Bushfires and Management Policies in Ghana

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Summary
The dry seasons of 1982-83 and 1983-84 were particularly disastrous for Ghana. They were associated with extensive bushfires which rendered vast tracts of land barren of vegetation and imposed a potential for desertification. The author describes the steps taken to decrease the occurrence and impact of further bushfires, but regards these as very inadequate. A number of new measures are recommended to improve both the detection and suppression of the fires.

Introduction
World public opinion has been aroused by the extensive destruction of the African forest resources by bushfires in recent years, and fears have been expressed that world-wide ecological and climatic consequences might result if this trend continues unabated.

At the beginning of December 1982 farmers in Ghana started to clear their plots with fires as has been their custom in their shifting cultivation system of farming. There had been little or no rainfall in September to November of that year in most parts of Ghana, and combined with the harmattan winds which started in early December and continued undiminished until the end of February 1983, these factors contributed to widespread, uncontrollable bushfires. As a result large areas sown with yams, cocoyams, cassava, plantains and bananas - foods used to compensate cereal short-falls during the lean months from April to August - were destroyed. Export crops, cocoa and timber, also suffered extensive losses contributing to a lack of foreign exchange necessary for imports. The bushfires also destroyed other parts of the food chain including reptiles, herbivores, plants and grasses. These fires have contributed immensely to the drift of the Sahara desert southwards towards the forest zone (Fig. 1).

The Bushfire Problem
The bushfires of 1982-83 and 1983-84 were particularly disastrous, assisted by the extended drought and strong harmattan winds, they destroyed precious cocoa, food crops and timber, as well as a number of villages. During the 1982-83 dry season a Food and Agricultural Organisation (FAO) assessment team estimated that about 50 percent of Ghana's vegetal cover and about 35 percent (or 154,000 metric tons) of standing crops and stored cereals were destroyed by the bushfires.

Complete statistics of the impact of the 1982-83 and 1983-84 bushfire seasons seem to be non-existent, but some patchy records on the impact of bushfires in the 1984-85 season show that about 145 bushfire outbreaks were reported in the Northern Region which lies in the savanna, an area susceptible to desertification (Table 1 and Fig. 2). The average size of farms affected was about 50 ha, with the largest farm covering an area of about 10 km² (Ampadu-Agyei, 1986). For example, in the Ashanti Region, one of the leading cocoa producing areas in Ghana, there

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were records of 104 fire outbreaks in the 1984-85 season (Table 1 and Fig. 1). Those bushfires occurred in about 30 villages, three of which were completely burnt to ashes. In each outbreak about 20 ha of cocoa and food crops, as well as oil palm and citrus plantations, and valuable tropical rainforest, were devastated. In the same region at least six farmers were trapped by the bushfires and burnt to death. The total costs of the damage to flora and fauna must be incalculable.

The other eight regions of Ghana have equally gloomy pictures of the impact of bushfires (Table 1 and Fig. 2). In some of the areas affected by the bushfires, especially in the northern sector of Ghana, grass has failed to grow again because the regenerative power of the land has been destroyed. There is an emergence of pockets of desert even in the forest zones. This appears to be one of the main reasons why Ghana has been added to the list of countries eligible to receive assistance, through UN Sudano-Sahelian Office (UNSO), to combat desertification.

**Cause of Bushfires**

Perhaps, if man possessed all the necessary equipment he needed to hunt game, and clear the land he required for farming, without using fire, bushfires would be reduced considerably in Ghana. The causes of bushfires are varied but they are either caused intentionally or unintentionally, principally by human beings through the following activities:

- Using fire as a tool for clearing the land for cultivation.
- Flushing out game, and as a protection against wild animals.
- Rejuvenating grassland forage.
- Cooking fires
- Carrying fire brands to be used to start new cooking fires.
- Settling disputes (grudge fires)
- Smoking (cigarette butt)
- Religious and ceremonial bush burning.

The causes of bushfires identified above could be subsumed under one title: the *Culture of*

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**TABLE 1. Incidence of bushfires in Ghana, 1984-85 (Survey data, 1987).**

<table>
<thead>
<tr>
<th>Region</th>
<th>Main vegetation</th>
<th>Main crops</th>
<th>No. of fires 1984-85</th>
<th>Percentage of total in 1984-85</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Western</td>
<td>Semi deciduous forest</td>
<td>Timber, cocoa</td>
<td>46</td>
<td>4.6</td>
<td>10</td>
</tr>
<tr>
<td>2. Central</td>
<td>Coastal savanna</td>
<td>Maize, cassava</td>
<td>92</td>
<td>9.1</td>
<td>8</td>
</tr>
<tr>
<td>3. G. Accra</td>
<td>Coastal savanna</td>
<td>Maize, cassava</td>
<td>68</td>
<td>6.8</td>
<td>9</td>
</tr>
<tr>
<td>4. Eastern</td>
<td>Semi deciduous forest</td>
<td>Cocoa, oil palm</td>
<td>96</td>
<td>9.6</td>
<td>7</td>
</tr>
<tr>
<td>5. Volta</td>
<td>Semi deciduous forest</td>
<td>Cocoa, rootcrops</td>
<td>107</td>
<td>10.6</td>
<td>5</td>
</tr>
<tr>
<td>6. Ashanti</td>
<td>Semi deciduous forest</td>
<td>Cocoa, timber</td>
<td>104</td>
<td>10.3</td>
<td>6</td>
</tr>
<tr>
<td>7. Brong-Ahafo</td>
<td>Transitional zone</td>
<td>Cocoa, timber</td>
<td>110</td>
<td>10.9</td>
<td>4</td>
</tr>
<tr>
<td>8. Northern</td>
<td>Savanna</td>
<td>Rice, millet</td>
<td>145</td>
<td>14.4</td>
<td>1</td>
</tr>
<tr>
<td>9. Upper E.</td>
<td>Savanna</td>
<td>Sorghum, millet</td>
<td>125</td>
<td>12.4</td>
<td>2</td>
</tr>
<tr>
<td>10. Upper W.</td>
<td>Savanna</td>
<td>Sorghum, millet</td>
<td>112</td>
<td>11.1</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total** 1005 100.0