress.

Our Rural Roots: Gardening and Landscaping

In 2003 Dianne Graves linked rural African-American women, gardening, and progressive reform to the foundation of an African American Environmental Perspective. She wrote that:

African-American women were the creative sources of gardening in their communities from slavery to the early twentieth century. By using yards in different ways, women took possession of them. They manipulated and interpreted the spaces for sustenance, comfort, joy, and sometimes profit. In the early 20th century, they effectively blended gardening techniques that had come down from slavery and freedom with those taught by Home Demonstration agents and at African American schools. To enhance their skills through Progressive scientific housekeeping, women trained with and participated in garden clubs through the federally funded Home Demonstration Service of the Cooperative Extension service and private southern African American schools. African-American schools like Hampton Institute complemented community and Cooperative Extension experiences. They offered Progressive-era educational opportunities ranging from flower arranging to garden landscaping. African-American wives, mothers, agents, community volunteers and student created gardens that were both new and old, with practices that integrated tradition with Progressive practice.¹⁴

Graves built on the works of Michael Vlach, The Back of the Big House: the Architecture of Plantation Slavery (1993) and Richard Westmacott, African –American Gardens and Yards in the Rural South (1992) and the historical documentation of extension work in North Carolina and other states. Vlach used images from the 1933 Historic American Buildings Survey (HABS) and wrote that “well before their official emancipation, slaves were already laying claims to portions of the plantation landscape, even to spaces not specifically ceded to them. Through acts that ran the gamut from courage to accommodation, slaves defined landscapes that were uniquely theirs... At the end of the Civil War, African-Americans view of land tenure was firmly rooted in sense of place. Former slaves did not want just any land; they wanted land that was familiar to them, plantation land with which they had developed a personal bond.”¹⁵

The plantation landscapes of African-Americans were different than that of the owners:

Beyond their master’s immediate scrutiny, at the margins of the plantation and in the thickets beyond its boundary lines, slaves created their own landscape...paths and trails into the countryside were the central elements of the slave landscape in Virginia...A shortcut through the woods or marshlands that surrounded the fields may have allowed slaves from different plantations to rendezvous more conveniently and to return to their assigned tasks with less chance of detection. On those plantations located near navigable streams and rivers, the water ways

were yet another domain whose ensemble of sites and pathways constituted alternative territorial system.¹⁶

Richard Westmacott, a landscape architect and a native of Great Britain used both systematic description and symbolic analyses to interpret African-American gardens. Field work was conducted in three southern communities in Alabama, Georgia and South Carolina. Westmacott studied the use of space - ethnography of living communities that can be used to interpret the past as seen through the archeological record and as depicted in images or in written descriptions.¹⁷

He started with the concept of the garden as a place serving specific functional needs and also expressing values, aesthetic preferences, and spiritual beliefs, His hypothesis was that by studying gardens in areas with distinctly different climatic, environmental, and social constraints, he would gain a greater understanding of the traditions and continuities of African-American culture in the South. He found that yards were used for subsistence, kitchen extension, leisure and recreation, and ornament and display. Major findings from his study are:

- There is a cultural continuity between the gardens and yards of these three areas;
- The homestead is source of great pride. It embodied the values of home, family, ownership, and self reliance;
- Gathering of family and friends in the yard were symbolic of commitment to family and community.
- The vegetable garden from which produce was shared with family members and friends was a symbol of commitment to the family and a demonstration of self-sufficiency, resourcefulness, and hard work.
- Hogs and chickens were seen as symbols of productiveness and good food.
- The yard and the shaded, decorated seating areas within and visible from the road, were gestures of welcome, invitations to stop and visit.
- Piles of second- hand building materials and other miscellaneous items awaiting reuse were not trash, but were symbols of the resourcefulness and thriftiness of the gardeners;
- All things they had- their homes, their way of life- these families saw as symbols of their devotion to God.¹⁸
- As the amount of leisure time has increased and as the role of the yard as a work place has become less important, its function as a place for leisure recreation, and entertainment has increased.¹⁹

Sustainability of Small Farms

The 1985 farm bill established the Sustainable Agriculture Research and Education Program (SARE); funding was first provided in 1988. Since 1988 SARE of the Cooperative Research, Education and Extension Service (CSREES) has been the USDA's primary means of studying and spreading the word about farming systems that are profitable, environmentally sound and good for communities. Today the term sustainability is diffused through out much of our practice and official jargon:

Sustainability is an attempt to provide the best outcomes for the human and natural environments both now and into the indefinite future. It relates to the continuity of economic, social, institutional and environmental aspects of human society, as well as the non-human environment. It is intended to be a means of configuring civilization and human activity so that society, its members and its economies are able to meet their needs and express their greatest potential in the present, while preserving biodiversity and natural ecosystems, and planning and acting for the ability to maintain these ideals in a very long term. Sustainability affects every level of organization, from the local neighborhood to the entire planet.²⁰

SARE –has active participation from all 1862 and 1890 land-grant universities. In the Southern Region, funding is available to support seven grant opportunities: Research & Education, Planning, Graduate Students, Producer, Sustainable Community, Professional Development and On-Farm Research. Although SARE has increased African-American participation in USDA programs and outcomes/impacts are collected in an official data base, additional research is warranted to determine if major elements of the African-American environmental heritage has emerged or can be identified.²¹

For example in People Sustaining the Land, Cynthia Vagnetti used black and white pictures and oral history interviews to present a perspective of land connectivity. Some of the more illuminating comments from African- Americans are the following:

Arthur Bean, Forest City, AK - “Believe it or not, I have prayed over this land. In fact, when we went through financial problems and health problems, I walked in these fields and prayed for hours up and down the rows.”

Ephron H. Lewis, Memphis, TN - “I tell my friends, in the spring when it dries up and we can start farming after the winter, you have to come out and break the ground and smell the good aroma from freshly broken ground. It’s like a dose of penicillin to a man with pneumonia.”

Opal Ragsdale, Jacksonville, TX - “I enjoy the people out here. I enjoy the contact with the customers and their calling and coming by over at the shed. I don’t know whether I am unique or not, but I don’t mind it. I’m here. I don’t have to do it, but I just enjoy it.”

Rufus Ragsdale, Jacksonville, TX – “I really own the place and I know just about every hill and hollow on it. It’s part of me. I know all about it by being in the family so long. I don’t know what I would do without it now.”

Rosa Nagi Shareef, Sumrall, MS - “What we see here in people sustaining the land are people making good use of that land, people making good use of themselves, of the skills and talents that almighty God has given them to develop themselves, because we ourselves come from land. Once we have finished all our work on this land, we have to go back to the land. Therefore, we have to care for it now.”²²

Rationale for Interdisciplinary Model

African-Americans have lived in America almost 400 years. Despite the brutality of the middle passage and slavery, we have adapted, survived, and developed a distinctive culture, based on a set of unique location specific natural resources involving landscapes, a biodiversity of plants and animals, soil, water and air in conjunction with the social, financial built, political, human and cultural attributes. And given the general theory of cultural adaptation and survival, African-Americans have a rich environmental/natural resources heritage.

The challenge has been to pursue the literature in many related and diverse areas, identifying and analyzing nuggets of information without a solid theoretical framework. This process is not dis-similar to putting together a 1000 -2500 piece jigsaw puzzle without a picture of the final product. And while the environmental justice theme has been the focus of most recent research, Dianne Glaves reminds us that there is an African-American gardening and landscaping perspective which I believe is greater and more encompassing than just the environmental justice theme. Moreover, the almost 20 years of Sustainable Agricultural Research and Extension (SARE) funded projects and the resultant data base of outcomes/impacts provides an engaging opportunity for additional research.

Over the past 20 years, I worked to conceptualize a model via ongoing applied research and professional work in a variety of positions and leadership roles with the Cooperative Extension Systems in North Carolina and Tennessee. While this environmental heritage theoretical framework or paradigm has merit as an intellectual endeavor to increase awareness and understanding, it has greater merit in the effort to increase the equity and efficiency of the renewable resources policy and decision making process.

Increasing awareness and understanding is a prerequisite for increasing the perception of relevancy – appropriate consumption, land ownership, forest management, and development of other natural resources, selecting appropriate professional career options, small business development/entrepreneurship, and utilizing outdoor recreation resources. These are 21st century issues that still have not been adequately addressed by various public and private institutions including the land-grant universities.

The Historical and Ethno-history Model

Historiography is the writing of history based on a critical examination of sources, the selection of particulars from the authentic materials and the synthesis of particulars into a narrative that will stand the test of critical methods.²³ If accurate and complete, historical studies are excellent sources for data. For example, according to William Katz, no phase of American history is more celebrated and glorified than the settlement of the American West. Until the 20th century, however, historians largely ignored the black experience in the westward expansion as a manifestation of this environmental heritage. Where there is incomplete or inaccurate historical research, then additional data sources are warranted. For example in The Exodusters, Nell Painter documents the movement of African-Americans westward after the civil war seeking land ownership as an opportunity for economic empowerment.²⁴ She wrote that African-Americans migrated to Kansas in 1879 from four states; Mississippi, Louisiana, Texas and Tennessee, approximately six thousand in a few months of 1879. Overall about 20,000 migrated in 1879-80. The Exodus was a rural-to-rural migration- a quest for land.

In 1998 Quintard Taylor documented the presence and roles of African-Americans in the American west from 1528 -1990.²⁵ In The Search of the Racial Frontier, Taylor wrote:

Until the 1960's the image of the West centered on Frederick Jackson Turner's ideal of rugged Euro-American pioneers constantly challenging a westward-moving frontier, bringing civilization, taming the wilderness, and, in the process, reinventing themselves as "American" and creating an egalitarian society that nurtured the fundamental democratic values that shaped contemporary American society. This interpretation was reinforced by western paintings, by novels, and, most importantly, by movies and television programs, which cemented into our national consciousness, as no historical work could, the image of white settlers as "conquerors" who superimposed their will on a vast, virtually uninhabited virgin land. African-Americans, according to this interpretation, were not an indigenous conquered group, and certainly they were not among the conquerors.²⁶

Taylor challenged this interpretation by documenting the 1528 arrival of Esteban, a black slave from Morocco in the area of Texas and Arizona. Later many hundreds of other Spanish-speaking blacks arrived. By 1800 the earliest English-speaking blacks had moved west as slaves, fur trappers, or servants, creating the nucleus of post-Civil War communities. Thousands of African-Americans later migrated to the high plains while others drove cattle up the Chisholm Trail – the famous black cowboys – or served on remote army outposts.²⁷

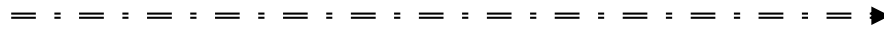
Finally, Taylor's research moved beyond the glamour roles of the black explorer, hunter, and cowboy to focus on the role of black families and women in the settlement and development of the west.

The ethno-history (a study of the development of cultures) model is adapted from the field of anthropology. Two principle definitions are: 1) use of written historical materials

in preparing ethnography (often a reconstruction of a past culture), with the documentary data supplemented, if possible, by the “memory culture” supplemented by historical records; 2) use of a people’s oral literature in reconstructing their own history.²⁸ Ivan Van Sertima documented in They Came Before the Mayflower, the presence of Africans in the Americas long before Columbus in 1492. He uses a variety of anthropological sources which acknowledges Africans knowledge of sailing, navigation, exploration and settlement.²⁹

The Environmental Heritage of African-Americans A Paradigm for Teaching, Research and Extension

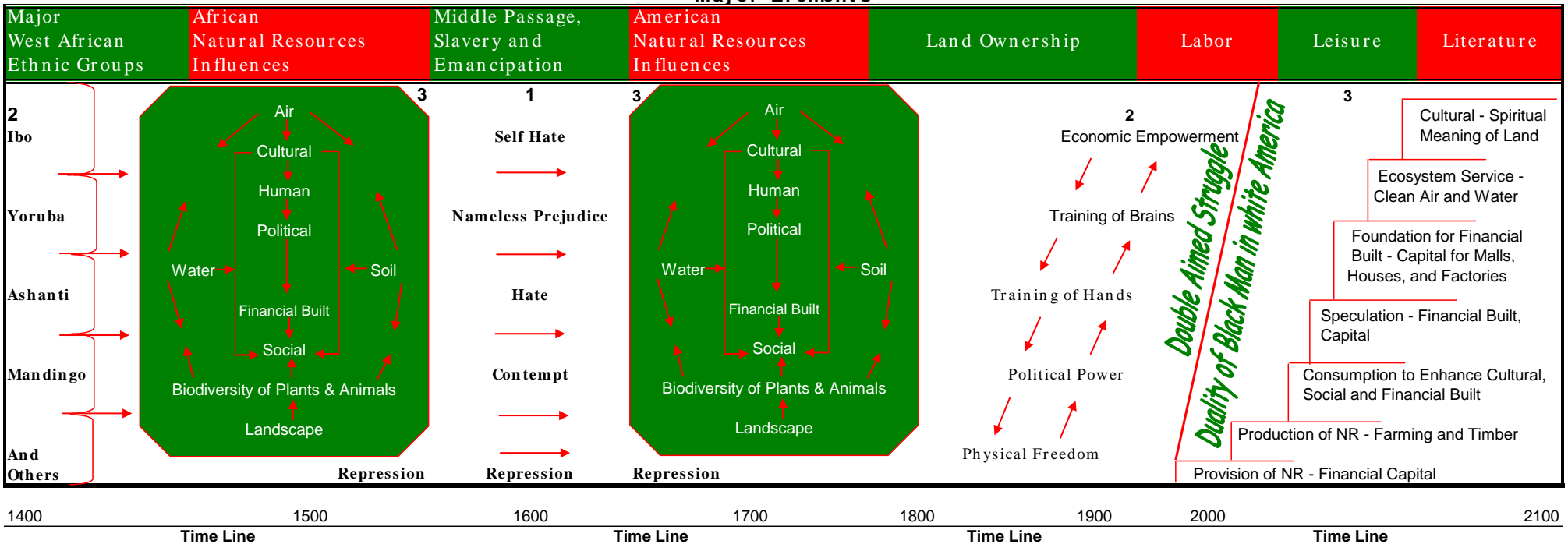
Historical Antecedents



Process of Transformative Evolution

The Resiliency of the Human Spirit

Major Elements



Model Elements Taken From The Following Sources

1. W.E.B. Dubois - Souls of Black Folk, 1903.
2. John Hope Franklin, From Slavery to Freedom, A History of African-Americans, 5th Edition, 1980
3. Cornelia Butler Flora, Etals, Rural Communities - Legacy And Change, 2nd Edition, 2004

Clyde Chesney 2006

The Geography and Identity Model

In 1987, Dixon examined the relationship between geography and identity in selected major works of African-Americans. He analyzed images of physical and spiritual landscapes that reveal over time a changing topography in black American quests for selfhood (defining themselves as real persons), from early slaves songs and narratives, which first located alternative places of refuge and regeneration (wilderness), to works by modern authors, who construct equally complex geographically figures leading to discovery (darkness or underground) and the performance of identity (the mountain top). Dixon concluded in his study that the images of a land and the conquest of identity serve as a distinguishing feature of African-American literary history.³⁰

The recently opened Underground Railroad Museum in Cincinnati, Ohio gives visitors an interactive visual and emotional experience of the trauma of the escape from slavery via the Underground Railroad. Wild lands were an asset in that escape.

In 1997, Cassandra Y. Johnson and others completed research on “Race, Rural Residence, and Wildland Visitation: Examining the Influence of Socio-cultural Meaning.” They suggested that the influence of living in rural areas created a rural milieu:

The physical sensations, folklore, and economics of the rural environment may combine to make rural blacks, in part, rural beings who have developed a pace of life, a perspective, that distinguishes them from urban blacks....for rural African-Americans, these combined selves (black group-identity and rural place-identity) contribute to the formation of an out-of-doors perspective which is distinct from that held by either urban blacks or rural whites.³¹

Since the two models have different strengths and weaknesses, I conceptualized an interdisciplinary model where disparate data/evidence can be gathered using a multiplicity of data sets/sources. Integrating the data into a holistic/integrated model that can accommodate this diversity, I believe provides a platform that can be used by various practitioners to address some of the continuing and 21st century issues facing African-Americans.

Elements of The Environmental Heritage Model

The Environmental Heritage model is organized in three overlapping sections. The left side reflects/acknowledges the Historical Antecedents: West African Ethnic Groups, African Natural Resources Influences, and Middle Passage, Slavery & Emancipation. The center reflects the Resiliency of the Human Spirit: overlapping the Middle Passage, Slavery & Emancipation with American Natural Resources and Land Ownership. The right side reflects the process of Transformative Evolution: overlapping Land Ownership with Labor & Work, Leisure & Recreation, and Literature, Art & Cultural Artifacts.

Within these major elements, there is movement/flow – an interactive/alliterative process represented by the arrows and steps devoted to these processes. These three sections are set on a historical time line reflecting the major elements, and the recognition that environmental heritage formation is an ongoing process and not a static one time event.

Major West African Ethnic Groups

After Alex Haley’s book Roots: a Saga of an American Family and the 1977 ABC miniseries, “it created both the concept of the miniseries and, more importantly, a black genealogy craze that has yet to abate.”³² For most African- Americans Roots provided a fictional re-connectivity to our African home land and unleashed perhaps the most profound growth in genealogy research by all races which continue today.

As African-Americans, we have long celebrated the family reunion but after the roots phenomena and now with the advent/advances in DNA testing which can generally identify/match maternal mitochondrial DNA (mtDNA) and paternal linkages (Y chromosomes) to various African counties with an accuracy of up to 99.4%; we can move beyond the American continent and the limitations of the lack of written documentation to find the country/region of our African ancestors.³³ And as we travel, study and interact with our ancestral cousins, it does not take long to see the connectivity we have with Africans – 400 years later. While the African Diaspora has separated and isolated us from those far away places, significant African influences survived and flourish today. As John Hope Franklin and others have so elegantly written, there are many things we take for granted in the 21st century America that can be traced back to African sources or identified with a specific African Country or ethnic group. Franklin wrote in From Slavery to Freedom that in work, in play, in social organizations, and in various aesthetic manifestations there are some evidences of African culture:

The survival of varying degrees of African culture in America does not suggest that there has been only a limited adjustment by Africans to the New World situation. On the contrary, it merely points up the fact that they came out of an experience that was sufficiently entrenched to make possible the persistence of some customs and traditions. There is a certain amount of validity to the view that in the conflict of cultures only those practices will survive whose value and superiority give them the strength and tenacity to do so. African survivals in America also suggest a pronounced resiliency in the African institutions.³⁴

African societies traditionally included the communal ownership of land; egalitarian character of village life; collective decision making; and extensive networks of social obligations³⁵

From 1600-1870 over 11.4 million slaves were exported from Africa to North and South America.³⁶ For example, Ghana where many of the slaves were shipped to America is home to the Ashanti people. Ashanti are descended from the rulers of the ancient Ghana Empire. By the early 19th century, Ashanti territory covered nearly all of present day Ghana including the coast. Today, most Ashanti live in the Ashanti region of Ghana.

They are primary farmers, growing cocoa for export and yams, plantains, and other produce for local consumption.

The Ashanti are often considered the custodians of the nation's culture, because of the power, artistic splendor and duration of their empire, which covered all of present day Ghana by 1800. As they prospered, Ashanti culture flourished. They became famous for gold and brass craftsmanship, woodcarving, furniture, and brightly colored woven cloth, called kente. Ashanti masks and stools are especially prized.³⁷

African Natural Resources Influences

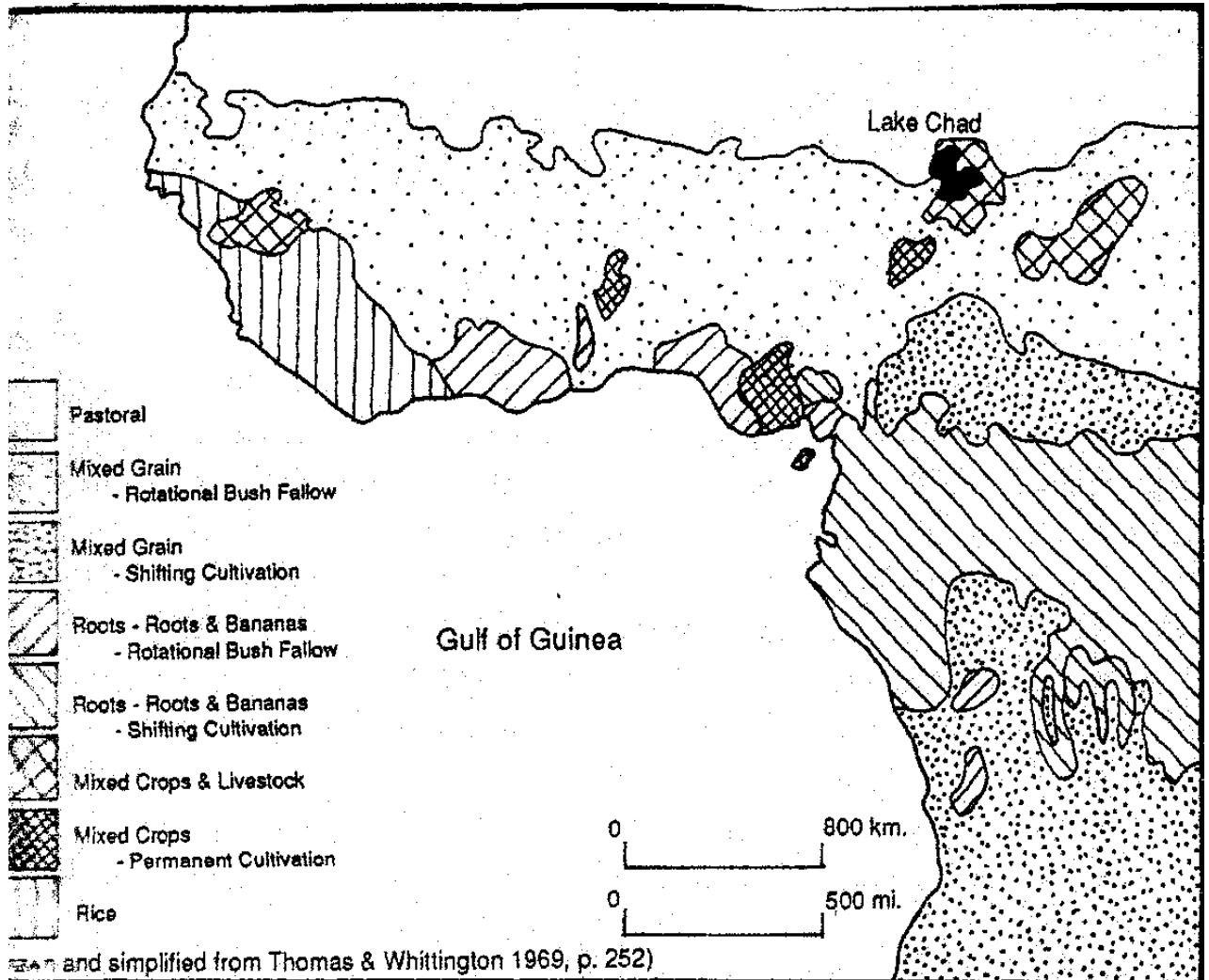
Cornelia Flora and others provide a typology for examining and understanding natural resources influences which include the interdependence and interaction between and among the natural – the biodiversity of plants and animals, landscapes, water, soil, and air with those associated with humans – the social, financial built, political, human and cultural capital and institutions.

Again, the story of how those major groups of West African people – the Ibo, Yoruba, Ashanti, Mandingo and others lived and adapted within the context of their Social, Financial Built, Political, Human and Cultural Influences for many years prior to their enslavement in America is part of this environmental heritage. For example, West Africa may be divided into two major vegetation zones: the tropical forest in the south (20%) and the savanna/grasslands in the north (75%) of the region. Savannas are covered with woodland varying from relatively thick bush to scattered trees. A smaller third zone (5%) of the region is the Sudan or the Sahara in the north.

According to the Cambridge Encyclopedia of Africa, the West African tropical forest has been inhabited for several millennia and the spread of iron technology made it possible for increasingly sophisticated societies to settle or develop in it – Yorba, Igbo, and Akan. The savanna has a number of features that make it suitable for human settlement and for the development of complex large-scale political relationships. It is relatively open to human movement via a number of extensively navigable rivers (important for communications within an empire or kingdom, and for the development of long-distance trade). Compared with the forest, the savanna had a relatively low level of tsetse fly infestations which allowed the keeping of cattle, horses, donkeys and oxen for food, transport and military use;³⁸

Because West Africa covers a great range of biomes from equatorial rain forest to subtropical desert, various traditional agricultural systems have been developed. These range from complex “vegeculture” in rain forest areas, through small grain systems, to nomadic herding systems in arid regions. Also within any one system there is considerable variation. Thomas and Whittington identified eight agricultural systems in West Africa (see map). A feature of most equatorial cropping methods is that they involve a complex, multilayered system of trees, vines, root crops, and grain crops, such as banana, yams, manioc, and maize. Vegeculture refers to the cultivation of plants reproduced by vegetative propagation, mainly of tropical roots such as taro, manioc,

yams, sweet potatoes, and arrowroot. In vegeculture it is not necessary to clear large areas at one time.³⁹



Agricultural Systems in West Africa, Redrawn from Thomas and Whittington 1969, P252

Middle Passage, Slavery and Emancipation

Although an estimated 11.4 million African slaves were shipped to America from the African continent, a conservative estimate suggests that 10-30 percent perished at sea from disease, starvation, brutal treatment and suicides.⁴⁰ One could say that only the physically, mentally and spiritually strong survived this passage. And while the middle passage and slavery like Dubois writes is filled with self hate, nameless prejudice, hate, contempt and repression, the resiliency of the human spirit allowed African slaves to overcome this adversity. And using Franklin’s theory they learned and adapted to America’s set of natural resources and survived.

Two examples of this resiliency of the human spirit related to natural resources are Stephen Bishop, a Kentucky slave and Solomon G. Brown, a Washington, DC freedman. Stephen Bishop became a slave guide in 1838 at Mammoth Cave when he was about 16-18 years old. He is credited with making numerous discoveries including crossing the bottomless pit, finding an underground stream, and eyeless and colorless river animals. Later his former owner described him as “a self-educated man; he had a fine genius, a great fund of wit and humor, and some little knowledge of Latin and Greek, and much knowledge of geology; but his great talent was a perfect knowledge of man.”⁴¹

Solomon G. Brown was the first African-American employee at the Smithsonian Institution serving under the first three Secretaries. According to the Smithsonian web site, Brown started working at the Smithsonian in 1852 and worked in continuous service until 1906. He held a number of roles during this 54 year tenure from laborer, building exhibit cases and moving and cleaning furniture, assisting in preparing maps and drawings for lectures, and working in the International Exchange Service. Solomon Brown was also self-educated and while at the Smithsonian obtained considerable knowledge in the field of natural history. He became well known for his illustrated lectures on natural history. He lectured frequently at scientific societies in Washington; Alexandria, Virginia and Baltimore, Maryland.⁴²

American Natural Resources

American Natural Resource while significantly different from African in its biodiversity of Plants and Animals, Landscapes, Water, Soil, and Air, provided an environment both challenging but with opportunities in land ownership. America is the world's third largest country by size after Russia and Canada and by population after China and India. Its location and mostly temperate climate with abundance natural resources produced the largest and most technologically powerful economy in the world.⁴³ Flora and others write in Rural Communities: Legacy and Change that in the course of American history, land and land ownership has been viewed as valuable in terms of the following:

- Provision of natural resources to be turned into financial capital (logging, mining, trapping)
- Production of natural resources to be transformed into financial capital (farming and some timber production)
- Consumption to enhance cultural, built, and social capital (those with wealth purchasing land on which to build elegant homes and large estates to entertain their friends)
- Speculation to directly increase financial capital (land bought on the assumption that its price would increase)
- The foundation for built capital (housing developments, shopping malls, factories)

- Provision of important ecosystem services (clean water, air, biodiversity, carbon, sequestration)
- Cultural capital (land valued for its spiritual meaning)⁴⁴

The People Influence

Likewise in America the Social, Financial, Political, Human and Cultural Influences are significantly different from Africa. The specific human factors in communities which impact the natural resources are the following:

- Social capital - features of organizations, such as networks, norms and trust, which facilitate coordination and corporation for mutual benefit. Social capital enhances the benefits of investment in physical and human capital.
- Cultural Capital – includes the values and symbols reflected in clothing, books, machines, art, language, and customs. Cultural capital can be thought of as the filter through which people live their lives, the daily or seasonal rituals they observe. And the way they regard the world around them. Legacy is what families, communities, groups, and nations pass on to the next generation.
- Human Capital - includes those attributes of individuals that contribute to their ability to earn a living, strengthen community, and otherwise contribute to community organizations, to their families, and to self improvement.
- Political Capital consists of organization, connections, voice, and power. It is the ability of a group to influence the distribution of resources within social unit, including helping set the agenda of what resources are available.
- Financial Capital - resources that are translated into monetary instruments that makes them highly liquid. Tangible forms of include capital goods (built capital) include physical objects (cars, machines, buildings) that individuals or businesses invest to generate new resources. Land becomes an investment because of the resources it has or the development space it offers. Financial instruments - stocks, bonds, derivatives, market futures, and letters of credit and money.
- Built Capital - the permanent physical installations and facilities supporting productive activities in a community. It includes roads, streets and bridges, airports and railroads, electric and natural gas utility systems, water supply systems, police and fire-protection facilities, wastewater treatment and waste-disposal facilities, telephone and fiber-optic networks and other communications facilities, schools, hospitals, and other public and commercial buildings. Built capital also refers to the equipment needed to support a series of networks that enable people to travel, communicate with one another and gain access to services and markets.⁴⁵

Land Ownership and Control

Since land and related natural resources are crucial to production, consumption, speculation, the financial built and culture, its ownership and control has dominated exploration and expansion. While religious freedom was important in the early settlement of America, it was the lure of land and related natural resources that ignited the great migrations to the new world. President Thomas Jefferson's vision and concept of Manifest Destiny caused him to purchase the Louisiana territory from France in 1803 and subsequently invest in the Lewis and Clark three year journey (1803- 06) to find a water route to the west coast.⁴⁶

In the American capitalistic system, land ownership is a sacred right. The right to vote was first granted to white male landowners. Raleigh Barlowe wrote eloquently about the significance of land:

Much can be said about the basic importance of land resources in the modern world. They provide people with living space, with the raw materials necessary for filling material needs, and with opportunities for satisfactions dear to the heart of man. People look to land for their physical environment, for the food they eat, for fibers and the other materials needed to clothe their bodies and to provide housing and manufactured goods, for building sites, for recreation opportunities, and for scenery and open space.

History speaks eloquently of the high regard with which man has viewed land in times past. The ancient Minoans and Greeks prayed to an earth goddess, a reverence that has come down to us in the respect we show for Mother Earth. For long centuries most wars were fought for the possession of land, and the average man everywhere lived in close association with the soil, fields, forests, and fishing grounds that provided him with sustenance, Rights in land were often the key factor that determined an individual's economic, social, and political status. Hunger for land and for land ownership brought thousands of immigrants to the Americas and still affects the thinking of people in many places.⁴⁷

In the 1980s, the Emergency Land Fund was very active in publicizing, providing research and advocacy of land ownership and loss of this ownership by African Americans by a variety of legal and illegal means. Additionally, many of the 1890s, other HBCUs and the Federation of Southern Cooperatives in Birmingham, AL have sponsored conferences, workshops or ongoing programs in this area.

Within the last century, African-American land ownership has rapidly declined. Comparing the U.S. Agriculture Census data on African-American farmland ownership for 1910 and 2002, it shows a drastic decline from its peak of 15 million acres in 1910 to 3.5 million acres in 2002. The 1999 Agricultural Economics and Land Ownership Survey, which assessed private rural landownership across race and use (i.e. farming, forestry, etc.), found that there are currently 68,000 African-American rural landowners and they own a total of approximately 7.7 million acres of land, less than 1% of all

privately owned rural land in the United States. Sixty percent (60%) of which is owned by non-farmers. However, this acreage is valued at \$14 billion.⁴⁸

In Tennessee, there are 1266 farm land owners controlling 129,776 acres.⁴⁹ Since 1975, The Tennessee Farm Centennial Project at Middle Tennessee State University has identified and recognized over 1000 farms in continuous ownership for over 100 years—three African-American owned farms have been identified.⁵⁰ The Tennessee Home & Farm magazine recently ran a feature article on the 110 acre centennial farm of McDonald and Rosetta Craig. McDonald shared this perspective:

My great-grandparents, Tapp and Amy Craig, purchased this place on Christmas Day in 1871. They were both slaves, and after the Civil War, they worked to save money to buy their own farm. He gave \$400 for the place, put a yoke of oxen as a down payment and paid the rest off in less than two years.⁵¹

Nationwide, it would be interesting to identify other African-American centennial farms and interview current owners about their families continued ownership.

More recently, in a collaborative effort with Dr. Rory Fraser, Associate Professor in the Center for Forestry and Ecology at Alabama A & M University a team of diverse professionals conducted forestry workshops and documentation work in Mississippi, Alabama, Tennessee, North Carolina, South Carolina and Georgia. Michael McLendon, former media specialist with the TSU Cooperative Extension Program and the Extension Technology, Communications and Marketing Team are producing a video-graphy of these workshops and conversations around land ownership, land management and land loss. The objectives of the workshops are to reach and empower minority forestry landowners and to document the educational programs and conversations.⁵²

Over the past year the Minority Landowner, a quarterly magazine devoted to articles, editorials, news releases, photographs and artwork also documented the excitement of people engaged and empowered to use their land legacy.

Labor, Work and Career Selection

Work is what one does to provide the basic necessities of life: food, clothing, housing, transportation, etc. Without choices – education or other exposure, we tend to gravitate to the work of our fathers and mothers. We may know the major occupational groups: teachers, ministers, doctors, lawyers, engineers, actors, singers, athletes from a distance but the first influences are our parents, grandparents or immediate community. Yet for those involved with working or living close to the land - farming, forestry, and mining - those early experiences help shape our perceptions, provide learning and part-time work opportunities.

According to a model suggested by Perry, the career opportunity structure is shaped by the political/economic system, but career decision making by black youth is shaped by a cultural system, limited career awareness exploration, and limited perceived opportunity

structure. She suggested that guidance counselors should be more proactive, exposing youth to all kinds of careers in meaningful ways and intervening to prevent perceived opportunities from being restrictive.⁵³

As we learn our preferences, our skills and abilities, we may then start to think beyond our immediate sphere. Often broader exposure may come from an energetic teacher, reading a book or from a close personal relationship that propels us to think broader. Of course today with the prevalence of the media, mass communication and transportation, many people may dream those big dreams but most tend to settle on the familiar, the tried and true, the safe, the sure bet – what other family members are doing, etc. The goals and dreams of many have dried up like the “raisin in the sun.”

And of course as the world of work has changed where knowledge and machines have replaced or changed the requirements for the labor force, physical labor by itself does not produce the necessary monetary compensation to attract and keep an American workforce constantly bombarded with the media images of the “good life.” Historically, people have migrated for jobs and better living conditions. For African-Americans it was the great migration of the 1940s and 50s from the south to northern and western cities. Today, that trend has reversed.

Fuguitt and others in The Shifting Patterns of Black Migration Into and From the Nonmetropolitan South, 1965-95 documented a reversal of the long-standing trend of Black migration loss from the South. From 1990-95, the South had an unpredicted net movement of over 300,000 Blacks into the region.⁵⁴ Though once Blacks left the South, economic opportunities, family ties and decline of racial discrimination as a result of civil right laws particularly the voting rights act have influenced this changing migration stream. While many are return migrants, many newcomers are children or spouses of returning migrants. Fuguitt and others speculate that family ties may induce migration to nonmetro areas, despite the lower typical levels of nonmetro economic opportunities.

Since 1986 Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS) has been active in supporting students and professionals’ career development and success in agriculture and natural resources. For student members, MANRRS provides role models and networking opportunities, offers students opportunities to enhance leadership and organizational and public speaking skills. MANRRS also serves employers in the broader agricultural and natural resource sector by providing them a organization to identify prospective well qualified employees who are members of ethnic groups, which, when combined, are projected to be the new majority in the work force in the not too distant future.⁵⁵

In a 2004 Inventory of Natural Resources and Environmental Courses at 1890 Land Grant Universities, McLaren and Pereira identified only five 1890s with substantive courses: Alabama A & M - forestry, Florida A & M - environmental science, Lincoln - range management, NC A & T- natural resources and environmental science and Southern – urban forestry. (See Appendix II)⁵⁶

Leisure and Recreation Participation

Leisure is that time off that we have from earning a living, meeting family, personal and community obligations. It is that time that allows us to pursue self actualizing activities if we have the resources, physical health, transportation, relationships, etc. It is not given. Recreation is one way we opt to use our leisure time. Many people are forced to work second jobs or do not have the option of much needed recreation. Like work, we are first exposed to these leisure activities or learn many of these activities from parents, the community, friends and/or acquaintances. Your place of birth, interaction with land and natural resources and experiences will help dictate some of these optional uses of leisure time. What one does on their own time is perhaps a window into their soul.

Participation in wild land recreation is a form of behavior that is no different from other forms of human behavior. It is a human activity that involves making choices among alternatives. The Fishbein model of reasoned action, if applied to the question of limited participation by blacks in wild land recreation, simply would assume that what a person thinks about wild land recreation would influence the intention to participate (or not to participate). What a person thinks is a function of his/her belief system. Therefore, to understand black wild land recreation participation patterns, the first task is to understand black beliefs about wild land recreation and the sources of those beliefs.⁵⁷

Literature, Art and Cultural Artifacts

Our literature, art and other artifacts reflects our cultural manifestation. While it may be difficult for an average individual to verbalize, the careful examination of these cultural artifacts will reveal that inner spirit. By examining them in a historical interdisciplinary model new insights appear. John Michael Vlach in The Work of Their Hands: Studies in Afro-American Folklife wrote that while African influences have long been noted in religion, music, oral literature and dance, Africanisms have been more difficult to discover in material expressions than in the performing arts. Vlach returns to the two-ness or duality concept of W.E.B. Dubois (which I included in the model). Black material culture can claim the heritage of a distant past reaching back to Africa and simultaneously a more recent historical source of inspiration. Afro-American artifacts fall into two major categories: the retained African artifact (comparatively rare) and the hybrid artifact (very common).⁵⁸

Vlach documents this maintenance of an Afro-American tradition in six material art forms:

- Basketry – rice fanners in South Carolina
- Musical instruments- drums and the banjo
- Ironwork- Afro-American ironworking of Charleston
- Pottery- large storage jars by Dave the Potter
- Textiles- quilts
- Wood carving – walking stick

- Grave Decorations- common artifacts used by the deceased ⁵⁹

Wahlman also wrote about “Hidden Charms,” a chapter in Souls Grown Deep: African-American Vernacular Art of the South:

When African religious ideas appeared in the new world, they often assumed new forms and meanings and were transmitted in unprecedented ways. As essential tools for survival, these ideas were encoded in a multiplicity of forms, including architecture, dance, funerary practices, narratives, rituals, speech, music, and other visual arts, especially textiles. Arts preserve cultural traditions even when the social context of traditions changes yet the codes are neither simple nor easy to decipher.⁶⁰

In 1999 Tobin and Dobard documented these codes in Hidden in Plain View: A Secret Story of Quilts and the Underground Railroad. The quilt code is a mystery-laden, secret communication system of employing quilt making terminology as a message map for black slaves escaping on the Underground Railroad.⁶¹ It is an example of the survival of the African oral tradition within the contemporary African-American community

Land ownership and control; labor, work and career selection; leisure and recreation participation; and literature, art and cultural artifacts are all elements involved in the process of the transformative evolution of the newly freed slaves and their descendants from reconstruction, the Jim Crow period, depression, two world wars, the civil rights era, and the post civil rights period to the 21st Century.

A Revised Philosophical Base

In Wilderness and the American Mind, Roderick Nash wrote eloquently about this subject and what it means to America. He identified three great icons that helped to provide the philosophical base of our contemporary conservation, ecological, and environmental perspective: Henry David Thoreau: Philosopher (1817-1862); John Muir: Publicizer (1838-1914); and Aldo Leopold: Prophet (1887-1948). To that illustrious triumvirate, I would add George Washington Carver: Scientist and Symbol (1864-1943) - the title of Linda O. McMurry’s 1981 biography;⁶² Meriwether Lewis: Undaunted Courage (1714-1809); and John James Audubon: The American Woodsman (1785-1851). There is a 174 year overlap of the lives of these six individuals (See Table 1). Meriwether Lewis is first but each subsequent person is connected to the work of previous persons. While Nash shows the linkage among Thoreau, Muir and Leopold, I conclude that the work of Lewis, Audubon, Thoreau, Muir, Carver and Leopold are linked in numerous ways and forms the philosophical basis for the current conservation/ ecological/ environmental movement today:

- Love of nature and wild things
- Passion for their work

- Curiosity and search for truth
- Use of similar words and phases

Meriwether Lewis was President Thomas Jefferson's former secretary and protégée who provided the intellectual, organizational leadership and documentation skills to complete the "greatest expedition every undertaken in the history of the country"- the journey from St. Louis to the Pacific coast and back from 1803-06. The Louisiana Purchase in 1803 added everything west of the Mississippi River and east of the Continental Divide to the United States, including today's Louisiana, Arkansas, parts of northeastern Texas, Oklahoma, eastern Colorado, and Minnesota. While it was Jefferson's vision, he needed a protégée like Lewis to explore and document and really help justify the purchase. The Louisiana Purchase and the Lewis and Clark Expedition stretched the boundaries of the United States from sea to shining sea.⁶³

Lewis was described as knowing the wilderness as well as any American alive during this day including Daniel Boone and William Clark, and was only surpassed later by John Colter and a few others of the famous Mountain Men. The Lewis and Clark expedition discovered and described new plants, rivers, animals, and birds with sketches and documentation. They also drew maps and documented the geography of the new territory.⁶⁴

TABLE I

American Conservation Ecological and Environmental Icons

	1760	1780	1800	1820	1840	1860	1880	1900	1920	1940	1960	1980	2000
Meriwether Lewis		1774-----											
John James Audubon			1785-----										
Henry David Thoreau				1817-----									
John Muir					1838-----								
George Washington Carver							1864-----						
Aldo Leopold								1887-----					

John James Audubon: the American Woodsman (1785-1851) explored the American wilderness and identified, studied and drew almost 500 species of American birds and published a four volume work of art and science, The Birds of America. He also published five volumes of “bird biographies” of narratives of pioneer life, won fame and became a national icon. According to his biographer, Richard Rhodes, “The record he left of the American wilderness is unsurpassed in its breadth and originality of observation.”⁶⁵ Besides his electrifying art, Audubon left behind a large collection of letters, five written volumes, two complete surviving journals, fragments of two more, and a name that has become synonymous with wilderness and wildlife preservation.

Henry David Thoreau is remembered for eight words near the end of an 1851 speech before the Concord Lyceum – “in Wilderness is the preservation of the World,” and his book On Walden Pond. Thoreau was a transcendentalist. He believed that a man’s place in the universe was divided between object and essence. Man’s physical existence rooted him to the material portion, like all natural objects, but his soul gave him the potential to transcend this condition. Using intuition or imagination (as distinct from rational understanding), man might penetrate to spiritual truths. While every individual possessed this ability, the process of insight was so difficult and delicate that it was seldom exercised. Finally, Thoreau provided a philosophic defense for maintaining a foot in wilderness and civilization to extract the best of both worlds⁶⁶

John Muir made exploring the wilderness and extolling its values a way of life. While he built on the ideas of Thoreau and others, he articulated them with an intensity and enthusiasm that commanded widespread attention. He was a prolific writer of letters, essays and books telling of his adventures in nature, and wild life, especially in the Sierra Nevada Mountains of California. His direct action helped to save Yosemite Valley and other wilderness areas. He founded the Sierra Club. His vision of nature’s value for its own sake for its spiritual, not just practical, benefits to mankind helped to change the way we look at the natural world.

Muir clashed with Gifford Pinchot over the Forest Management Act of 1897 which made clear that reserves would not be wilderness but open to multiple uses of timber, mining and grazing. This was the beginning of the split between the idea that natural resources should be used wisely versus the preservationists’ idea of protection for future generations. The prime of Muir’s life coincided with the advent of national concern over conservation.⁶⁷ He wrote:

Thousands of tired, nerve-shaken, over civilized people are beginning to find out that going to the mountains is going home; that wilderness is a necessity; and that mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life.⁶⁸

Aldo Leopold is considered the father of wildlife ecology. He was a renowned scientist and scholar, exceptional teacher and philosopher. He is known for his book A Sand County Almanac and his land ethic. Concern for the protection of wildlife led him to an understanding and appreciation of wilderness. Leopold campaigned successfully for a

policy of wilderness preservation in the National Forest system. A few years later his growing awareness of the interrelations of organisms and their environment led him to realize that protecting wild country was a matter of scientific necessity as well as sentiment. This synthesis of the logic of a scientist with the ethical and aesthetic sensitivity of a Romantic was effective armament for the defense of wilderness. He wrote in 1915 that: "The aim and purpose of this little paper is to promote the protection and enjoyment of wild things...may it scatter the seeds of wisdom and understanding among men, to the end that every citizen may learn to hold the lives of harmless wild creatures as a public truth for human good, against the abuse for which he stands personally responsible." ⁶⁹

George Washington Carver was born a slave, orphaned and adopted by his slave family. His almost 30 year's pursuit of an education and his commitment to helping his people in a partnership with Booker T. Washington at Tuskegee Institute is a story for the ages. George Washington Carver and Booker T. Washington were conducting outreach and extension work prior to the official establishment of the federal extension system. When the annual Tuskegee Institute farmers' conference failed to reach all the farmers, President Booker T. Washington appointed a committee headed by Carver to develop plans for a "Movable School of Agriculture." Using plans developed by the committee, President Washington solicited support from Morris K. Jessup of New York for the purchasing and equipping of a vehicle to carry demonstrations to the Negro farmers. The Jessup Wagon, "the first "Movable School" was built and placed in operation in June, 1906. ⁷⁰ This is part of our environmental legacy.

Linda McMurry concluded that Carver's legacy must include his scientific work, his symbolic roles, his philosophy and values, and his impact on individuals:

1. While Carver's chemistry did not measure up to modern standards of research and his products did not become commercially successful, his original goal was to provide the means for poor Southerners to enrich their lives through the use of what was available at low or no cost and not what was commercially available and unaffordable;
2. Although Carver had the ability to engage in significant scientific work in the fields of mycology and hybridization, he served the cause of science as an interpreter and humanizer, providing an essential link between researchers and laymen and enabling many to reap the benefits of others', work;
3. He wanted to preserve the family farm and saw science as a way to remedy the situation and not to eliminate the small farm. Small-scale simple technology that could be practiced by a black sharecropper was overshadowed by the lure of mass-production technology - 20th century technology obliterated Carver's message;
4. The recognition of any black scientist by a white society that believed Afro-Americans could excel only in athletics and the arts was significant. Because of

the wide publicity around his achievements, many whites may have reconsidered their prejudices about the abilities of blacks. And more importantly, this publicity influenced many blacks to enter scientific fields;

5. Carver's message: nothing exists in isolation, everything is inextricably connected and ignoring that fact can have disastrous affects. Any action must be considered in light of its overall long-term consequences, not just in its immediate benefits. Nature produces no waste. In the natural world everything is a part of the whole. What is consumed is returned to the whole in another usable form. Waste is man-made, because of the failure to understand the unity of the universe; and
6. Expressing ideas in religious terms, he repeatedly proclaimed that the Creator has provided all that man needed and that shortages resulted from man's failure to utilize appropriately the bounty of nature and to work with the forces of the universe. Both waste and shortages occur when man ignores the whole and attempts to conquer, rather than utilize, natural forces. When man realizes the unity of all, his material and spiritual needs can be met. True progress improves the quality of existence for everyone in the present generation and the generations to come. No permanent solution to man's needs can be found outside this context.⁷¹

McMurry stated that while these ideas were not original to Carver, he tried to translate these ideas into practical utilization of available and renewable resources. Carver's ideas and philosophy were ahead of his time. McMurry concluded that only in the 1970s did more people began to accept what Carver tried to say- that only short-term successes can come to any system that ignores the whole, that man cannot subvert and destroy the environment without destroying himself.

Mark Hersey in a 2006 paper wrote that despite his reputation as "the peanut man" George Washington Carver was a very much a part of the nascent conservation movement during the Progressive Era:

Carver spent the better part of his life thinking about the interaction of people and the natural world and making contributions to the development of sustainable agricultural techniques. Believing it to be "fundamental that nature will drive away those who com-mit sins against it," Carver attempted to persuade Southerners that their region's economic salvation lay in the adoption of those more sustainable agricultural methods. (And acknowledging the "duality of the black man in America") Carver was subtle at addressing the Jim Crow institutions of the South when he enjoined southern farmers to be "kind to the soil," reminding them that "unkindness to any-thing means an injustice done to that thing: His particular concern was the plight of impoverished black farmers in the region, and over the course of his first decades at Tuskegee Institute, he waged a campaign aimed at persuading them that they could defend themselves against economic and political vicissitudes they faced as a result of their race by turning to the natural environment, Consequently Carver offers a unique lens through

which historians can catch a glimpse of Progressive-era efforts to navigate the intersection of land use, race, and poverty in the rural South as part of the larger conservation movement.⁷²

More revealing are Carver's quotes from Gary R. Kremer, George Washington Carver: in His Own Words on how to search for truth:

The study of nature is not only entertaining, but instructive and the only true method that leads up to the development of a creative mind and a clear understanding of the great natural principles which surround every branch of business in which we may engage. Aside from this it encourages investigation, stimulates and develops originality in a way that helps the student to find himself more quickly and accurately than any plan yet worked out.

The singing birds, the buzzing bees, the opening flower, and the budding trees, along with other forms of animate and inanimate matter, all have their marvelous creation story to tell each searcher for truth...

More and more as we come closer and closer in touch with nature and its teachings, are we able to see the Divine and are therefore fitted to interpret correctly the various languages spoken by all forms of nature about us.

From the frail little mushroom, which seems to spring up in a night and perish ere the morning sun sinks to rest in the western horizon, the giant red woods of the Pacific slopes that have stood the storms for centuries and vie with the snow-capped peaks of the loftiest mountains, in their magnificence and grandeur.

First to me ...nature in its varied forms are the little windows through which God permits me to commune with Him, and to see much of His glory, majesty, and power by simply lifting the curtain and looking in.

Second, I love to think of nature as unlimited broadcasting stations, through which God speaks to us every day, every hour and every moment of our lives, if we will only tune in and remain so.

Third, I am more and more convinced, as I search for truth that no ardent student of nature, can "Behold the lilies of the field"; or "Look unto the hills", or study even the microscopic wonders of a stagnant pool of water, and honestly declare himself to be an infidel.

To those who already love nature, I need only to say, pursue its truths with a new zest, and give to the world the value of the answers to the many questions you have asked the greatest of all teachers - Mother Nature.

To those who have as yet not learned the secret of true happiness, which is the joy of coming into the closest relationship with the Maker and Preserver of all things:

begin now to study the little things in your own door yard, going from the known to the nearest related unknown for indeed each new truth brings one nearer to God.⁷³

Booker T. Washington's vision and George Washington Carver's philosophical legacy continue with the work of 1890 universities both domestically and internationally which brings us back to Africa and the historical antecedents of our Environmental Heritage Model. Thomas T. Williams commented on this domestic and international legacy in 1979:

Our students become productive not simply because their communications skills have been improved, but because they are exposed to the story of human progress, to the lessons of that story, and to the liberalizing effects induced by this kind of involvement. At the same time, they developed the prerequisites for meaningful career experiences in an environment where an appreciation for self worth is developed. Evidence of the character of the educational experience in the 1890 land-grant institutions work is found throughout America.

As agents of change, the 1890 institutions have demonstrated what can be accomplished to other developing nations...The wheels of progress grind slowly, but they grind. The rich and varied experiences of the 1890 land-grant institutions have shown that dedication and skill can successfully lead to change. These accomplishments can also transform life for deprived people elsewhere in the world.⁷⁴

Because of this legacy, I consider Carver along with Lewis, Audubon, Thoreau, Muir, and Leopold the six icons of the conservation, ecology, environmental movement in America.

African-American Environmentalism: Future Issues and Challenges

Two pertinent questions to guide future research are: What themes did this model uncover and how useful is the African-American Environmental Heritage model? Reflecting on the commonalities of these diverse publications, I have used the model to identify at least 35 concepts which can be grouped as six themes. The complete list of concepts is contained in Appendix 1. The six themes are:

- Connectivity - family, social obligations
- Freedom - hard work, land ownership
- Improvisation - resourcefulness, learning and adapting
- Spirituality - sustainability, resiliency of the human spirit
- Place - geography and identity, continuity of culture
- Black-Group Identity

Historically, the eighteen 1890s land-grant universities have not been adequately funded at the federal or state levels. Only in 1972 did 1890s receive federal funding for research

and extension programming and only with the 1998 farm bill were states required to match federal funding - starting at 10% and moving forward each subsequent year to reach a maximum of 100% funding. Even now in 2007, acquiring this matching state funding issue remains an ongoing concern for many 1890s.

Since 1976 the National Urban League has issued an annual State of Black America report which documents the status of African-Americans in the following areas: education, homeownership, entrepreneurship, health and other areas.

Needless to say, while some trends have improved for many, there are still many serious issues facing African-American citizens that the 1960s War on Poverty, the benign neglect of the 70s, 80s and the 90s “Contract for America” did not erase.

More recently in 2006, The Covenant with Black America, a project lead by Tavis Smiley has renewed a call for action on ten major issues: health care, education, unequal justice, community policing, affordable housing, democracy, rural roots, jobs/wealth & economic prosperity, environmental justice and the racial digital divide. Each chapter in The Covenant opens with an introductory essay, followed by a statement of facts, a list of what the community can do and a list of what individuals can do.⁷⁵ In the rural roots chapter, the authors recommend implementing a national agricultural education program. This call challenges us in the land-grant university to become more focused in developing teaching, research and extension educational programs that will produce measurable impacts and outcomes that can address more of those issues.

In 2005 Thomas L. Friedman wrote in The World is Flat: A Brief History of the Twenty-first Century that because of recent technological advancements such as the internet, fiber-optics, and the personal computer, the competitive playing fields between industrial and emerging market countries are leveling and more diverse people such as Indians and Chinese are participating.⁷⁶ At the same time, there are still three billion or so people who still live in an “unflat world” unaffected by the technologies and socioeconomic changes, sometimes caused by poverty.

Developing counties, particularly on the African continent are suffering from wars, famine, poor leadership and now AIDS which is leaving many children orphaned and also infected with the virus. Martin Meredith writes in The Fate of Africa that “after the euphoria of the independence era, so many hopes and ambitions faded...”⁷⁷

Although Africa is a continent of great diversity, African states have much in common, not only their origins as colonial territories, but the similar hazards and difficulties they have faced, Indeed, what is so striking about the fifty-year period since independence is the extent to which African states have suffered so many of the same misfortunes.

Recommendations

While this environmental heritage theoretical framework has merit as an intellectual endeavor to increase awareness and understanding, it has greater merit in the effort to

increase the equity and efficiency of the renewable resources policy and decision making process. While there is need for increased understanding of the interaction between economics, environment and social aspects of agriculture, natural resources and consumer sciences, there is equally a need for programs, strategies and engagements to help address and resolve some of the issues and challenges enumerated above.

Fully exploring an environmental heritage model provides a conceptual framework and helps to identify a future road map and appropriate benchmarks. We need to continue to focus on these benchmarks in our teaching, research, extension/engagement/outreach activities. The bottom line is that this is an engagement model that provides an opportunity for many disparate disciplines to see the connectivity of their interests and greater knowledge and understanding of the big picture.

We can not let urban living and increased alienation from the land and our rural heritage distract us from the basic founding principles of the land-grant university system. While many people may be two to three generations removed from farm or even rural non-farm living, land and resultant natural resources are just as important or even more important today because of increased populations and demands on the natural resource base.

A challenge for all 1890s is to continue developing effective programs to reach elementary and middle school youth and helping them gain an appreciation, understanding and interest in science, technology, engineering and mathematics which are basic to being successful in agricultural and natural resources careers. There needs to be more “students of color” preparing and entering the pipeline for future agriculture and natural resource careers.

I believe the eighteen 1890 universities collectively have the historical track record, intellectual power and leadership skills to address these problems. Secondly, with the increased technology/connectivity and the potential of distance education to reach people, there can be major transformative educational programming. Finally, and perhaps most importantly, there is the legacy of the Cooperative Extension educational organizing tradition from the land-grant universities. Again, if we return to our roots and tackle these issues with innovative and creative multi-state and interdisciplinary programming, we can produce measurable impacts and outcomes.

We must accept the fact that most American citizens now live in urban and suburban areas and may not have close linkages to rural things. We must adapt and change to reach this new clientele group. Our agricultural and natural resources teaching, research and extension programs must accept and reflect this fact (see Appendix II). Here are some specific recommendations for using The Environmental Heritage of African-Americans to address problems and issues:

1. Agricultural and natural resource professionals need to aggressively focus on helping the general public understand the relationships between natural resources and human interaction on their quality of life.

2. Teachers of history, economics, geography and other subjects need to incorporate a perspective of the conservation/ecological/environmental heritage in their classes including the role of African-Americans.
3. Land-grant universities should ensure that all faculty, staff, students and stakeholders gain an appreciation and understanding of the land-grant mission and vision of the 1862, 1890 and 1994 land-grant laws.
4. Need to identify, nurture and recruit students for future careers in science, technology, engineering and math. Natural resource and environmental education provides opportunities for “hands-on-learning” which should be provided in elementary, middle school, high school and in after school programs.
5. Use interest in genealogy and return Southern migration to help people re-connect to their rural roots.
6. Ensure that students and adult learners gain an appreciation and understanding of “rights and responsibilities” of land ownership.
7. Use distance education technology to develop learning opportunities and gain greater appreciation for the environmental heritage model.
8. Cooperative Extension needs to reinvest significant resources in educational organizing or community leadership development program areas. Most of the contemporary issues such as ensuring environmental justice, land use, food security and others require well informed and engaged citizens.
9. Continue to form multi-state and interdisciplinary partnerships and collaborations to tackle some of the more intractable issues.
10. Support sustainability of small farms with alternative crops research and extension program, community farmer markets, succession planning and other activities.
11. Respond to increased globalization by incorporating an international perspective in our teaching, research and extension/outreach programs. Focus on the public policy issues surrounding food security and GMO food and its impact on developed and developing countries.
12. Long term social, economic and environmental outcomes should include measures of environmental justice.

If sustainability is the goal/objective for all our collective efforts, then it will be achieved when interconnectivity/interdependence of many environmental forces, institutions and people occur. *Land* and related natural resources (biodiversity of plants and animals, landscapes, water, soil, air) are blessings from God. *Power* is based on knowledge and

how we use the social, financial, political, human and cultural resources. *Sustainability* will/can only occur when the natural resources blessing and the teaching/research/extension knowledge (power) are appropriately integrated to address not only the basic needs of Maslow's hierarchy - food, clothing, shelter but also the higher needs which ultimately help us become self actualized and hopefully reach/achieve our full potential as human beings.

Land Resources + Knowledge Power = Human and Environmental Sustainability

APPENDIX I

The Environmental Heritage of African-Americans Model Identification of Concepts in the Literature

Connectivity:

1. Communal ownership of land
2. Egalitarian character
3. Collective decision making
4. Extensive network of social obligations
5. Re-connectivity /w Africa
6. Family Reunions
7. Family networks

Freedom:

8. Hard work
9. Self sufficiency
10. Leisure and recreation
11. Knowledge of navigation and new world exploration
12. Desire for land ownership
13. Western migration and settlement

Improvisation:

14. Make good use of land
15. Subsistence
16. Resourcefulness
17. Root crops
18. Learning and adapting
19. Differential access to capital

Spirituality:

20. Devotion to God
21. Resiliency of the human spirit
22. Nature as window to God
23. Sustainability
24. Passivity about land exploitation/development

Place:

25. Legacy concerns
26. Ornaments and decoration
27. Continuity of culture
28. Symbolic use
29. Sense of Place
30. Geography and Identity

Black-Group Identity:

31. Family Customs
32. Duality of Coping with Racism
33. Music & other Cultural Artifacts
34. Attitudes and Beliefs
35. Behaviors

APPENDIX II

**Inventory of Substantive Natural Resources and Environmental Courses
at 1890 Land Grant Universities**

Summary
July 9, 2004

<u>University</u>	<u>Major Area</u>	<u>Undergrad Courses</u>	<u>Graduate Courses</u>	<u>Total</u>
Alabama A & M	Forestry	32	19	51
Florida A & M	Environmental Science	75	18	93
Lincoln	Range Management	21	0	21
NC A & T	Natural Resources & Environmental Science	23	19	42
Southern	Urban Forestry	27	7	34

Source: Antonio McLaren and Christy N. Pereira, Inventory of Natural Resources and Environmental Courses at 1890 Land Grant Universities, USDA, CSREES, July 2004.

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