

Psycho-Geographical Evaluation Of The Douala City (Cameroon) Sensitisation Programme Against Municipal Waste Dilemma

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Abstract

The city demographic upsurge and national post-electoral hostility of the early 2000 did patent the Douala urbanscape by awful and mammoth heaps of household garbage by roadside and some road junctions. This deeply endangered the health of the city dwellers and city aesthetics. The Douala City Council, at the turn of 2000, launched an urban environmental sensitisation campaign to arouse the populations' psychology to accomplish a behavioural and mentality revolution against the appalling hygiene and sanitation conditions born of human misplacements, which have ushered a severe challenge to our human society. Regrettably, the current campaign in both its contents and strategy contained loopholes that promised limited success as field evaluation using stratified and random sampling show a high probabilistic-pessimist opinion than probabilistic-possibility opinion. This paper made a psycho-geographical scrutiny of the city council approach and the contents of the education campaign. The paper then provides psychological elements for a city-population centred environmental education for the desired waste perception revolution.

KEY WORDS: Attitudes, behaviours, city waste, Douala, Environmental education, hygiene and sanitation, sensitisation campaign, waste management perception.

Introduction

Douala is Cameroon's first town for economic, demographic, commercial, and infrastructure considerations. It has grown-up from trading posts in the late 15th century to a millionaire city with spill over effects of urbanisation and industrialisation seen in its industrial and house solid, liquid and gaseous waste. This primary and secondary waste is dumped into the inadequate, ill-adapted degrading social infrastructure, as well as into drainage channels having physico-chemical and bacteriological characteristics attest extreme contamination (Fogwe, et al, 2001). This puts the city population at a risk as Bassa and Bonaberi Industrial zones in Douala have since 1970s, lost their purely industrial function to squatter settlements in an uncontrollable manner with low standards of living. Douala since the 1990s began showing vivid signatures of fatigue from the burden of a waste accumulation and pollution, which was out pacing nature's ability to

re-establish equilibrium, so that by the close of the last millennium, one of the biggest challenges of the Douala city has been that of waste.

The present worry of the urban council about the degree of anthropic urban modification of the city through industrialisation and urbanisation at the dawn of the new millennium is no trifling matter. The Douala City Council (DUC) millennium gift to the city ought to be a long lasting answer to this waste question that has cropped up as an intra and intergenerational challenge. Arousing popular psychologies by DUC, whether Douala could ever be clean is a precursor to mastering the view or perception that city dwellers hold of the environmental waste problem and failure to maintain cleanliness. At the close of 2001 DUC undertook the posting of the question on roadside billboards in the city as to whether Douala could ever be clean which was followed later by other sensitisation messages across the streets. This sensitisation campaign technique should stem from a system analysis, which, in this case of Douala did not probe on realistic, sustainable, geographical and psychological bases - considered in this study as a psycho-geographical approach.

The Douala Waste Dilemma and Study Rationale

The management of waste in Douala is today organised according to quarters having an overall heterogeneous outlook that reflects the lifestyles of the constituting human groups, income levels and standards of living. This has a direct bearing on the type, amount, quality and quantity of the waste produced as well as the perception made of it.

Providing a healthy urban public hygiene and sanitation is the duty and preoccupation of the DUC. This is stipulated by the Decree N° 87/1366 of the 24th September 1987 creating the DUC which has used its personnel, material and financial means to carry out garbage collection. The risk of waste becoming a course for environmental concern was a non-event in Douala in the 1970s and early 1980s. It was till the 1990s, Douala was a victim of the *Operation Ghost Town* during which the movement of vehicles (and persons) was restricted marking the debut of a waste crises that has survived the years till date and rather posing as a challenge. Lawlessness and environmental delinquency in an indescribable *laissez-faire* that the opposition parties clamoured for by the civil disobedience strategy, created artificial metres-high urban micro hillocks of garbage and waste of all sort, origin and dimension which grew not only by night but also in broad daylight on both conventional and unconventional roadsides from where it then grew into the road and at times road junctions (Table 1). The volume of dirt accumulated within the city today continues to increase in amount, type, and distribution thus becoming very demanding both in the frequency and the sphere of collection. Its odour, leachate and physical appearance were such an eyesore that could leave no one indifferent. This was thus the beginning the current urban environmental challenge.

Table 1: Spatial variation of waste production in Douala

Admin. Unit	Area (Ha)	Approx. Population	Composition	Waste Production (Tons)	
				Daily (Dec. 2002)	Monthly
Douala I	166	400.000	Administrative and Commercial centre: Bonanajo, Bell, Akwa, Bonapriso, Big markets like Sandaga, Mbopi, Marche Central, Koumassi, Deido	340 tons/Day 200 tons minimum in 7 sectors	754810 in 541 rounds
Douala II	200	700.000	Commercial zone with market like Nkololoun and famous New Bell prison. Quarters like New Bell, Ngangué, Sebenongo, Hausa Quarter, Yabassi	234 tons maximum and 38 tons minimum.	3742
Douala III	-	-	Industrial Heart of quarters like Tergal, Dakar, Nylon, part of, Nkogmondo, Ndogbati, Ndokoti	5 to 20 rounds in Sectors 11, 12, 13	2785 in 430 rounds
Douala IV	-	-	Lowest density area Quarters like Bonambappe, Bonassama, Bonabedi	38	1267 in sectors 14, 15
Douala V	-	300.000	New heterogenous quarters like the University, Bonamoussadi Makepe II, Nkotto. The dream town quarters like Dallas, Beverly Hills, Denver, Santa Babara	R	3298 Sectors 16,17,18,19,20, 21
Total					18637

Source: CUD, HYSACAM and Fieldwork

Political upheavals, social and civic disorder overwhelmed the ability and capacity of the DUC waste, disposal scheme to be abreast with waste accumulation. The Opposition's call for fiscal boycott and civil disobedience of the government overwhelmed the DUC ability to continue providing healthy city sanitation. It cultivated a strong headedness towards conventional waste collection both in methods and in the psychology. There is a visible collapsed rational waste perception, so there is a prevailing population mentality, which considers that any waste (household, informal sector activities, or industry etc) of

any form could be deposited anywhere, anytime with no fear of sanction even though this has suffocated gutters, roadsides, and road surfaces producing urban eyesores.

Faced with the ever-growing dirt and countless garbage mounds in the city, the efforts of the DUC and HYSACAM (Hygiene et Salubrite du Cameroun) - the daily mobile inter quarter garbage collection company that has many garbage trucks, cans and personnel for mobile and point specific waste collection appear each time to have been defeated. There exist solid waste dumps composed of informal sector activities at the entrance of schools, markets, pedestrian tracks, as well as in front of personal and public buildings. Septic tanks are clandestinely emptied unto roads or roadside gutters, irregular urination on roadsides, human waste even on roadsides, air pollution irritating smoke from the chimneys of factories, houses, and urban dust, decomposing waste organic matter in markets. No body nor business institution seem to be deterred by the punitive actions of the State. On the 6th September 2001, the Ministry of Environment and Forestry, accordingly levied sanctions on Brasseries du Cameroun, Union Camerounaise de Brasseries, Complexe Chimique du Cameroun, Brasseries SIAC Isenbeck, FERMENCAM and CIMENCAM from 2.5 to 5 million FCFA. Not withstanding, disorderly waste disposal continued inadvertently, hastening the total deadening of city streams like Ngoua. Even the sanctions of 11th April 2002 did not stop industries and factories from dumping their solid, and liquid waste into nature (especially the mangroves of the Doctor's Creek), which then drifts into the inhabited neighbourhood. Paradoxically, a lot of this waste has a high recycling potential and uses (Table 2)

Table 2: Potentials of Municipal Solid Waste Recycling in Douala

Waste type	Potential Recycling Industry	Possible Use of end-product
Organic matter	S.C.P. (Société Camerounaise de Provende) Animal breeders	- Animal food - Agricultural inputs
Glasses and bottles	Breweries (UCB, Guinness, Isenbeck, Brasseries du Cameroun), SOCAVER	- Re-use, bottle making, glass making, utensil and equipment
Iron and metals	SCDP, COFREM, SOLADO, Ste FOKOU, TROPIC Craftsmen	- Smelting works, welding - pottery and craft
Plastics	PLASTICAM, SAT PLASTIQUE, SIPLAST Cie BATOULA, PLATITEX	- Bags for parcelling - Making of buckets, flower jars, pipes - Decorative objects
Papers and cartons	SAFCA, SITRACEL Traders, Households, Printing press	- Re-use for glass parcelling - Making trays, recycled paper and tissue paper,
Rubber	CIAC, SORECAM, Wielders, Dyes	- Re-use shoes, tyres, tying rubber, mechanical parts
Leather	Crafts men, Mechanics	Garages, Paper pulp industries

and Racks	Carpenters,	
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In the path of the efforts of the DUC, the waste management problem persists as the days go by in the wake of an ineffective poorly and applied government policy, inadequate financial and material means, the poor management of existing means of waste evacuation, the anarchical settlement pattern, the inappropriate industrial sitting inadequate personnel and public sanitary infrastructure, an environmentally unethical in-migrant mentality and roadside market stalls. These causes seem to have come to stay and so are have become a test of competence to the municipality. In the face of this absolute environmental waste challenge, and in a bid to revolutionise a waste situation that emerged as unsafe challenge to the city population, managers and visitors, the DUC ceased the opportunity to question whether the waste war could ever be won, whence the challenging question of “*Douala peut-il être propre?*”

The best moment or opportunity of carrying on a large-scale fight against dirt in Douala falls within the framework of the general policies of urbanization and improvement of the African Towns. This is called the *Zeitgeist* or the appropriate context for change and a fight in matters of urbanization and the problem of hygiene. A campaign programme to counter dirt springing up from such a context has every reason and change to attract the support and adherence of every body and councils. In other words, the time is ripe for such an initiative to take roots, be it from government council or foreign donors.

Psychological Analyses of the Douala Household Waste Management Perception

Social behaviours are patterned on attitudes and values in a way that when we try to change our behaviours, it is the attitudes and values that we are changing. Attitude, here, is the ability or willingness to act whether positively or negatively towards to different aspects of the environment thus showing how the individual appreciates or perceives hygiene and sanitation. Value is considered here as the way of thinking or a philosophy of action or lifestyle within the environment. These notions are closely interdependent because attitudes are greatly modelled and/or conditioned by values.

Generally, environmental attitudes are made up or three components: cognitive affective and behavioural component. In the scope of the fight against dirt, the cognitive component of attitudes are those ideas of the individual has with regards to cleanliness, as well as the information that he has about it, and what constantly feeds their thoughts, and daily life. This component is called cognitive because the type of knowledge that stems from it is from pure intelligence and of an adaptive function. In this way, the cognitive component of an attitude towards cleanliness would be a function of the degree of education, culture or civilization on this issue and on the knowledge of the stakes linked to cleanliness or sanitation. Concerning the affective elements, it is a question of emotions and sentiments that an individual has towards cleanliness, of all that is clean or that which is not. Lastly, the behavioural

component of attitude of cleanliness corresponds to a willingness to act in a positive or negative way towards dirt and cleanliness.

Even though DUC authorities and inhabitants would have wished to come to an ecological equilibrium with the problem of waste accumulation and management, their efforts have not yet yielded fruit. This is because those who generate the waste and who are equally affected by this problem have different perceptions of this problem. These perceptions must be taken into consideration in a search for solutions to this stifling and challenging problem whether through environmental education as carried out by the DUC or through strategic management. The key problem is therefore that the rational or cognitive behaviour towards a good hygiene and sanitation condition has been overwhelmed by the affective and behavioural attitudes and values, whose components have throughout history and politics caused a bulk of the Douala city dwellers to be negatively biased towards a clean city status for Douala. This study identifies the psychological and geographical elements that are indispensable for an acceptable level of success in environmental education and sensitisation.

Methodology

In order to appreciate the waste problem perception and the psychology depicting response that the city folk would have of any form of education against waste in Douala, a stratified random sampling of urban households was done in four slums and four modern (planned) quarters. The slums were the central city slums of New Bell and Hausa Quarter chosen in the Douala II district for their high degree of settlement and functional diversity and Dakar and Nkololoun for their standing record civic disobedience. The modern quarters were Bonanajo, Bell, Akwa, and Bonapriso chosen as city centre planned quarters with mixed functions in the Douala I district and Bonamoussadi as dominantly residential peripheral quarter in the Douala IV district with 228 questionnaires in December 2001 and January 2002 in order to obtain their perceptions of the waste problem. Public opinion was again randomly sampled in May and June 2002 in the Douala I, Douala II and Douala III districts using 307 questionnaires on the various strategies which when put in place by the city council could bring about an outstanding solution to the waste dilemma. The year 2002 was significant for this study because it constituted the period of multiparty political upheavals and post election contestations in the form of “ghost towns”, civil disobedience and contempt of State authority. Family units were considered as sampling targets because learning and inculcating notions of cleanliness is done in the most ideal scope of the family that is like an open system and that can be considered as a place where the first emotional and affective experiences are acquired. Whether they encourage or discourage, these experiments are inscribed in the mind of the individual so as to later on serve as the base infrastructure for the building of the personality. It is therefore an affective non-cognitive field for which the acquisitions are not definite but capable of a regression and even losses. This makes us think that in matters of cleanliness, the stakes of mass education and the population are undeniably the responsibilities of the families, before the school that should also serve as a link beyond.

The Discussion Of The Results

The problem of waste in the city of Douala is indicative of the civil disobedience because there is an existing legislation in favour of public hygiene and sanitation The Decision N° 96 CAB/DL/2001 of the 26th November 2001 in its

Article 1 - Forbids the dumping of waste and scrap within the Douala perimeter.

Article 2 - Stipulates administrative and penal sanctions on defaulters.

Article 5 - Creates a municipal police recognised by the government delegate.

All polluters should be considered as defaulters whether they are prominent households or industries. This would permit adapting the polluter-pays principle (especially paying just as much as you pollute principle). Other existing laws relating to waste and water management in Cameroon that could be exploited and reinforced include:

- Law N° 64/LF of 23rd November 1964 on the protection of Public Health
- Law 12th June 1967 on the Penal Code
- Law N° 89/027 of 29th December 1989 on toxic and dangerous waste
- Law N° 96/12 of 5th August 1996 on the management of the environment
- Ordinance N° 90/007 of 8th November 1990 on the investment code
- Decree N° 76/372 of the 2nd September 1976 on dangerous and unclean establishments
- Decision of 1st October 1937 providing the rules and regulations for hygiene and sanitation to be applied over the whole Cameroonian territory.
- Circular letter N° D69/NC/MSP/DMPHP/SHPA of 20th August 1980 on the collection, transportation and treatment of industrial waste, household waste and sewage disposal.

There is much ignorance of the laws by the different actors that are the industries, households, the state and councils. During the sampling, three perceptions attitudes relevant to any potential successful waste management were grouped. These perceptions were attitudes and values about the waste in the Douala city. A good number of Cameroonians living in Douala have cultural persona that do not make hygiene and sanitation to be a top priority in their daily lives. Their psychological state of equilibrium (homeostasis) is a function of the convergence of their attitudes and serves to reinforce the values acquired as from childhood to adulthood. If at the start, there was a bad socio-political learning and training in matters or cleanliness, then late learning or sensitisation towards hygiene for such individuals would rather create an uncomfortable situation or a cognitive dissonance. Evidence of this is rife in Douala as such non-native immigrants from rural areas where hygiene and sanitation concerns are insignificant occupy the bulk of the dirty quarters.

In system analyses, dirty attitudes or habits find their justification in the fact that people have static relationships with the systems. In this way, when a household is living close to garbage, we observe that those who live there end up being completely assimilated or adapted to dirt. This is what we consider here there is a consonance with the environment. What we notice is that after a given threshold, these individuals do everything to remain in their static state by reducing their dissonance. In the best case, they claim that hygiene and sanitation is a preoccupation of the well to do, and the rich

residential quarters. Very few of them bother to find convincing arguments that can permit them to make favourable attitudes towards cleanliness without having to leave in a great psychological tension. This worst case is what we consider here as pessimist (Table 2). For various reasons their attitude components make them to be the most such campaigns to be unsuccessful. This shows the importance of a sensitisation campaign, but this should better be focused.

Table 2: Classification of Responses to Waste Perception in Douala Metropolis

Nature of Waste Perception	Class	Respondents	
		Number	%
Douala would never be clean no matter the efforts put or that may be put in	Pessimists, Defeatists	48	21
Douala could become clean with time if some efforts is made in that light	Probabilists, Possibilists	163	71
Douala would become clean immediately with even a minimum effort	Optimists, Progressive	17	8

Table 2 reveals that the group that perceives an irreversible doom for Douala constitutes about a fifth of the sampled population. Four fifths believe the problem of city waste not as an everlasting predicament. They hope a solution was eminent because the urban dwellers could change their attitudes especially if the DUC authorities initiate waste abatement measures that are realistic and take their views into consideration. There is therefore an overwhelming positive perception with a tendency towards optimism.

The classes of perceptions are based on varied opinions, which constitute the multiple facets of the causes of urban waste challenges of Douala metropolis. The myriad views could be grouped thus:

- A- Bad mentality and attitudes of the urban population,
- B- Legal and organisational laxity by public and council authorities,
- C- Poor management of waste material and finances, and
- D- The need for stringent and rigorous involvement

These reasons that explain the three types of perception classes vary (Table 3).

Table 3: Variation of Reasons Determining Waste Perception Types

Type	Reasons Determining	Respondents	
		Number	%
Pessimists	A	17	7.5
	B	14	6
	C	17	7.5
	D	0	0
Probabilists	A	40	17.5
	B	43	19

Optimists	C	16	7
	D	64	28
	A	0	0
	B	0	0
	C	1	0.4
	D	16	7
TOTAL		228	99.9

The table 3 above reveals that most city dwellers hope for a change in the city waste problem being solved if the public and council authorities usher in some meaningful change. The optimists wish that there should be no laxity on the part of the public authorities. A few blame the urban waste problem to the lack of a forceful intervention by public authorities to implement hygiene and sanitation regulations. It is evident from the reactions that the urban council has not been doing enough.

The strategies identified could be summarised into:

- A – Create and implement a system of garbage taxation
- B – Intensity hygiene and sanitation sensitisation strategy
- C – Create hygiene and sanitation inspectors or anti pollution observers
- D – Other measures

The results of the sample equally show a variation of tendency as a function of the type of perception (Table 4).

Table 4: The City Remedial Strategies for Various Waste Perception Classes

Class	City Remedial Strategy	Respondents	
		Number	%
Pessimists	A	16	5
	B	12	4
	C	14	4.5
	D	16	5
Pobabilists	A	49	16
	B	72	23.5
	C	68	22
	D	10	3.5
Optimists	A	16	5
	B	16	5
	C	16	5
	D	2	1
Total		307	99.5

Source: Fieldwork

The table shows a dominance of those who believe that a change could occur especially if the public authorities intervened in the form of a strong sensitisation (Table 4). This could use which if supported by urban folk and companies the DUC would reverse the unhygienic tendency.

Of all other measures, emphases in this study would be on the urban environmental education campaign because it is psychology pivoted. This is because the DUC and HYSACAM has put in place of a new waste strategy: “Operation Douala: Ville Propre” hoping for a participative implication of the civil society in the waste management. The cloth-banded messages across the major road axes and junctions of the town include;

- 1.- “DOUALA PEUT ELLE ETRE PROPRE?” i.e. Can Douala ever be clean ?
2. - “EDUQUER UN ENFANT POUR LA SALUBRITE C’EST EDUQUER UNE NATION” i.e. To each a child on hygiene and sanitation is to educate a nation
- 3.- “NETTOYEZ C’EST BIEN, MAIS NE PAS SALIR C’EST ENCORE MIEUX. LE CONTRAT DE CONFIANCE A TROIS” i.e. To clean up is good but it is better not to throw dirt. A three man mutual confidence agreement
- 4.- “LE CONTRAT DE CONFIANCE A TROIS. UN ENGAGEMENT DE CHAQUE HABITANT DE DOUALA AVEC LA COMMUNAUTE URBAIN ET HYSACAM” i.e. A three man mutual confidence agreement. The implication of each city dweller with the City Council and HYSACAM.
- 5.- “EQUIPONS NOUS DE POUBELLES APPROPRIEES. JETONS NOS ORDURES DANS LES BACS A ORDURES” i.e. Let us have the right dust bins. We should throw or dirt in the dust bins.
6. - “CONFIONS NOS POUBELLES AUX CAMIONS HYSACAM AU MOMENT DU PASSAGE DANS NOS QUARTIERS” i.e. Let us hand our garbage to the garbage vans of HYSACAM during their stopover in our quarters
- 7.- “LA PROPRIETE DE LA VILLE DE DOUALA EST L’AFFAIRE DE CHAQUE FAMILLE. LE CONTRAT DE CONFIANCE A TROIS” i.e. The cleanliness of the town should be the plight of every family. A three man mutual confidence agreement

Discussion Of Results

This new policy of household waste management seeks to engage a three-man “mutual confidence contract” between the DUC, HYSACAM and the population of the town of Douala. Considering the messages above, a number of observations could be made.

Housewives and children have largely engendered the problem of household waste and so are the prime targets. In the various messages that have been put up, the target population (family, parents, mothers, children and youths, schools and universities, and other types of establishments) has not been touched. Even though this list is not exhaustive, it can permit us to establish some priorities with outstanding messages like “each a child hygiene and sanitation is to educate a nation.” These types of messages should have the pride of place in the sensitisation. Where the training of people or the child to hygiene and sanitation is characteristic of the towns or other forms of human civilisation like Douala, then we can agree with Descartes that, each of us has a certain amount of awareness of cleanliness, which permits us at any time to be able to take advantage of any such education. It is at this level that the problem becomes crucial because a good urban cleanliness and health campaign seeks to establish upon every one, a basic right that also imposes upon the city dwellers an obligation of popular adherence and obedience.

In the building of the human being, cleanliness occupies a vital place when considered in terms of view of health, life and development. From the psychological and psychopathological point of view, the training of the child in cleanliness is of top priority in child and primary health care. For psychoanalysts like Freud (1981), Anna Freud (1975), Klein (1974, 1975) and Winnicott (1970; 1973) the acquisition of basic notions about learning constitute indispensable pivots in the building of the child. Cleanliness is a key preoccupation within the family of base orientation. It only becomes a collective preoccupation when the child is open to a culture that follows the process of socialisation and the building of the personality.

The present system of waste collection in Douala with innovations like the use of waste bags should make enough sensitisation and even advertisement, as it ought to be. Often, the waste collection calendar is not adhered to due to multiple reasons. At times traffic congestion and bad state of roads causes the garbage vans arrive at peak hours. How can we expect the population to be disciplined in such an improvisation? City dweller involvement in waste mitigation and environmental information sharing is possible through media slogans that have proven their worth like those used in Nkongsamba in 1998 during hygiene and sanitation campaign like “*Nkongsamba: ville propre, ville salubre*”. It also involves instituting monthly *Keep the town clean days* as other towns with Anglo-Saxon culture such as Buea, Kumba, Limbe, Mbengwi, Kumbo and Bamenda. For greater involvement, the government delegate, DUC mayors, sanitary inspectors, and the municipal waste police should go to the inaccessible quarters of the city. If the mitigation remedies proposed here are accepted through community participation by urban folk and companies, the DUC would easily reverse the unhygienic tendency even with minimum effort. In this participation, quarter heads should collaborate in setting up an inspection teams empowered by the DUC to identify and sanction defaulters according to clearly established rules. Streets of administrative and commercial quarters, as is the practice in Akwa, Bali, Akwa Nord and Bonanjo should be swept with the help of waste collectors and refuse workers. NGOs which donate garbage cans to schools, hospitals, markets and quarters as well as philanthropic groups who

invest time, money and material in this domain, should be encouraged and appreciated by the city council.

Considering slogan 3, 4 and 7, the messages made lack the realism in the mastery of the psycho-sociological theories because some terms are vague and high sounding and so is inaccessible to the average Douala city dwellers, the bulk of which were immigrants from rural West Province in the 1980s. It is doubtful how many people, out of the total population of Douala (estimated at over 3 million), are capable of reading and understanding the deep meaning of the messages written on street bands. Even if some do, they would not feel to be the addressee. Only few people with basic standards of education would understand terms like “contrat de confiance”, “engagement”, etc. The language used in this sensitisation should be clear, precise and short. The biggest weakness is that they are all only in French in town where the bilingual (French and English) components are close to equal. This means that either Anglophones are left out of the sensitisation or the messages are not meant for their adherence; but why even exclude part of the population?

The objectives should be analysed beforehand with reference to the different transactional analyses of Emile Berne that are: Parent, Adult and Child. This type of a methodology has the advantage that it can clearly focus the individual behaviour(s) to when the sensitisation messages are destined and from whom we expect positive behavioural changes. Successful adverts (which this sensitisation ought to reflect) are done on these bases.

A popular saying holds that, “the best teacher is an example”. By sensitising for a change of social behaviour by groups and the community, leaders and influential people should show the example. This would trigger actions, thoughts, and considering their social influence permit psychological mechanisms like imitation and the identification of new attitudes. Also, in the fight against dirt, street messages and billboards for mass sensitisation are inadequate.

Conclusion

One of the spillovers of urbanisation and industrialisation is waste accumulation and pollution in various forms. The rapid development of slums that cropped from the post 1970 years coupled with the economic crises to produce a near a near crises level of city garbage pollution at the close of the 20th century. The advent of multiparty politics in the 1990s gave Douala city dwellers a false feeling of laissez-faire in matters of hygiene and sanitation as the activities of opposition parties in the Douala challenged state authority. At the dawn of this new millennium, it has become incumbent upon every one to consider pollution as a hazard for all. The awareness now provoked by the DUC has bright hopes for the future if visible and rigorous council and government action follow them up. The bulk of the population believes that Douala can actually be clean immediately or in the near future should the council and/or government does an education campaign to change the obstinate mentality of the city folk on this issue.

We conclude that the individual and collective traits that affect city hygiene and sanitation are not isolated realities but are interacting and interdependent elements, which

from a system point of view, is made up three subsystems of the attitude system. It mutually influences each other and depending on the circumstances, one of the components could become more dominant. In other words, when we expect a change to take place in social behaviour by sensitising campaigns against waste, The Douala urban managers should take all these subsystem components to the centre of their considerations. This accounts for why the strategies led this far considered only one or two of the components and for this reason the most expected environmental revolution against waste has had very limited and ineffective impact.

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