

social sciences

# Perceptions of Stakeholder Groups about the Participation of African American Family Forest Landowners in Federal Landowner Assistance Programs

Puneet Dwivedi, Arundhati Jagadish, and John Schelhas

This study examines perceptions of three stakeholder groups (African American Family Forest Landowner, Government Agency, and Nonprofit) regarding federal landowner assistance programs in the southern United States by combining a SWOT (strength, weakness, opportunity, and threat) analysis with the AHP (analytical hierarchy process). Factors with the highest priority values were *professional advice*, *lack of staff members*, *forestland retention*, and *heirs' property* under the SWOT categories of strength, weakness, opportunity, and threat across stakeholder groups, respectively. The guidelines for existing federal landowner assistance programs do not match the needs of African American family forest landowners, especially the mandatory requirements of clear land titles and initial upfront payments. Policy changes coupled with a more targeted and personal outreach approach focusing on capacity building of African American family forest landowners is needed to increase their participation in federal landowner assistance programs.

**Keywords:** African American family forest landowner, federal landowner assistance programs, perceptions, stakeholder groups, southern United States

Technical and financial support programs for family forest landowners encourage them to actively manage their forestlands (Kilgore et al. 2015), leading to enhancement of various forest-based ecosystem services that society draws from these sustainably managed forestlands (Wear and Greis 2002). Several programs exist across various federal agencies to provide technical guidance and financial support to family forest landowners in the southern United States, a region where in 2012, about 60% of forestland (147 million

acres) was owned by private, noncorporate forest landowners (Oswalt et al. 2014). These programs are typically implemented at the state level in coordination with state agencies. For example, the North Carolina Forest Service (a state agency) works with the Natural Resources Conservation Service of the US Department of Agriculture (a federal agency) to prepare forest management plans for family forest landowners participating in the Environmental Quality Incentives Program to share the costs of silvicultural activities undertaken by them. Other

similar programs such as the Forest Stewardship Program and Wildlife Habitat Incentive Program are also available for family forest landowners for sustainable management of their forestlands.

It is well documented that federal landowner assistance programs have disproportionately benefited white American family forest landowners, who constitute about 95% of all family forest landowners nationwide (Christian et al. 2013). The participation of minority family forest landowners, especially African American family forest landowners living in the Black Belt Region<sup>1</sup> of the southern United States, in these programs is very low (Gilbert et al. 2002). This situation becomes critical because approximately 90% of all African American family forest landowners are concentrated in this region (Butler et al. 2014). The low rate of participation of southern African American family forest landowners in federal landowner assistance programs is vexing, as there are targeted incentives for them in almost every program to encourage their participation.

Several initiatives have been launched to increase the participation of southern Af-

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**Affiliations:** Puneet Dwivedi (puneetd@uga.edu; puneetdwivedi@gmail.com), University of Georgia, Warnell School of Forestry and Natural Resources, Athens, GA. Arundhati Jagadish (jagadish.arundhati@uga.edu), University of Georgia. John Schelhas (jschelhas@fs.fed.us), USDA Forest Service, Southern Research Station.

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rican American family forest landowners in various federal landowner assistance programs. However, these initiatives have often failed to achieve their purpose. For example, white American family forest landowners enrolled more acreage for a longer duration than African American family forest landowners in Alabama (Gan et al. 2005). Evidence also shows that only 22% of African American family forest landowners were aware of best forest management practices, 15% had forest management plans, and 30% of them received any kind of technical assistance in Alabama (Gan et al. 2003). Similarly, it was found that 61% of family forest landowners, including African American family forest landowners, were unaware of educational programs on forest management offered by the local governmental agencies in Arkansas, Louisiana, Mississippi, and Tennessee (Measells et al. 2006). In addition, it was found that African American family forest landowners were less likely to engage in actions necessary to prevent wildland fire threats than their white American counterparts in the southern United States (Johnson et al. 2011). This low participation of southern African American family forest landowners in federal landowner assistance programs is adversely affecting the sustainable management of forestlands owned by them, thereby reducing both private economic returns and public environmental services. Low economic returns are leading to undervaluation of forestlands and increasing the likelihood that a typical southern African American family forest landowner will sell his or her forestland for developmental projects (Christian et al. 2013). This deforestation will further fragment the forested landscape and deteriorate habitat quality, leading to an irreversible loss of ecosystem services such as carbon sequestration, biodiversity conservation, and improvement in water quality.

The low participation rates of African American family forest landowners in forest management practices, in general, or in federal landowner assistance programs, in particular, have been typically attributed to factors such as age, gender, income, education, the absence of a management plan, acreage, racial discrimination in the allocation of loans and assistance by the US Department of Agriculture, and lack of African American staff members in several federal and state agencies (Schelhas 2002, Gan and Kebede 2005, Gan et al. 2005, Christian et al. 2013). To the best of our knowledge, no

study has quantitatively captured perceptions of southern African American family forest landowners along with other key stakeholder groups regarding federal landowner assistance programs. This information is critical in bridging the gap between expectations of stakeholder groups and current policy guidelines that emphasize building the capacity of African American family forest landowners to use forestry as a tool for additional income generation and enhancement of ecosystem services. An understanding of perceptions will also help to identify potential disconnects and conflicts across stakeholder groups and therefore will act as a platform for resolving differences among stakeholder groups to achieve desired policy objectives. This study identifies and analyzes perceptions of three stakeholder groups (African American Family Forest Landowner, Government Agency, and Nonprofit) in the southern United States regarding federal landowner assistance programs using the technique of SWOT-AHP (strength, weakness, opportunity, and threat analysis-analytical hierarchy process).

### SWOT-AHP Framework

SWOT analysis is a strategic planning tool typically used to identify internal strengths and weaknesses and external opportunities and threats to an industry, firm, project, product, or individual (Ghazinoory et al. 2011). A constraint of SWOT analysis is that the significance of each attribute present within a SWOT category toward strategic decisionmaking cannot be measured quantitatively, and, thus, this method lacks predictive power to a large extent. The SWOT analysis presents each attribute un-

critically and thus opens an opportunity for biased decisions based on simply counting the number of entries in each SWOT category. If SWOT analysis is used simultaneously with the AHP, a multicriteria decisionmaking tool, then the influence of a single factor on the overall decision can be ascertained (Saaty and Vargas 2012). The AHP requires participants to make tradeoffs between factors using pairwise comparisons. From pairwise comparisons of factors, the relative priority value of each factor within each SWOT group is calculated using the eigenvalue technique as explained in Dwivedi and Alavalapati (2009). The SWOT-AHP analysis can be conducted even with a small sample of individuals or groups who are knowledgeable of the issue under investigation. Several studies have used SWOT-AHP analysis to capture perceptions of stakeholder groups about sustainable bioenergy development (Dwivedi and Alavalapati 2009), conservation (Margles et al. 2010, Kukrety et al. 2013), renewable energy (Ramirez et al. 2012), forest governance (Kurttila et al. 2000), and agroforestry development (Stainback et al. 2011).

### Methods

A workshop was conducted at the Halifax Community College (Weldon, North Carolina) on Aug. 6, 2014. The objective of this first workshop was to identify suitable factors under each SWOT category. The objectives of the study were explained to all of the participants. After that, these participants were divided into respective stakeholder groups to deliberate about factors under each SWOT category. A total of 12,

### Management and Policy Implications

Southern African American family forest landowners have been historically underserved in terms of professional technical assistance related to forest management and guidance pertaining to participation in federal landowner assistance programs. This is exacerbating an already serious problem of land loss among African American family forestland owners in the southern United States. As a result, several government agencies and nonprofits have developed targeted programs to address these issues. Nevertheless, effective problem solving and program development depend on clear and mutually agreed on problem definitions and priority setting across government agencies, nonprofits, and African American family forest landowners. The results of this study suggest that existing federal landowner assistance programs should be linked to the concerns of African American forest landowners about retaining land across generations and ensuring regular income as an incentive for involvement of future generations with the land, while addressing the key issues of general lack of trust in government agencies, difficulty in meeting the cost-share requirements, and resolving legal issues associated with heirs' property. It is expected that improvements made on identified gaps would help in increasing participation of southern African American forest landowners in federal landowner assistance programs.

**Table 1. Common factors present under each SWOT category with brief explanations.**

Strengths

*Easy access:* Several federal and state agencies have come together to implement landowner assistance programs. This facilitates accessibility as minority forest landowners do not have to travel far to meet agency people.

*Increased income:* Participation in forestry-related programs will increase income opportunities for minority forest landowners.

*Lot of programs:* Variety of forest-related programs exists which help a minority forest landowner in selecting the most appropriate one based on personal needs.

*Professional advice:* Minority forest landowners can manage their forestlands based on professional advice available to them at a reasonable or no cost at all.

*Special incentives for minority forest landowners:* Minority forest landowners are given special incentives to encourage their participation in federal programs.

Weaknesses

*Inadequate outreach:* Outreach efforts by various agencies are insufficient as minority forest landowners are not aware of most of the existing programs or how to participate in them.

*Initial capital requirement:* Federal forestry-related programs require forest landowners to pay upfront to undertake activities for which they are reimbursed later. However, minority forest landowners face difficulties in raising money for undertaking activities to begin with.

*Lack of minority and specialized staff:* More minority staff members will help in increasing enrollment of minority forest landowners in federal programs. Additionally, agencies lack trained staff for programs that require specialized knowledge.

*Too much paperwork:* The agency people are spending a lot of time in completing paperwork, which could be better utilized in outreach efforts. Additionally, the programs come with a set timeline, and it is sometimes difficult to stick to them.

*Small forest landholdings:* Many foresters/contractors are unwilling to undertake forestry operations on small forest landholdings due to fear of financial losses.

Opportunities

*Forest land retention:* Successful and profitable forest management will help in retaining current forestlands over number of years.

*Increased communication:* These programs will increase information exchange among minority forest landowners about forest management practices.

*Increased environmental benefits:* Active forest management will help in improving water quality, conserving wildlife habitats, increasing aesthetic values, and reducing soil loss.

*Involvement of future generations:* An increase in income will encourage the involvement of younger generation in forest management.

Threats

*Lack of trust:* Minority forest landowners still find it difficult to trust various government agencies and their programs due to historical reasons.

*Federal budget cuts:* Federal government could cut budget for existing federal programs severely affecting future enrollment of potential minority forest landowners.

*Heirs' property:\** Multiple landowners and lack of paperwork on ownership makes it cumbersome to sort ownership of forest land which threatens the participation in existing programs.

*Gap between program priorities and actual needs:* The current programs assume that a forest landowner is knowledgeable about forest management which need not be the case.

\*Inherited land passed on intestate, without clear title, typically to family members.

4, and 14 people participated in focus group discussions representing Government Agency, Nonprofit, and African American Forest Landowner stakeholder groups, respectively. These respondents were affiliated with the Sustainable Forestry and Land Retention Project undertaken by the US Endowment of Forestry and Communities in North Carolina. We used personal networks of local project personnel to invite participants to the workshop. After the workshop, the written responses of each stakeholder group were analyzed, and common factors across all stakeholder groups for each SWOT category were identified. Results were shared with the workshop participants, and their responses were incorporated before the list of factors under each SWOT category was finalized. A total of five factors each were present under the strength and weakness categories and four each under the opportunity and threat categories (Table 1).

A second workshop was organized at the Halifax Community College on Sept. 24, 2014, at which participants conducted pairwise comparisons of all the factors present under a SWOT category with all the other factors present in the same SWOT cat-

egory in their respective stakeholder groups. A total of 12, 6, and 30 people participated in focus group discussions representing Government Agency, Nonprofit, and African American Forest Landowner stakeholder groups, respectively. Again, these respondents were affiliated with the Sustainable Forestry and Land Retention Project.

After this, a third workshop was organized in Greenville, South Carolina, on Oct. 7–8, 2014.<sup>2</sup> On the first day of the third workshop, participants conducted pairwise comparisons of all factors present under a SWOT category with all other factors present in the same category on an individual basis using a survey instrument (Supplemental Table S1<sup>5</sup>). These responses were categorized by different stakeholder groups and combined with group responses obtained from the second workshop for each stakeholder group and for each pairwise comparison. This was done to obtain the geometric mean of all pairwise comparisons for all stakeholder groups separately.<sup>3</sup> These geometric means were used to derive relative priority values of all the factors present within a SWOT category using the standard

AHP technique for all stakeholder groups. On the second day of the third workshop, participants performed pairwise comparisons of the four highest priority value factors (one from each SWOT category) on an individual basis.

For the second and third workshops, instructions for pairwise comparisons were explained to the participants. Necessary precautions were taken to match the survey instrument with the respondent's affiliation to a particular stakeholder group. This was essential as factors with the highest priority values from each SWOT category were different across stakeholder groups. Individual responses of respondents belonging to different stakeholder groups for each pairwise comparison were combined to obtain geometric means of all the pairwise comparisons for each stakeholder group. These geometric means were used to derive relative priority values of SWOT categories using the standard AHP technique for all stakeholder groups.

## Results and Discussion

Relative priorities (expressed in percentages) of factors present under each

<sup>5</sup> Supplementary data are available with this article at <http://dx.doi.org/10.5849/jof.14-152>.

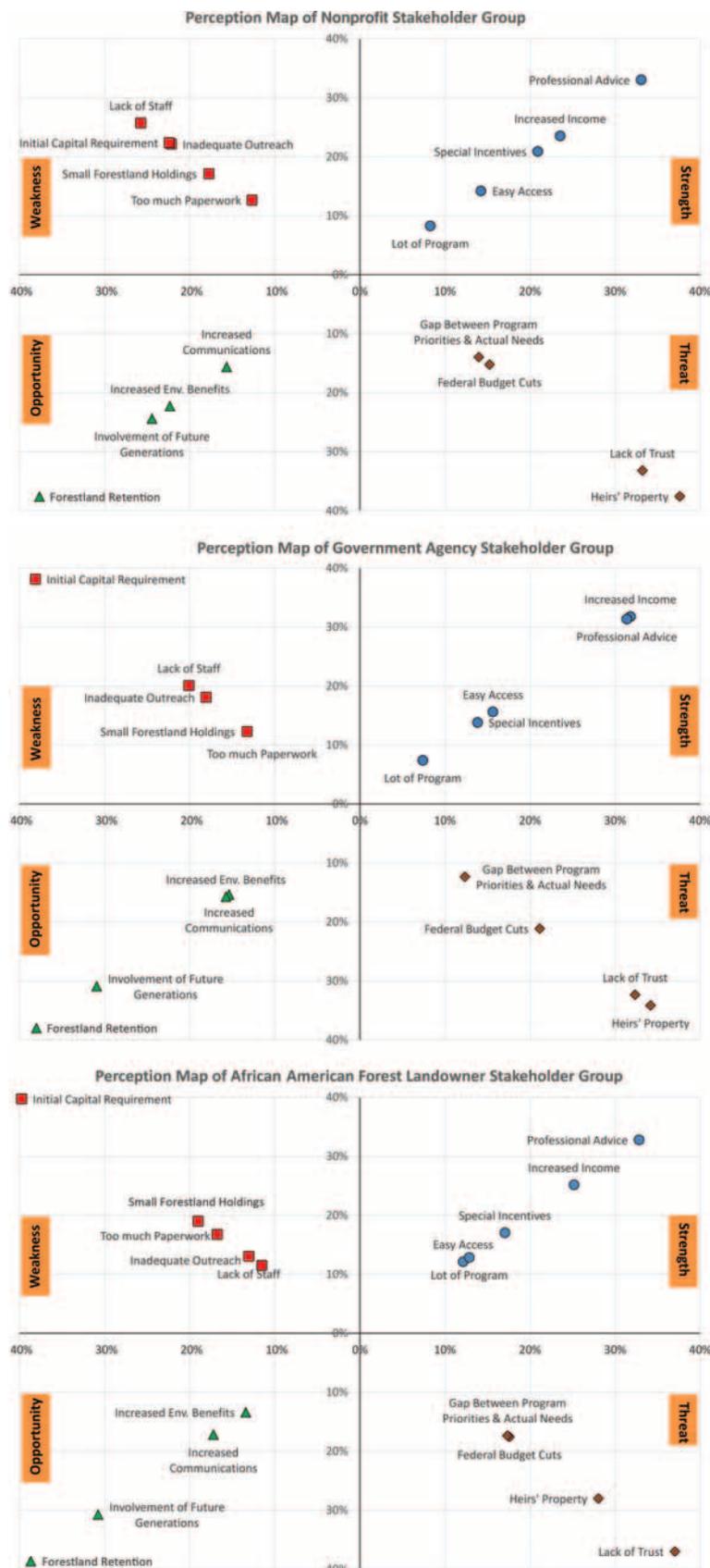
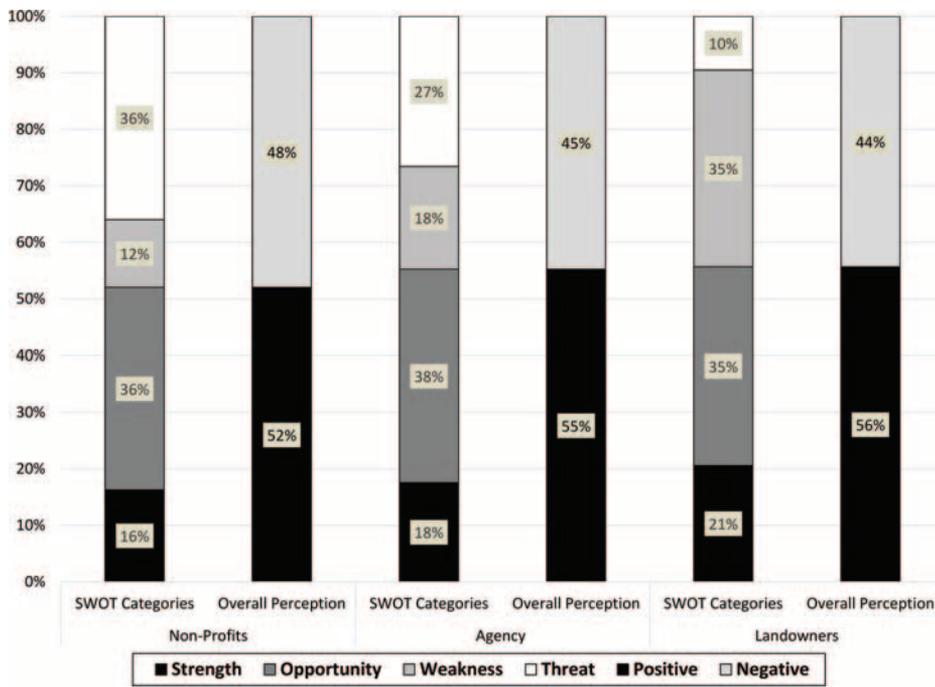


Figure 1. Perceptions of stakeholder groups about factors present under each SWOT category. Relative priorities are expressed in percentages. A factor with higher priority value explains larger percentage of the overall perception of respective SWOT category. Relative priorities are derived from pairwise comparisons by following standardized technique of AHP.

SWOT category across stakeholder groups explained the percentage of the overall perception of the respective SWOT category. Two factors, namely *increased income* and *professional advice*, together explained about 57, 63, and 58% of perceptions related to the strength category for Nonprofit, Government Agency, and African American Family Forest Landowner stakeholder groups, respectively (Figure 1). The factor *professional advice* scored higher to explain perceptions of the Nonprofit and Government Agency stakeholder groups in the strength category than the factor *increased income* by 10 and 8%, respectively. This result shows that all stakeholder groups strongly feel that professional advice offered by federal landowner assistance programs is needed for southern African American family forest landowners to ensure regular income from their forestlands and was also reflected by Kilgore et al. (2007), who found that family forest landowners viewed one-on-one access to a forester as the most important type of assistance. Professional advice related to sustainable forest management becomes even more important for southern African American family forest landowners, as they often have limited experience and technical knowledge of forest management. The factor *lot of programs* explained the lowest perception about the strength category across stakeholder groups.

The factor *initial capital requirement* explained about 40 and 38% of perceptions for African American Family Forest Landowner and Government Agency stakeholder groups under the weakness category, respectively. Current guidelines for the federal landowner assistance programs require that a forest landowner make an upfront payment to forest contractors after which the involved federal agency will reimburse the landowner for their portion of the cost. As African American family forest landowners living in Black Belt Region of the southern United States often have lower incomes relative to those of white American family forest landowners (Gan et al. 2003), the requirement for initial upfront payment is especially problematic (Gan et al. 2005). The factor *lack of staff* explained about 26% of the perception of the weakness category for the nonprofit stakeholder group closely followed by the factors *initial capital requirement* (22%) and *inadequate outreach* (22%). This could be explained by the fact that nonprofits work as liaisons between landowners and various federal and state government



**Figure 2. Perceptions of stakeholder groups about SWOT categories. Relative priorities are expressed in percentages. A SWOT category with a higher priority value explains a larger percentage of the overall perception about federal landowner assistance programs. Relative priorities are derived from pairwise comparisons by following the standardized technique of AHP.**

agencies. Staff positions in various state agencies directly responsible for managing natural resources are still vacant, a legacy of the 2008 economic crisis. Therefore, nonprofits find it very difficult to connect African American family forest landowners to suitable government agencies.

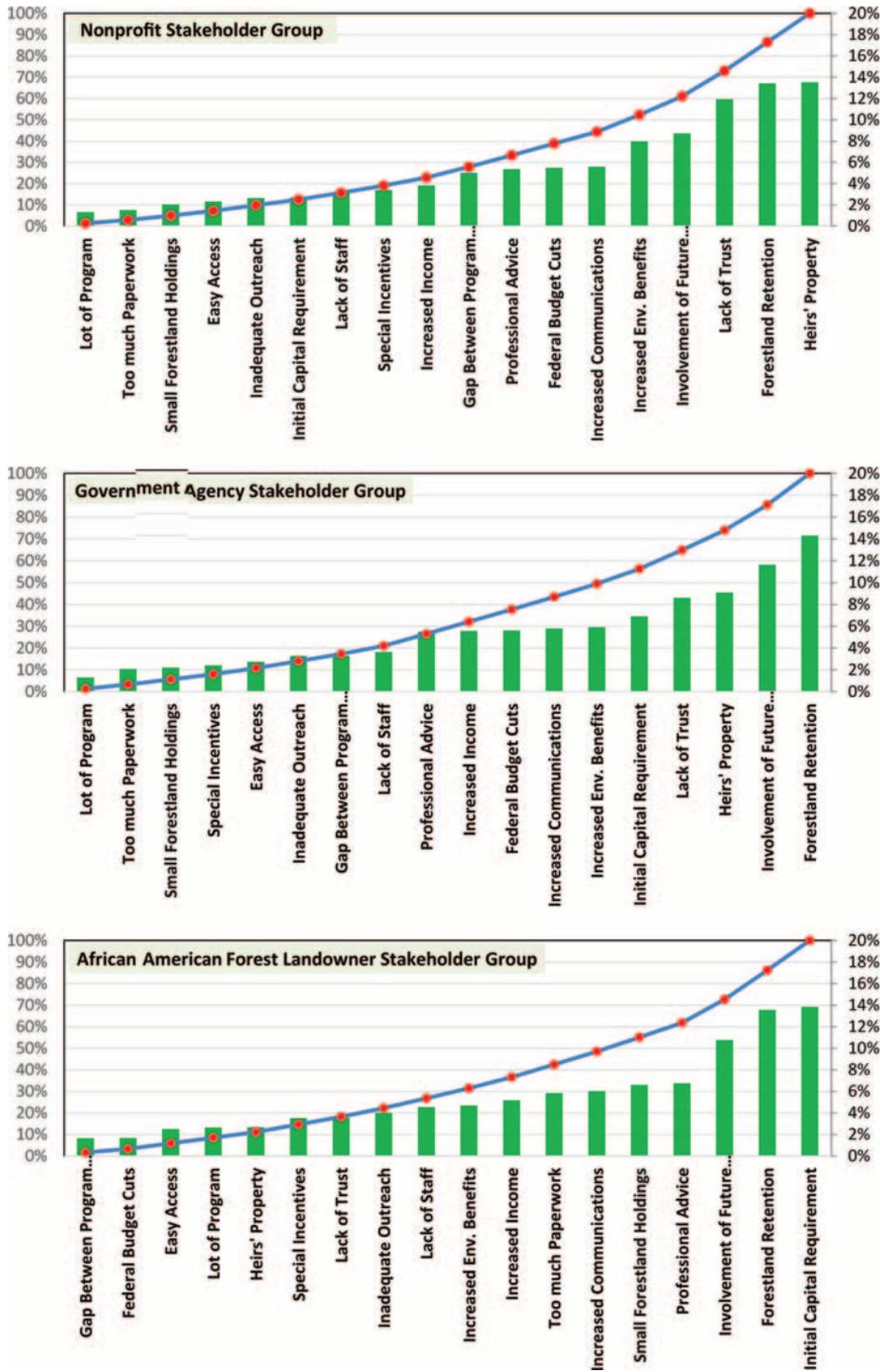
Two factors, namely *forestland retention* and *involvement of future generations*, together explained about 62, 69, and 59% of perceptions related to the opportunity category for Nonprofit, Government Agency, and African American Family Forest Landowner stakeholder groups, respectively. The factor *forestland retention* was better at explaining perceptions related to the strength category for Nonprofit, Government Agency, and African American Family Forest Landowner stakeholder groups than the factor *involvement of future generations* by 13, 7, and 8%, respectively. Stakeholder groups believed that increased income opportunities through professional forestry advice could help in retaining forestlands by maintaining the interest of future generations in forest management. The factor *increased environmental benefits* did not explain the majority of perceptions about the opportunity category across stakeholder groups, but the mere presence of this factor in the list of potential factors identified by stakeholder

groups suggests that they recognize the importance of potential environmental benefits that could be achieved by maintaining forestlands and pursuing sustainable forest management on them.

Two factors, namely *lack of trust* and *heirs' property*, together explained about 71, 67, and 65% of perceptions related to the threat category for Nonprofit, Government Agency, and African American Family Forest Landowner stakeholder groups, respectively. The factor *heirs' property* was better in explaining perceptions related to the threat category for Nonprofit and Government Agency stakeholder groups than the factor *lack of trust* by 4 and 2%, respectively. The factor *lack of trust* explained about 37% of the perception about the threat category compared with 28% explained by the factor *heirs' property* for the African American Family Forest Landowner stakeholder group. Dyer and Bailey (2008) indicated that one-third to one-half of African American-owned land in the southern United States is held as heirs' property. In the absence of any clear title to their forestlands, several African American forest landowners are not eligible for federal cost share programs, as clear title is a primary requirement to participate in every federal landowner assistance program. Similarly, an atmosphere

of mistrust exists between government agencies and African American family forest landowners for historical reasons related to discriminatory financial support, unfair land allocations, and lack of outreach success. Across stakeholder groups, the factor *gap between program priorities and actual needs* explained the lowest perception for the threat category. Current guidelines for federal landowner assistance programs implicitly assume that family forest landowners have sufficient knowledge about forestry and therefore providing only financial assistance to undertake required silvicultural activities will be sufficient. However, in reality, a typical African American family forest landowner has a limited understanding of forest management in the southern United States.

Relative priorities (expressed in percentages) of SWOT categories across stakeholder groups are reported to understand the relative importance of SWOT categories in explaining the overall perceptions of stakeholder groups. The opportunity category explained 36, 38, and 35% of perceptions of SWOT categories for Nonprofit, Government Agency, and African American Family Forest Landowner stakeholder groups, respectively (Figure 2). Similarly, the strength category explained 16, 18, and 21% of perceptions of SWOT categories for Nonprofit, Government Agency, and African American Family Forest Landowner stakeholder groups, respectively. Priority values for the strength and opportunity categories did not vary much across stakeholder groups. However, priority values for the weakness category for Nonprofit (12%) and Government Agency (18%) stakeholder groups were close, but the priority value for the same category for African American Family Forest Landowners stakeholder group was 35%, a much higher value than those for the other two stakeholder groups. Priority values for the threat category for Nonprofit (36%) and Government Agency (27%) stakeholder groups were close, but the priority value for the same category for African American Family Forest Landowners stakeholder group was 10%, a much lower value than those for the other two stakeholder groups. Assuming that the strength and opportunity categories represent positive perceptions whereas weakness and threat represent negative perceptions, the perceptions about existing federal landowner assistance programs were more or less equally divided between positive and negative perceptions across stakeholder groups,



**Figure 3. Overall relative priorities of factors present under each SWOT category. Relative priorities are expressed in percentages. A factor with a higher priority value explains a larger percentage of the overall perception about federal landowner assistance programs. Cumulative distribution of relative priorities of factors is shown in line with markers (left-hand side of the y-axis), whereas the individual relative priorities of factors is shown in vertical bars (right-hand side of the y-axis).**

although the positive perceptions were a little higher than the negative perceptions (Figure 2).

The priority values of SWOT categories were multiplied by the priority values of

individual factors present within them to determine the relative hierarchy of all factors for each stakeholder group (Figure 3). This was deemed important for understanding the potential influence of each factor toward

the overall perception of federal landowner assistance programs. The Nonprofit stakeholder group gave highest priority values to the factors *heirs' property* (13.5%) and *forestland retention* (13.4%), both of which together explained about 27% of the overall perception of this stakeholder group. The factor *lack of trust* explained about 12% of the overall perception of the Nonprofit stakeholder group. All other factors explained less than 10% of the overall perception for the Nonprofit stakeholder group. The Government Agency stakeholder group gave the highest priority values to the factor *forestland retention* (14.3%) followed by the factor *involvement of future generations* (11.6%), respectively. All other factors explained less than 10% of the overall perception for the Government Agency stakeholder group. The African American Family Forest Landowners stakeholder group gave the highest priority values to the factor *initial capital requirement* (13.8%) followed by the factors *forestland retention* (13.5%) and *involvement of future generations* (10.8%). Together these factors explained about 38% of the overall perception of this stakeholder group toward federal landowner assistance programs. All other factors explained less than 10% of the overall perception of federal landowner assistance programs for the African American Family Forest Landowners stakeholder group. Cumulative distribution of the factor priority values suggested that less than five factors explained more than 50% of the overall perception across stakeholder groups.

Across all stakeholder groups, five factors received the highest priority values, *forestland retention* (14%), *involvement of future generations* (10%), *heirs' property* (8%), *lack of trust* (8%), and *initial capital requirement* (8%). Together these factors explained almost 50% of the overall perception across stakeholder groups. These factors indicate that stakeholder groups are positive about the potential of federal landowner assistance programs for maintaining forestlands and involving future generations of African American family forest landowners in active forest management.

These factors also point to a need to reevaluate the guidelines for existing programs to match the needs of African American family forest landowners with the policy guidelines, especially with regard to the current requirements of clear land title and initial upfront payments. This is especially true because supporting forest policies en-

courage forest landowners to adopt sustainable forest management practices. For example, participating family forest landowners in Vermont's Use Value Appraisal Tax program scored significantly higher in skid trail and water diversion device best management practices and in silviculture than their non-participating counterparts (Maker et al. 2014). At the same time, it is very unlikely that efforts to involve African American family landowners in federal landowner assistance programs will succeed in the existing atmosphere of low trust between stakeholder groups. Therefore, a more targeted and personal outreach approach focusing on the capacity building of African American family forest landowners is also required (Kilgore et al. 2015). This approach should also include an emphasis on providing legal guidance to African American family forest landowners to clear heirs' property issues—a requirement also emphasized by Gilbert et al. (2002) in the context of these forest landowners.

## Conclusion

This study examines the perceptions of three key stakeholder groups (African American Family Forest Landowner, Government Agency, and Nonprofit) about the federal landowner assistance programs in the southern United States in relation to African American family forest landowners by combining SWOT analysis with AHP. This study indicates that a long history of discrimination (Daniel 2013) has adversely affected the trust between African American forest landowners and government agencies. When coupled with misinformed policy, it leads to the current situation in which forest landowners do not actively pursue forestry advice, ultimately resulting in deforestation or forest degradation, which are a net loss to both the landowner and society as a whole. However, if proper steps are taken, there is a high likelihood that African American forest landowners would actively participate in federal landowner assistance programs.

The overall positive perception about the federal landowner assistance programs across stakeholder groups indicates that the involved stakeholder groups, especially African American family forest landowners, realize the importance of these programs to them and to society in general. However, extra precautions are needed in the formulation and implementation of these programs as any misjudgment or misunderstanding could easily tilt the existing balance, thereby

further complicating the current situation and failing to increase participation rates of southern African American family forest landowners in federal landowner assistance programs. Taking a community-based approach in collaboration with local nonprofits to meet the extension and legal needs of African American family forest landowners is advisable.

The results of this study could differ across states, as all southern states have different socioeconomic conditions, policy environments, and governance paradigms. Therefore, there is a need to expand the scope of this study to other states to achieve a complete understanding of the low participation rates of African American family forest landowners in the United States. A need also exists to initiate a national level dialogue to incorporate the findings of this study into existing policies not only for southern African American family forest landowners but also for other minority family forest landowners living across the country. We hope that this study will facilitate this national dialogue and guide the future forest policies of the country.

## Endnotes

1. The Black Belt Region spans across 623 rural counties in 11 southern states—Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia (Wimberley and Morris 1997, Johnson et al. 2011). In this region, counties have higher-than-average percentages of African American residents (>12%) who were historically involved in cotton production as slaves or sharecroppers (Wimberley and Morris 1997).
2. The participants in the third workshop came to Greenville, South Carolina, to attend the second annual meeting of the Sustainable Forestry and Land Retention Project.
3. In a group decisionmaking setting, the geometric mean instead of the arithmetic mean of all individual responses is used to calculate the overall priority value for a pairwise comparison. Aczel and Saaty (1983) have shown that the use of the geometric mean is consistent with the AHP's theoretical underpinning.

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