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**POPULAR PARTICIPATION IN THE NATIONAL  
ENVIRONMENTAL ACTION PLAN IN GHANA:  
A PRELIMINARY ANALYSIS OF THE ROLES OF  
COMMUNITY LEVEL INSTITUTIONS**

by

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## I. INTRODUCTION AND RATIONALE

Since coming to power in 1981 Chairman Rawlings has worked to implement various principles to democratize political decision-making, to decentralize power, to ensure popular participation in the development process, and to revive the traditional communal spirit and self-help initiatives at the local level. Government policies in these areas are backed by specific legislation, by an infrastructure that reaches down to the community level, and by various programs designed to engender popular involvement in planning and implementation of development programs.

An important step in this process was the release in 1987 of "District Political Authority and Modalities for District Level Election" which calls for the establishment of District Assemblies (DAs) and the election of Assembly members and the signing of the Local Government Law (PNDCL 207) in 1988. The DAs are the lowest-level of public administration and political authority; they are "responsible for the development, improvement and management of human settlements and the environment in the District (PNDCL 207, Section 6-3-e)" and the formulation of strategies and programs for the effective mobilization and utilization of the human, physical, financial, and other resources in the districts. DA elections were held in 1988-1989.

Each DA consists of a District Secretary and numerous elected and selected Assembly members. Two-thirds of the Assembly members are elected by the people, one from each electoral area within the District; the remainder are appointed by the central government. An Executive Committee, responsible for performing the executive, administrative, and coordinating functions, is assisted by several sector-specific Sub-Committees and Units, including the Development, Planning, and Budgeting Unit.

The DAs also have the legal authority to establish Sub-Metropolitan District Councils, Town/Area Councils, or Unit Committees, and to delegate any of its functions (except legislative) to them. These sub-district councils assist the DAs in administering the village, preparing and implementing socio-economic development plans, keeping records of taxable persons and properties, and assisting in the collection of taxes and tolls.

In March 1988, the government of Ghana directed the Environmental Protection Council (EPC) of the Ministry of Local Government to review existing policies related to natural resource management and to propose a national strategy for addressing the key environmental problems, opportunities, and options. This work, as part of the national Economic Recovery Program, evolved into the preparation of an Environmental Action Plan (EAP). The objective of the Plan is to "define a set of policy actions, related investments, and institutional strengthening activities to make Ghana's development

strategy more environmentally sustainable."

The EPC has worked to ensure local participation in the preparation, review, and implementation of the EAP. Ghanaian experts familiar with the local circumstances have been involved in every phase of the process, and district-level officers, traditional chiefs, and NGOs/PVOs have participated in the evaluation of draft EAP documents. Provisions have also been made in the National Environmental Policy of the EAP to ensure public participation in environmental decision making and action and to create awareness, among all sections of the community, of the environment and its relationship to socio-economic development, and of the necessity for rational resource use among all sections of the country.

In addition, a process has been identified through which broad national policies and programs on the environment will be translated into action at the district and local levels. The 110 newly-elected DAs are to create environmental awareness, prepare district land use plans, and provide information on local environmental needs for national, district, and local level action. DAs are to enact bye-laws in accordance with district specific needs and environmental circumstances to implement and enforce general national policies on the environment. They are also to develop and maintain a cadre of professionals to supervise, coordinate, implement, and enforce procedures and legislation essential for safeguarding the natural resources.

To coordinate district environmental matters (including the EAP), each DA is encouraged to develop a District Environmental Management Committee; to provide assistance in the planning and implementation of district programs each village will be requested to establish a Community Environmental Committee (CEC) (for more specifics, see Annex A). CECs are to include local leaders from traditional (chieftaincy) and government sponsored village-based institutions (Town Development Committee, Committee for the Defence of the Revolution, Mobilization Squad).

In many communities, the CECs will compliment a set of existing traditional, government sponsored, and other externally encouraged institutions. Though few communities include the range of identifiable village groups -- and many existing institutions are inactive -- the complex institutional circumstances at the local-level have led to some confusion and conflicts.

The establishment of a viable village institution by an external organization is a complex process from a socio-cultural and institutional perspective. Yet existing viable institutions -- whether traditional or externally-initiated -- often have the interest and capacity to involve themselves in a variety of activities, including natural resource management, which may not

have been an aspect of their original mandate.

This survey was designed to gain a better understanding of the viability of existing village-based institutions, their involvement in community development activities, and their potential for increased responsibilities in local natural resource management. A large number of community-level institutions were identified and their roles and responsibilities were noted. A four week field exercise was conducted in 33 districts from eight of Ghana's 10 regions to evaluate the viability of these institutions and to record their involvement in resource management activities.<sup>1</sup> The data was collected through semi-structured interviews of district-level officials, complemented by informal discussions with villagers during site visits to communities and locales where local institutions have been active.

## II. COMMUNITY-BASED INSTITUTIONS

A variety of traditional and externally-sponsored institutions at the community and village-cluster levels were identified. By tradition, most communities include several indigenous institutions, such as the village Chief, Queenmother, and Asafo company. Superimposed on these traditional groups are a number of externally-induced institutions, including Town Development Councils (established by the British colonialists), government "revolutionary organs" (Committees for the Defence of the Revolution, 31st December Women's Movements, Mobilization Squads), and special interest groups organized by churches, schools, and clubs. This report focuses on the most common local groups with responsibilities in community development.

### Traditional Institutions

The oldest and most common village-based institution in Ghana is the Chieftaincy. The village Chief, the traditional ruler of the community or settlement, is responsible for its citizens and is the custodian of the communal land. The Chief is selected from among the royal households by a Council of Elders which also advises him/her on local matters. The Council is made up of the leaders of the various village clans. The spokesman of the village Chief, Regent (deputy Chief), and Council of Elders is the Linguist or **Okyeami**. The Linguist receives and delivers official messages between the public and the village Chief and Council.

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<sup>1</sup> A viable organization is defined as a local institution which has been involved in cooperative (involvement of individuals beyond the nuclear family) activities during the previous 12 months which have contributed to or resulted in one or more tangible outputs toward social, economic, or environmental development at the community, village-cluster, or district level.

The Queenmother is the traditional head of the village women and is responsible for matters concerning women and children. She works closely with the village Chief and also maintains a supporting Regent, Council of Elders, and Linguist.

The village chieftaincy has the authority to organize efforts on a communal basis in which every eligible citizen provides labor and perhaps other resources towards the execution of activities which benefit the community as a whole. In addition, **Asafo** companies (youth groups), including all young men and led by an **Asafoatse**, are the traditional custodians of peace and security. Today they participate in communal labor, help maintain law and order, and perform such functions as entertainment.

On a much smaller scale, the traditional practice of **nnoboa** (literally meaning "helping each other to brush the land") enables families or groups of people to team up in pursuit of a common interest, either in agriculture, housing construction, or in other activities in times of need. This self-help spirit is founded in the extended family system in which members of different households are related and also have some functional relationship.

#### Government "Revolutionary Organs"

Committee for the Defence of the Revolution. In 1982 People's Defence Committees (PDCs) were established at the unit, area, zonal, district, regional and national levels, in an attempt to create mass participation in government and the process of democratization. The PDCs are charged with creating and fostering public awareness and vigilance. They promote the aims of the "revolution," defend the nation and ensure peace, and maintain discipline, decency, and accountability. Village level PDCs form the basic units of local democracy; replacing city and district councils as the lowest public administrative units. The local PDC is headed by a Chairman; a village resident elected by the Committee members. In 1984, PDCs were redesignated Committees for the Defense of the Revolution (CDR).

31st December Women's Movement. The 31st December Women's Movement was launched on 15 May 1982. Village-level Movements are composed of the community's adult women seeking to promote the social welfare and economic well-being of village women and children. Community-based Movements are engaged in activities such as the promotion and organization of primary health care and educational services, rural enterprises, and day-care centers.

Mobilization Squad. In 1983, more than a million Ghanaians living in Nigeria were expelled and returned to Ghana. This influx put additional pressure on an already weak economy, poor welfare system, and limited food supplies. The government undertook various measures to reduce the public sector work-force and to deploy the un/under-employed, including the returnees, in farming

in their home villages.

In 1984, the government put in place a National Mobilization Programme (NMP) as an arrangement for mobilizing human and other resources for immediate utilization in revamping those areas of the national economy which were badly hit by the natural and man-made disasters in 1982-83. In communities throughout the country, the NMP helped organize the formation of voluntary development groups - Mobilization Squads (hereafter Mobisquads) -- to "translate the aims of the Revolution into practice." They helped fight bushfires, replant cocoa and coffee farms, and re-establish food crop farms. The mobilized human resources were to a large extent mixtures of farmers and village artisans in the rural areas and un/under-employed labor in inner-city and peri-urban areas, including the returnees.

In the process, the NMP was able to build a local machinery for inducing and catalyzing grassroots development in solving local problems and carrying out self-help community improvement activities. When the immediate disasters had been brought under control, the Mobisquads' efforts were redirected into the national Economic Recovery Program to help construct access roads, schools, clinics, and public places of convenience. Although some projects received support from the government, most groups raised funds to support their local development efforts with income-generating activities, such as cash cropping, cassava/gari processing, and fuelwood and charcoal production.

In 1987, the government established a separate Ministry of Mobilization and Social Welfare to oversee, among other things, the operations of the NMP. The Ministry called for the transformation of the Mobisquads into agricultural cooperatives to help boost food production, improve the living conditions of the squad members and rural people in general, and to help revive the moribund cooperative movement in the country. Today, village-level Mobisquads draw their membership from community residents as well as local leaders. The NMP encourages government and international organizations to work through Mobisquads to achieve local participation in community development.

### **III. SURVEY RESULTS**

While not exhaustive in terms of local institutions considered, community development activities undertaken, or regions, districts, and communities visited, the results of this survey are important with potential implications for the EAP process in Ghana.

Virtually every district includes village-level CDRs, Mobisquads, 31st December Women's Movements, and traditional institutions, though many are inactive or dormant (Figure 1). In some districts the government and the development assistance community (including local NGOs and international PVOs) were involved in mobilizing and

assisting the people in local-level development, not necessarily in collaboration with or through any village-based institution.

An analysis of the data suggests a spatial distribution pattern of viable local institutions. The most common viable community-based institution is the Mobisquad, involved in local/district development efforts in all eight regions and 25 of the 33 districts surveyed. With the general decline in the frequency of communal activities through traditional institutions and the strong government support of "revolutionary organs," many villagers have chosen to join Mobisquads. The official mandate of the Mobisquads includes involvement in community development. Profits realized from Mobisquad activities are shared equally among the members, and some are put into other community projects, such as the construction of school buildings and public toilets.

Mobisquads appear to be least represented in the Northern and the Western Regions. In northern Ghana, traditional institutions remain strong and active, but the communal activities are more likely to involve cooperation of extended families, rather than be village-wide. The traditional settlement pattern in the north involves extended families (3-5 nuclear households) living together in enclosed compounds on family farms. While many people in the north now live together in villages or communities, they continue to reside in extended family compounds.

In general, the Western Region includes the fewest viable village institutions and the least involvement in development efforts. The region is recognized in Ghana for its high prevalence of chieftaincy disputes that interfere with their role in promoting self-help spirit.

Viable CDRs, 31st December Women's Movements, and traditional institutions are each represented in approximately half of the districts surveyed. The geographic distribution patterns of these groups are more striking than those of the Mobisquads. There is an absence of viable traditional institutions in the regions near or including Accra, the capital of Ghana, and a prevalence of such institutions in the Northern, Upper East, Volta, and Brong Ahafo Regions. The infrequency of viable traditional groups in the regions near urban centers has not meant the loss of community development; many such districts include viable government "revolutionary organs." There are strong denials among the hierarchy of traditional rulers in Ashanti and Eastern Regions that their institutions are losing influence to the new government institutions. Rather they claim their alignment and participation with the "revolutionary organs" are aimed at achieving the maximum benefit for their respective communities.

The strength of traditional institutions in the Northern, Upper East, and Volta Regions can be partially explained by these areas being the least endowed regions of the country, and out of

necessity become involved in self-help. In addition, the Upper East, Volta, and Brong Ahafo Regions, as distinct administrative units, were only recently created after independence.

More clearly than with the Mobisquads the two regions of northern Ghana (Upper East and Northern Regions) and the Western Region include fewer viable village-level 31st December Women's Movements and CDRs. The Women's Movements are most common and active in the Ashanti, Western, Eastern, and Volta Regions, and least frequent in northern Ghana. There are at least two potential reasons for this spatial distribution. First, the national 31st December Women's Movement has emphasized these regimes; it has had limited capacity to expand and provide more direct government support in northern Ghana (The First Lady, the National President of the Movement, also hails from the Ashanti Region). Second, Ashanti women are traditionally involved in and recognized for their effectiveness in economic ventures, especially cash crop farming and trading, which the Movements' have emphasized.

The CDRs are fully entrenched in the administrative system throughout the country. They are the most prevalent of the "revolutionary organs," although their actual involvement in project implementation is less frequent than that of Mobisquads and the 31st December Women's Movements. CDRs were not specifically established to undertake the most common community development activities, although they provide leadership to catalyze the other village-based institutions in the choice and execution of projects and they act as "enforcement" agencies, especially in the provision of infrastructural services. In terms of project implementation, the CDRs are best represented in the Brong Ahafo, Eastern, Ashanti and Volta Regions. In the Volta and Brong Ahafo Regions that border neighboring Togo, the CDRs have been particularly active in surveillance and anti-smuggling activities.

The activities or projects undertaken by the institutions are classified into six categories, as follows:

- Forestry (woodlots)
- Agriculture (cash crops, agroforestry)
- Small-scale industries (food processing, oil extraction)

are village-wide in scale, the remainder are at the district or region levels, but include direct benefits to the participating communities.

These efforts are mainly undertaken by Mobisquads, CDRs and traditional institutions. Mobisquads and traditional institutions have recorded significant successes in tree planting and large-scale subsistence crop farming, although CDRs have also been involved in successful forestry efforts in the Brong Ahafo, Ashanti, and Volta Regions. Tree planting and agroforestry are particularly important activities in the northern regions (Upper East, Northern, Brong Ahafo) because the area is arid/semi-arid and a target site for many national and international tree-planting efforts (On a national scale, more than 90% of the Mobisquads cooperatives are in crop production and a few are in agro-based and other small-scale industries such as firewood, charcoal, cassava/gari processing, blacksmithing, and burntbrick manufacturing).

The Western Region recorded the least number of forestry projects although agricultural projects were promoted by a few active traditional institutions and 31st December Women's Movements. It should be pointed out that the Western Region presently has the highest forest cover in the country, which may explain the apparent dearth of tree planting projects in this area.

Infrastructural (including educational) efforts are mainly undertaken by the CDRs, the 31st December Women's Movements, and traditional institutions, often with strong support from an NGO/PVO, the government, or a donor agency. The provision of potable water, public toilets, school buildings and day care centers -- those that promote the welfare of women and children -- have been the target of the 31st December Women's Movement program. Day care centers are particularly conspicuous where there are mothers who are full time employees or market women.

Small-scale industrial activities are limited in scope and promoted primarily by the 31st December Women's Movement. In the Northern and Upper Eastern Regions, the village-based Movements and a few traditional institutions have organized women to produce shea butter from the local sheanut. In Brong Ahafo, Ashanti, Eastern and Western Regions, however, the Movements' projects are predominantly related to cassava/gari processing and oil palm extraction. Significant returns are plowed back into infrastructural development projects.

Just over half of the activities conducted by the village-based institutions were funded from local sources, in most cases from income generated from the sale of produce from community farms. Few received any government funds. Most of the externally supported efforts (whether partially or wholly) received funds and other resources from local NGOs and international PVOs.

NGO/PVO activities were noted in 14 out of 33 districts, with the Eastern, Volta and Ashanti Regions -- the regions near Accra -- leading the list. The NGO community provides a catalytic role in those areas in which they operate. The "food for work" programs operated by some NGOs have been particularly important to the village-based institutions. Forestry projects, infrastructural facilities, and other projects undertaken by Mobisquads, 31st December Women's Movements, and other local groups have been sustained by food items such as wheat, soya bean, cooking oil, and tinned fish provided by NGOs. While "food for work" is often criticized for developing dependency, the reaction from the recipient institutions, especially the Mobisquads and the Movements, is that the supply of these food items encourages higher productivity among their members.

#### IV. IMPLICATIONS AND RECOMMENDATIONS

The literature recognizing both the importance of local participation in the development process, and the capacity of grassroots leaders and institutions to help plan, implement, and manage community development efforts is large and growing. Many analysts have noted that local involvement in planning and design leads to project ownership and participation in implementation, and that participation of a local institution often leads to effective implementation and management. This survey supports the findings that the community (or village-cluster) is an appropriate development unit and that village leaders and local institutions have important roles and responsibilities in community development.

A key finding of this survey is the large number of viable village-based institutions throughout the country. Many of these groups utilize self-help to achieve community development, including natural resource management. In Goviefe-Agodome, Volta Region, and elsewhere in Ghana, the Mobisquad is the most viable local development institution, but in Kegle, Lawra District, the Parent-Teacher Association has mobilized local resources for the construction of a Junior Secondary School. In Awutu-Obrakyere community, Senya-Awutu Effutu District, Wonsom, a volunteer organization, has helped construct two improved latrines, a day care center, junior secondary school, gari and palm oil processing plant, cattle ranch, corn mill, and clinic. And in Dodze village, on the Ghana-Togo border, the 31st December Women's Movement has improved the well-being of the women through the production and sale of cassava and pepper, while the June 4 Movement, has effectively halted international smuggling activities and developed a 25-acre maize farm, to help fund the construction of a latrine.

Recognizing the importance of village institutions, the Ghanaian EAP provides a general policy and programming framework for managing natural resources. It identifies several projects that are large-scale, capital-intensive, and multi-sectoral. But rather

than identify specific actions at the local-level, the EAP proposes a means and process -- from District Environmental Management Committees to Community Environmental Committees -- to reach the local-level to develop site-specific actions for implementing the general EAP policies.

The establishment of Community Environmental Committees (CECs) would add to the already large number of village-based institutions, both traditional and externally-sponsored. Though few villages include viable institutions of all potential local groups, the plethora of local organizations has led to a complex and sometimes confusing organizational situation in the community. In some instances it has led to recruitment and membership difficulties. Conflicts have occurred among the leadership of institutions, especially in smaller communities, regarding the sharing of members and the allocation of time for projects. Local leaders and villagers have limited time and resources to involve themselves and participate in the various institutions and their activities. Deciding which institutions to join may be a sensitive issue, especially for local leaders given their political influence within and outside the community. Their involvement lends credibility and legitimacy to the local institution, while not joining could signal their disapproval of the group.

In some cases it has led to duplication of efforts by the various institutions. There are instances in which CDRs and Mobisquads have promoted and undertaken the same project type (afforestation) in the same community. In one community an external NGO and the local Mobisquad constructed a borehole and hand-dug well, respectively, in the same small community of about 1000 people.

In some cases the complex institutional circumstances at the village-level has lead to competition and conflicts between individuals and organizations, both within and between the village and district levels. With the encouragement and support of the political regime, the government-induced village-level institutions have gained national legitimacy and in many communities, have undermined and replaced the counterpart traditional groups. The leaders of the government institutions tend to be younger, more active, and better educated than the traditional leadership counterparts. Many traditional leaders are threatened by the government institutions which they view as competing for power. In some regions of Ghana, the traditional leaders have not pledged their support of the government-induced institutions, in some cases exercising their power of sanction to restrict local involvement. As a result, the government-induced institutions have not flourished in these areas.

For example, tension has been reported between CDRs, village Chiefs, and the newly-elected District Assembly members. Some Assembly members have attempted to dissolve legally constituted "revolutionary organs" such as the CDRs and the Town Development

Committees. Others have tried to "destool" or "deskin" chiefs by physically removing them from their stools or skins.<sup>2</sup> Some Assembly members have purchased their own gong-gong (traditional instrument used by the chief to call his people) to rival that of the chief's and reach the people directly. The Assembly members claim their actions are in response to the uncooperative attitude and, in some cases, the undermining activities of the chiefs and CDR leaders. But while some village leaders have refused to recognize the legality and authority of the DAs, some Assembly members have abused their power. These power struggles divert DA attention from the real issues of planning, budgeting, and development, and dilutes local leadership away from their responsibilities within the community.

The Ministry of Local Government has recommended that "(District) Assemblies must team up with chiefs and revolutionary organs..." but the fact remains that the functions and responsibilities of the new and traditional institutions overlap. In particular, the stated responsibilities of the CDRs, 31st December Women's Movement, and Mobisquads overlap significantly with the traditional roles of the village Chief, Queenmother, and Asafo Company, respectively. Although some government statements have been made addressing the roles and responsibilities of the institutions, including suggestions for harmonizing relations, especially between the CDRs and Assemblymen, additional guidelines on institutional relationships and cooperation would reduce confusion.

In contrast to the competitiveness and lack of cooperation that characterize and mar the relationships between traditional and government-induced institutions in some communities in Ghana, viable village-based institutions involved in community development often have the support of the local leadership and other village institutions. The support of the local leadership -- in particular the village Chief, Queenmother, and their Councils of Elders -- has been critical to the establishment and early achievements of these institutions. In their capacity as village leaders, they have worked with the institution and its leadership to facilitate meetings regarding activities, encouraged and praised their efforts, involved non-members in community development efforts, and helped establish contacts with outside development assistance.

Viable institutions also often have the support of other key local institutions, both traditional and induced. Indeed, membership is drawn from these other groups, including the leadership, and many efforts are conducted in collaboration with them.

Conflicts between leaders and institutions are often minimized because other village groups are weak or, perhaps, even dormant.

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<sup>2</sup> Chiefs are literally presented with royal stools (in southern Ghana) or skins (north) when assuming power.

In addition, the local leaders, recognizing the ineffectiveness of these groups and the need for community development, elect to support those groups with the greatest potential to meet local needs. Supporting government-sponsored groups also provides an opportunity for local leaders to contribute to and support the Rawlings' regime.

Viable institutions often build on early successes and, in many cases, are interested in and capable of broadening their range of expertise and their involvement in activities. They may gradually expand their roles and responsibilities and often become a principle vehicle for mobilizing members and non-members in community development activities. There is evidence showing that village-based Mobisquads and 31st December Women's Movements are increasing their sphere of influence throughout the country. This suggests that development assistance agencies should consider means by which they can work in collaboration with existing viable local village-based leadership and institutions involved in community development, rather than attempt to establish new institutions or perhaps even revitalize dormant groups. This should occur regardless of whether they have an institutional history or experience with the specific proposed activities.

This survey reveals that the most common village-based institution involved in community development in Ghana is the Mobisquad. In July 1989, there were 3,330 Mobisquad spread across the country; 330 Mobisquad -- accounting for some 10,000 active members -- had achieved the cooperative status. Mobisquads are the most visible of the three "revolutionary organs" and seem to envelope the latest wave of community spirit and "local nationalism".

The government-sponsored institutions, including the Mobisquads, are relatively new local-level institutions and their stability and sustainability is certainly not guaranteed. The prevalence and effectiveness of Mobisquads suggests that government support strengthen local institutions. But government-induced institutions frequently are casualties with the passing of the regime that created them and the creation of new local institutions by the next government. This creates a dilemma for the development assistance community which is striving for long-term impact through local institutions.

In many cases public support is directed at government-induced institutions. Were the government to increase its efforts to strengthen and legitimize local institutions that transcend political regimes, such as the village Chieftaincy, Asafo companies, and Town Development Committees, their relationships with external institutions would be less tenuous and risky. In this way, local development efforts would be less jeopardized with any change of power and the local institutional situation would be less complex and conflicting. These institutions have withstood the test of time and have survived both the colonial period and

numerous regimes in independent Ghana.

In Ghana, like most ex-colonies, national political and administrative structures were created before an imposition of a local government system. Likewise, local government was not nurtured to evolve from the existing traditional political and administrative structures or from the imposed centralized system. The government of Ghana recognizes the importance and continued influence of traditional leaders and institutions, but gives little direct support aimed at strengthening them. Considering the effectiveness of government support and the rapid development of government-backed village level institutions, it may be more appropriate to work with such institutions, despite potential political changes, than work to independently strengthen individual groups that do not have direct government support.

Just as there are reasons to express concern regarding institutional stability, there is need to consider the continuity of projects at the local level. Most of the projects and activities undertaken by the government institutions were initiated in the last three or four years and, although they involve the local population, the moving force in most cases has been the institutions. The success of these projects depends to a large extent on those institutions whose continued commitment to the provision of the necessary labor and resources for action will ensure their implementation. In the event these institutions are dismantled or become ineffective, their activities will also most likely be discontinued.

How can the EAP reach these viable village-based institutions to involve them in the planning, implementation, and management of local-level natural resource management? Certainly there are opportunities to make better use of the NGO/PVO community which has direct links with the local people. But despite their number and range of activities, the combined sphere of influence of NGOs and their long-term commitment to particular regions are limited. There is a need for a public structure and mechanism that reaches the entire country.

The 110 District Assemblies are in a position to contribute to the EAP process and may be the best means to reach these village-level institutions. The Ministry of Local Government and the DAs should be made aware of the opportunities available to them in the use of local level institutions in project design and implementation. The DAs have been mandated by the government to participate and assist in sustainable development and natural resource management. More specifically, the PNDCL 207 encourages DAs to establish Anti-Bush Fire Sub-Committees in the Executive Committees, organize Anti-Bush Fire Committees at the village level, and develop and enforce strict building codes and regulations. The Ministry of Local Government has suggested that "District Assemblies should adopt measures to protect the ecology" and that a "vital first

step...(for effective planning and development)...is the stock-taking of the available natural resources."

The devolution of authority in Ghana involves restructuring the local administration to make it suitable for the assumption of its new responsibilities. One aspect includes the fusion of 22 line ministries, departments (including many concerned with resource management), and other public agencies under the single authority of the DAs. Offices of these agencies are being established in all districts or district clusters, where appropriate, and the staff are being moved to the districts to perform the functions and roles now assigned by the DAs. A primary purpose of placing the district-level technical under a single administrative unit, is to foster an integrated and multidisciplinary approach to local development. In some cases, these individuals have been working closely with the DA District Development, Planning, and Budgeting Units to draw up district development plans.

But while DAs offer a means to reach the people, early experiences in district-level planning suggest that many village specific needs have remained largely unaddressed. Decentralized planning, while recognizing national interests, must be focused enough to address the priority needs and opportunities of the different village constituencies. The sheer size and populations of the 110 districts make such planning difficult (districts average nearly 850 sq miles and 150,000 people).

There is ample evidence to suggest that DAs may become more effective if they develop mobile planning units with the capacity to visit communities within the district. These units would have the expertise to identify committed local leadership, viable local institutions, and to prepare development plans below the district-level which can adequately address local problems, opportunities, and options.<sup>3</sup> Such lower-level plans can, in turn, form the basis for the district-level plan and national level planning exercises, including the EAP.

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<sup>3</sup> Several methodologies have been developed and field-tested which can help planners and communities to work together to prepare site-specific actions plans (Participatory Rural Appraisal, RRA, GRAAP, D&D). Most recognize the importance of both indigenous knowledge/techniques and outside technical expertise. Many include tools to promote constructive dialogue for soliciting local opinions and for overcoming problems associated with sampling errors, interviewer biases, and power disparities within villages which may inhibit the poor or weak residents from contributing to group discussions.

## Local-Level Participation in the EAP Process in Ghana

Region/ District	Viable Institutions			Main Activities						
	CDR	Mobisquad	31st Dec.	Local Comm. Inst.	Forestry	Agr.	Ind.	Infra- structure	Educ.	Other
U. East										
1.		X			X	X			X	X
2.				X		X	X	X	X	
3.		X		X	X	X			X	
4.	X	X	X	X	X	X	X	X	X	
5.		X	X	X	X	X	X	X	X	
Northern										
1.		X		X	X	X		X		X
2.		X		X		X	X			X
3.				X	X	X		X		
4.				X	X	X		X		
5.	X		X	X	X	X	X	X	X	X
B. Ahafo										
1.	X			X	X	X		X		
2.	X	X	X	X	X	X		X	X	X
3.	X	X	X	X	X	X		X	X	X
4.		X			X	X		X		
5.		X		X	X	X		X		X
6.		X		X	X	X		X		
Volta										
1.	X	X	X			X		X		X
2.	X	X	X		X	X				X
3.	X	X		X	X	X		X		X
4.			X	X			X	X		
Gt. Accra										
1.	X	X				X		X		X
2.		X			X					
Eastern										
1.		X	X		X	X		X		
2.	X	X	X		X	X	X		X	X
3.	X	X			X			X	X	X
4.		X	X			X		X		X
5.	X	X			X	X			X	
Ashanti										
1.	X		X		X			X		X
2.	X	X	X		X	X	X	X	X	X
3.	X	X	X			X		X	X	X
Western										
2.										
3.		X	X	X		X	X	X	X	
4.		X		X		X		X		
5.			X		X	X		X		X
total	15	25	16	18	24	28	9	26	15	18

### INSTITUTIONAL FRAMEWORK

Policies for the development and management of the environment can be implemented satisfactorily only within an effective and productive institutional framework which avoids conflicts, unnecessary duplication of functions and ensures harmonious co-ordination of the different activities.

An Institutional Framework for the management of the environment should address the following issues:

- (a) Data gathering and monitoring
- (b) Setting of standards
- (c) Enactment of legislation
- (d) Enforcement of legislation
- (e) Co-ordination of activities
- (f) Execution of projects intended to address particular environmental problems
- (g) Planning and Policy formulation.

#### Data Gathering and Monitoring

Data gathering is an activity for the generation of information necessary for policy decisions. Monitoring is carried out to ascertain whether policies, standards and regulations are being complied with. It involves data gathering which can be carried out by the body carrying out the monitoring itself, or the data can be collected by another body which is equipped to collect the data.

At present in almost all sectors, institutions have been set up which collect environmental data on routine basis. These institutions should continue to gather data. However the following additional arrangements should also be made:

- (a) It is important that an up-to-date information on the state of the environment be readily available at any time for planning and monitoring purposes. There should therefore be a data bank to which all data on the different aspects of environmental conditions can be sent. EPC should establish the data bank, and all institutions should be required by law to send prescribed data periodically to the EPC.
- (b) EPC itself should collect data in the grey areas where either only limited gathering is being done or not done at all. The areas include air and noise monitoring.

Monitoring covers a very wide range of indicators of environmental change. Monitoring to ascertain whether standards and regulations are being complied with should be carried out by the institutions that prescribed the standards or regulations.

The EPC should carry out monitoring at two levels:

- (a) As the body responsible for policing on environmental issues, it should monitor the activities of all institutions responsible for the enforcement of laws/standards on the environment so that it can advise the institutions and government accordingly.
- (b) EPC should also be responsible for monitoring of environmental conditions on which it gathers data; eg. air quality. However, in addition to this the Council should carry out pollution monitoring generally so that it can gather data on the degree of pollution in emergency cases and also to provide data that can be compared with similar data gathered by other institutions.

#### Setting of Standards

National standards on pollution should be set by the EPC in consultation with relevant institutions. Recommendations on the standards will in certain instances be made by other institutions, while legislative action will be taken by EPC. For example, EPC will normally rely on the advice of the Water Resources Research Institute and the Institute of Aquatic Biology for the setting of standards on water quality.

Standards to be set by EPC should include those for discharges of industrial and other wastes into the environment, applications and disposal of hazardous chemicals including pesticides, noise levels, etc.

Other standards should be set by the sector ministries/ departments.

#### Enactment of Legislation

Legislation on pollution should be enacted by EPC, which should also be the Regulatory Agency for E.I.A. At present the procedure for E.I.A. and the linkages between the various bodies that will be involved in the administration of E.I.A. are in an advanced stage of discussion. However, as recommended elsewhere it will be necessary to receive Technical Assistance before the final document is issued.

Development projects on a large scale in the following areas should be covered by E.I.A. The selection is based on the fact that E.I.A. is to cover not only negative but also positive

impacts.

Nature of Development	Activities Requiring EIA
1. Land Use Transformation	Urban development; industrial investment; plantation agriculture; airport construction; transportation; transmission lines; off-shore structures
2. Resource Extraction	Drilling; mining; blasting; lumbering; commercial fishing; commercial hunting; commercial sand and stones collection
3. Resource Renewal	Flood control, Re-forestation; wildlife management; waste re-cycling
4. Agricultural Processing	Dairying; Feedlots; Irrigation
5. Industrial Processes	Iron and Steel milling; Photochemical industry; smelters; pulp and paper plants; tannery cement
6. Transportation	Automobiles; trucks; ship builders; pipelines
7. Energy	Man-made lakes; dams; oil; nuclear power stations
8. Waste treatment and disposal	Ocean dumping, land fill; toxic wastes and other environmental contaminants; underground storage
9. Chemical treatment	Insect control (pesticides use) weed control (herbicides use)
10. Recreation	Resort development

#### Enforcement of Legislation

Institutions should enforce the laws they make with the cooperation of state law enforcement agencies such as the police and the navy.

The District and Metropolitan Assemblies will have a significant role to play in the enforcement of legislation made by themselves or other bodies. Section 6 (3) (e) of the Local Government Law (PNDC 207) which established the Assemblies states as follows:

"(District Assembly shall) be responsible for the development, improvement and management of human settlements and the environment in the district"

Again Section 6 (a) (e) enjoins the District and Municipal Assemblies with responsibility for monitoring the impact of projects on

"people's development, the local, district or national economy, and the environment".

Agencies, especially the EPC which has limited staff and at present has offices only in three of the ten regions, should delegate as much as possible enforcement of legislation to these Assemblies.

#### Co-ordination of Activities

Co-ordination of activities related to the quality of the environment is one of the main functions of the EPC. The establishment of EIA procedures and the requirement that all institutions collecting data on the state of the environment should periodically submit the data to the Council will help in its co-ordination activities. The establishment of committees by the Council for the main sectors will also help to bring together all the institutions engaged in activities in particular sectors to discuss common problems and plan together.

#### Planning and Policy Formulation

The EPC is by law the body that has been set up to advise government on policies on the environment. On the other hand there are aspects of environmental issues for which specialized institution have been set up to deal with. Examples are the Forestry Commission which deals with policy issues in the forestry sector, the Energy Board which is responsible for energy and the Ministry of Health for health.

The Proposed National Development Commission which is being set up within the Ministry of Finance and Economic Planning will also be responsible for physical planning in a broad sense.

Institutions charged with responsibility for specific policy issues should continue to handle those issues. However, they should ensure that they always consult with the Environmental Protection Council on all policy matters that

affect the quality of the environment. The NDPC should have within it a Division/Committee for Environment on which the EPC should serve. In order to ensure that sufficient attention is given to critical areas of the environment, specialised committees/units may be established within the Environment Division of NDPC to handle those areas. Initially the following areas can be considered:

Initially human settlements and land management can be considered. It needs to be pointed out, however, that this recommendation is made on the assumption that the Commission's responsibilities will include physical planning.

In the case of water management the proposed Water Resources Commission should be established.

### THE ROLE OF EPC

The role of EPC is set out in its enabling decree (NLCD.239). The Council's main roles within the EAP include the following:

- (a) Serving as a data bank for the supply to users of both "raw" and processed data on all environmental change indicators.
- (b) Legislative prescription of standards and guidelines for environmental quality.
- (c) Monitoring of air quality and noise pollution in collaboration with relevant institutions.
- (d) Co-ordination of research and other environmental protection action programmes.
- (e) Non-formal education at all levels and provision of guidelines on formal environmental education.

The Council should be strengthened in terms of personnel, equipment and other inputs and also given the necessary legal authority so that it can perform its responsibility for setting standards and acting as a data bank.

With respect to the District Assemblies the role of the EPC should be as follows:

(a) Advisory Role

Provide scientific and technical advice and support for environmental management activities of the District Assemblies.

(b) Initiating and Catalytic Role

Initiate, where necessary, programmes in co-operation with a District Assembly through its Environmental Management Committee for implementation through local initiatives.

(c) Co-ordinating Role

Where environmental problems transcend district boundaries the EPC shall draw up programmes in co-operation with the District Assemblies concerned for implementation jointly by the Assemblies.

Where such problems transcend national borders the EPC shall have primary responsibility for dealing with them. Such problems should be reported to the EPC in the first instance.

(d) Attendance at Assembly Meetings

The EPC may be invited to send officers to attend Environmental Management Committee or Assembly meetings. Since EPC has no district offices, its regional officer, where available, may be closely involved in programmes of the District Assemblies within the region of his jurisdiction.

Where there are no Regional Offices requests for participation in District programmes may be sent direct to the Environmental Protection Council's head office in Accra.

## RESPONSIBILITIES OF DISTRICT ASSEMBLIES IN ENVIRONMENTAL MANAGEMENT

### 1. Implementation of National Environmental Programmes

District Assemblies will be the organ through which national policies and programmes on the environment will be translated into action at the local and district levels. Through various bye-laws which will be enacted by the Assemblies in accordance with their needs and environmental circumstances, broad national policies on the environment and related issues such as sanitation, health, transport and communication, water quality, industrial development, resource exploitation etc. will be enforced.

### 2. Environmental Awareness

District Assemblies through their members and their action programmes will serve as vehicles for creating awareness at the grassroots level of the complex interaction between development and the environment in order to ensure improved quality of life for the broad mass of the people. In this regard District Assemblies using expertise and resources available in relevant government agencies such as Environmental Protection Council, Department of Community Development, Information Department, Ministry of Agriculture - Extension Service, Environmental Health Division - Ministry of Health and others to promote environmental education to create awareness of the problems of the local environment.

### 3. Preparation of Land Use Plans

Each District Assembly with the assistance of Environmental Protection Council and other relevant Government institutions such as the Forestry Department, Soil Research Institute, Ministry of Agriculture may prepare a landuse plan to ensure rational and sustainable use of the land. Landuse plans will demarcate community lands to various uses - agriculture (coops), livestock (grazing), forestry, mining, settlements etc based on capability and suitability of the land for particular use. Soil conservation measures must be incorporated in all landuse plans for all communities. Green belts around towns and villages, which in many villages could serve as wind breaks for preventing storms, should be provided.

### 4. National Environmental Action Plan

In order to facilitate preparation of national action plans to combat problems of the environment each District Assembly shall provide information on environmental problems to the Environmental Protection Council. Problems that require action within the Council's budget in a subsequent year should be communicated to the Council not later than the end of the third quarter of the ensuing year.

## STRATEGY FOR ENVIRONMENTAL MANAGEMENT

### 1. District Environmental Management Committee (DEMC)

It is recommended that a District Environmental Management Committee with a broad responsibility for monitoring and co-ordinating environmental protection and improvement activities in the District be established within each District Assembly.

### 2. Membership of DEMC

The DEMC may be made up of 7 - 9 Assemblymen. In addition any of the following District officials may be invited to attend as non-voting members:

- Regional Environmental Protection Programme Officer
- Medical Officer of Health/Health Superintendent
- Town & Country Planning Officer
- Forestry Officer
- Agricultural/Agricultural Extension Officer
- Parks and Gardens Officer.

It is essential that membership include Assemblymen or women representing areas where activities that affect the quality of the environment are carried out eg. mining, major industries, dams, major agricultural ventures, logging, etc.

### 3. Responsibilities of DEMC

The DEMC within the framework of the Local Government Law may have the following responsibilities:

#### Community Environmental Committee

- (a) Promote the establishment of community level Environmental Committees (CEC) which will put into effect the environmental programmes of the Assembly in that community.

The recommended membership of the CEC is given below.

#### Bye-Laws and Regulations

- (b) Review and update for the consideration of the District Assembly various bye-laws and regulations for the maintenance of a sound environment. This may include bye-laws on noise, sanitation, land use, tree planting, bushfires etc.

Environmental Problems of National Character

- (c) Identify environmental problems within the district that require attention at the national level and recommend necessary action to the District Assembly

Review of Development Projects

- (d) Without prejudice to national economic development, and with the advice of EPC, review environmental effects of major development projects such as industries, dams, major real estate development, roads, agricultural ventures etc with the view to ensuring environmentally sound social and economic development.

Resource and Land Use

- (e) Within the limits of available laws and without prejudice to the economic development of the country, prepare for the consideration of the District Assembly local resource and land use plan and strategies for their sustainable utilization.

Upholding the People's Right to Know

- (f) Where environmental considerations of a particular development project is open to debate the DEMC will ensure that opportunity is made available for the discussion of the project, particularly by the communities directly affected. It will also ensure that necessary awareness of the implications of the project has been created among the affected community in order to elicit informed reaction from the community to the project.

Protection of Fragile Ecosystems

- (g) Plan and recommend to the Assembly strategies and activities for the improvement of or protection of the environment, especially fragile and sensitive areas such as river courses, hill slopes, wetlands, watersheds, groves, through activities such as watershed protection, agroforestry, community forestry, erosion protection etc.

Environmental Awareness

- (h) Formulate strategies for creating environmental awareness within the district.

#### 4. Community Environmental Committees(CEC)

It is proposed that Community Environmental Committees be established to be the organs through which the environmental programmes of the District Assemblies will be carried out at the community (town and village) level.

In addition to the programmes enunciated by the District Assembly each CEC may have the following responsibilities:

- (i) Mobilize community and individual efforts to preserve and enhance the local environment.
- (ii) Mobilize the youth to form Fire Volunteer Squads to protect the area from bushfires.
- (iii) Raise funds to support positive environmental activities in the town/village, eg. the activities of Bush Fire Volunteer Squads.
- (iv) Organise discussion on local as well as national environmental issues such as bushfires, sanitation, population growth, agriculture and environmental degradation etc.
- (v) Promote those aspects of indigenous culture which promote conservation and enhancement of the environment.
- (vi) Mobilize community to establish tree nurseries, particularly those of indigenous species.
- (vii) Mobilize community and identifiable groups such as schools, churches, development societies, companies etc to plant and care for trees in school compounds, streets, markets, lorry parks, children's playground and other public places.
- (viii) Promote planting of grass in interhouse area to check erosion.
- (ix) Mobilize community to embark upon community forestry projects.
- (x) Organise community to plant trees to make green belts or wind breaks.
- (xi) Mobilize community to prepare fire belt around the settlement and maintain it.
- (xii) Promote the use of energy saving stoves.
- (xiii) Promote the control of water-borne diseases, such as guinea worm, bilharzia.

- (xiv) Protect local sources of water from pollution.
- (xv) Ensure proper management of waste.
- (xvi) Organise public health education activities to promote community action to control environmental diseases.
- (xvii) Organise campaigns at lorry parks, schools, markets, etc to clear litter and to discourage littering.
- (xviii) Organise education and other activities to control pollution of the seas and beaches and lakes and lakeshores. Such activities may include clearing of rubbish from drains and beaches or lakeshores and sanctions against defecation at these places.
- (xix) Enforce the regulation of working hours for noise making social and commercial activities.
- (xx) Monitor the possession and control of hazardous chemicals and ensure enforcement of laws and regulations on misuse of hazardous chemicals.
- (xxi) Monitor the discharge of industrial wastes and report through the District Assembly to national authorities.
- (xxii) Promote wildlife conservation and protection of endangered species.
- (xxiii) Regulate and control charcoal burning activities
- (xxiv) Promote the cultivation of endangered wild flora in the area.
- (xxv) Protect the area from dumping of industrial and nuclear waste by reporting discovery of abandoned drums and containers.
- (xvi) Promote collection of wastes such as paper, glass, plastics etc for recycling.

##### 5. Membership of the CEC

The Community Environmental Committee may comprise the following:

- (a) Chief of the Town or Village
- (b) Chairman of Town Development Committee (TDC)  
(as Chairman).
- (c) One other member of TDC.

- (d) Assemblyman or woman of the Electoral Area or a person appointed by him/her in case he/she does not come from the town/village.
- (e) Two representatives of non-governmental organizations (NGO) in the town/village.
- (f) CDR Chairman.
- (g) Member of MOBISQUAD/Anti Bush fire Squad.
- (h) Two other citizens appointed by the Chief in consultation with the CDR and TDC.

V. ACTIONS NECESSARY FOR MANAGING THE ENVIRONMENT

Actions which are described below are by no means exhaustive. The success of environmental protection measures in each district will depend on the activity and interest of the members of the District Environmental Management Committee and the relationship which the Assemblies maintain with relevant government agencies. The following actions may be taken at the District level by the Assemblies for the management of the environment:

(a) General

- (i) Preparation of education campaign programme for creating awareness in the district.
- (ii) Campaigning for the formulation of new national environmental laws and regulations and upgrading of old ones.
- (iii) Co-operating with other District Assemblies in seeking action on such major environmental problems as water pollution, air pollution, dumping of industrial wastes, desertification, deforestation.
- (iv) Preparation of landuse plan.

(b) Soil Erosion in Urban areas, Towns and Villages

Organization of education campaign on cultural practices (such as sweeping) that contribute to soil erosion in settlements; promotion of the planting of grass, hedges and trees for protection of towns and villages from erosion; institution of measures to ensure that developers (eg. estate development, road construction, etc.) rehabilitate "waste" land.

(c) Coastal Erosion

Enactment and enforcement, particularly through CECs of bye-laws and regulations against digging of sand from or near beaches.

(d) Coastal and Lakeshore Pollution

- (i) Provision of toilet facilities for coastal or lakeshore communities.
- (ii) Enactment and enforcement of bye-laws and regulations against pollution of beaches and lakeshores by refuse or faeces.
- (iii) Education of coastal and lakeshore communities on risks to health of pollution by refuse and other solid wastes.

(e) Marine Pollution

- (i) Provision of dossier to EPC of industries that discharge waste material into the sea.
- (ii) Clearing of solid wastes from drains which discharge into the sea.
- (iii) Provision of waste disposal facilities for community use.
- (iv) Enactment and enforcement of bye-laws and regulations on littering and disposal of waste at unauthorised areas.

(f) Water Pollution

- (i) Qualitative assessment of the quality of water used as source of drinking water and provision of information to EPC for remedial measures.
- (ii) Provision of information on sources of discharge of pollutants into water bodies for action by relevant organisations through EPC.
- (iii) Provision of alternative sources of water such as wells and rainwater harvesting to protect people from contaminated water.

(g) Noise Pollution

- (i) Enactment or upgrading and enforcement of bye-laws on noise.

- (ii) Regulating hours of activities of corn mills, panel beaters, cement block makers, etc in residential areas.
- (iii) Regulation of hours of work and control of noise in music shops.

(h) Deforestation

- (i) Promotion of education campaign on effects of shifting cultivation.
- (ii) Enforcement of laws on conservation of forest resources.
- (iii) Monitoring of activities of charcoal burners and timber companies for action by relevant organizations.
- (iv) Enactment and enforcement of bye-laws on sustainable charcoal burning including forestry programmes. (See also section V (i)).
- (v) Preparation of district afforestation/reforestation and community tree planting programme for implementation by Community Environmental Committees.
- (vi) Establishment of district tree nursery and seedling distribution programme with the support of relevant organisations such as Forestry Department, Department of Parks and Gardens, Department of Community Development.
- (vii) Promotion of study of endangered economic and socially important species in order to organise their protection as well as nurseries of such species for community forestry projects involving the species eg. chewing stick, traditional trees used for pestles, mortars, stools for chiefs, drums etc.
- (viii) Organization of conservation, education as well as programmes for conservation of wildlife. Promotion through bye-laws and education of aspects of indigenous culture which promote conservation of resources and enhancement of the environment such as sacred groves.
- (iv) Promotion of the use of alternative sources of energy such as gas from decaying vegetation and other organic matter (biogas).

- (x) Promotion of the use of energy-conserving stoves with the assistance of relevant government agencies such as Department of Community Development.
  - (xi) Mobilization of community and individual efforts to preserve natural forests.
- (i) Charcoal Burning
- (i) Regulation and control of tree cutting for commercial charcoal burning.
  - (ii) Promotion of tree planting and forestry activities among charcoal burners to ensure sustainable production.
  - (iii) Monitoring and control of encroachment of charcoal burners on forest reserves.
  - (iv) Control of removal of trees of commercial value by charcoal burners (eg. shea butter tree, timber species)
- (j) Bushfires
- (i) Promotion of the activities of Bush Fire Volunteer Squads. Ensuring the formation of such squads in all communities and organization of fund-raising activities in support of the squads.
  - (ii) Promotion of the enforcement of the Bush Fire Law (PNDC Law 46).
  - (iii) Organization in co-operation with EPC, National Fire Service and Forestry Department of education activities on dangers of bush fires and training of Bush Fire Volunteer Squads.
  - (iv) Preparation of guidelines with the assistance of National Fire Service for making fire breaks and cutting tall grasses around amenities in areas of potential fire danger.
- (k) Sanitation and Environmental Health
- (i) Preparation of public health education programmes to promote community action through CECs to control environmental diseases, such as cholera, dysentery and intestinal diseases, malaria.
  - (ii) Preparation of programmes to control vectors of water-borne diseases such as malaria, bilharzia, guinea worm. Such programmes may include clearing

drains, provision of good drinking water and toilet facilities eg. KVIP toilets.

- (iii) Enactment, upgrading and enforcement particularly through CECs of bye-laws on creation of nuisances such as dumping of refuse in unauthorised areas, littering, urinating in unauthorised places, etc.
- (iv) Regulation of sale of waste generating foods.
- (v) Involvement of identifiable groups such as drivers unions, chop barkeepers association, etc. in promotion of environmental cleanliness in public places.
- (vi) Provision and maintenance of public facilities of convenience, such as public latrines and urinals, where necessary.
- (vii) Enactment and enforcement of building codes that provide for places of convenience eg. toilets, baths, kitchen in private and rental houses.
- (viii) Promotion of proper planning of housing development to avoid overcrowding and slum conditions.

(1) Air Pollution

- (i) Enactment of bye-laws or regulation for the control of unauthorised burning of organic matter such as lawn or garden trash in communities.
- (ii) Identification of sources of air pollution for control within a national programme.

(m) Industrial Pollution

- (i) Provision of special disposal sites for industrial solid waste to avoid contamination of ground or surface water and other environmental problems.
- (ii) Ensuring segregation of industrial solid wastes and household or community refuse during their transportation.
- (iii) Preparation of a register of all industrial establishments including small scale industries for purposes of survey and monitoring of their impacts on the environment.
- (iv) Enactment in consultation with EPC bye-laws, regulations and guidelines on control of pollution arising from industries within the District.

- (v) Regulation, control of siting of new small scale industries and workshops. ( As much as possible such industries should be located away from residential areas. The use of part of inhabited houses for industrial activities, especially for mixing or or production of chemicals should be avoided).
  - (vi) Involvement in the process of site selection or assessment of environmental impact of new major industries. (Ministry of Industries, Science and Technology, Ghana Investment Centre should be obliged to provide relevant information to the District Environmental Management Committee in good time for its study and reaction of the Assembly.
- (n) Toxic Chemicals
- (i) Control of sale and possession of hazardous agricultural chemicals to control its misuse for fishing and hunting game. Permit/license system operating within the district should be developed by the Assemblies.
  - (ii) Banning of peddling of unlicensed chemicals particularly those without labels.
  - (iii) Promotion of proper storage of agricultural chemicals - fertilizer and pesticides.
  - (iv) Discouragement of the use of empty pesticide toxic chemical containers, sacks, drums etc for storing consumable items or its outright ban possibly by bye-law of the Assembly or regulation of the CEC.
  - (v) Promotion of a programme of education on the handling, storage and use of agricultural chemicals, particularly pesticides.
- (o) Land Degradation
- (i) Promotion of agricultural extension activities to educate farmers on proper methods of farming in fragile areas such as hill slopes.
  - (ii) Promotion of education on the effects on water cycle and the general environment of farming in watersheds, along river banks, and in wetlands using destructive traditional methods.
  - (iii) Promotion of environmentally sound land uses on the basis of soil capabilities to ensure sustainable soil productivity.

(p) Dumping of Toxic Waste

- (i) Protection of areas, particularly coastal areas from the dumping of industrial and nuclear waste by promoting education programmes on the grave adverse effects of dumping of such wastes.
- (ii) Ensuring that discovery of abandoned containers, drums and bags of unidentified substances is promptly reported to the Environmental Protection Council.