ASSESSMENT OF PSYCHOLOGICAL AND SOCIOECONOMIC WELLBEING OF PEOPLE LIVING IN BLACKFLY AND OTHER VECTOR INFESTED AREAS OF CAMEROON

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Abstract

This study on the assessment of psychological and socioeconomic wellbeing of inhabitants of vector infested areas of Cameroon was informed by observed adverse conditions: significantly increased economic, health, and social down turns, as well as to establish base line data for environmental impact assessment. A total number of 400 persons from the infested areas (Ndonakem 100, Bafia 145, Massock 55, and Edea 100), comprising 271 males (68%), and 129 females (32%), aged between 15 and 60 (mean 36.47) participated in the study. Two Instruments used in this study were the Ryff's Psychological Wellbeing Scale (PWB), and the Interviewer Rated Multivariate Socioeconomic Wellbeing Assessment Scale (IRMSEWAS). Potgieter (2004), reported alpha-coefficient of 0.9 in a study with South African adults for PWB, and for this study, a full scale Cronbach alpha of 0.67 was obtained in a pilot test with adult Cameroonians in Younde. The reliability coefficient for the IRMSEWAS) was 0.68. Descriptive statistics were used to analyse the cross sectional data to answer the questions: 1.What is the psychological well-being profile of Cameroonians living in the Vector Infested Areas? 2. What is the socioeconomic well-being profile of Cameroonians living in the Vector Infested Areas? 3. What kind of relationship exists between psychological well-being, and socioeconomic well-being among residents in the infested areas? Data analyses indicate that in practical terms none of the respondents was enjoying psychological wellbeing. Also, none of the respondents met the criteria for high socioeconomic wellbeing. 3.75% were in the medium/middle socioeconomic wellbeing rating, while 96.25% rated low in socioeconomic wellbeing. People living in the studied areas were practically socioeconomically disadvantaged, and distressed. There is urgent need to improve on the psychological and socioeconomic wellbeing of inhabitants of these areas of Cameroon to forestall possible security challenges to the Country, as well as deepening poverty and its associated health and social pathological concomitants.

Key Words: Psychological Wellbeing, Socio-economic Wellbeing, Vector Infested, Cameroon.

Introduction

The Yaunde Initiative Foundation Cameroon has been involved in the concerted effort by the Government of Cameroon and her development partners to deal with disease vectors and ill-health conditions transmitted by them, especially the Black fly (Simuliidae). The most affected areas are communities along the Sanaga River, the longest and most economically relevant river in the country. The major trust of Government effort before now were vector control, prophylactics, and treatment of associated epidemic and endemic diseases especially Onchocerciasis and malaria. It must be recalled that at peak season, if spraying of insecticides is stopped or delayed, the average number of bites per person per day reaches 15,000, hence the very high disease load. However, in course of this worthwhile effort, the Yaunde Initiative Foundation Cameroon (YIF – C) kept recording significant level of vector control in most of the affected areas, but observed that people living in these areas interacted less than

other Cameroonians, and were also less vibrant. This observation fuelled Government's drive to obtain baseline data on the health (physical and Psychological), environmental, and socioeconomic well-being of the people in infested areas.

Indeed, as it is the case with all people experiencing endemic adverse situations all over the world, these Cameroonians record significantly increased economic, health, and social down turns. Permanent deformities that include dermatosis and blindness, as well as untimely death of loved ones, mass exodus of youth population and poor infrastructure occasioned by adverse investment atmosphere culminate in lowered overall standard of living and happiness.

It could be taken for granted that the foregoing showcases obvious mental health infringements, poverty, and social deficits among people living in the affected areas. Nonetheless, accurate assessment of the conditions is imperative since it is ineluctably tied to policy formulation, adequate intervention strategies, and monitoring of intervention outcomes. This particular study was therefore commissioned to scientifically provide reliable information (data) on the psychological, and the socioeconomic well-being of people in the affected parts of Cameroon.

Psychological and Socioeconomic wellbeing

The World Health Organization (WHO) gave a broad definition of human health in its 1948 constitution as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Ever since, health practitioners and researchers, especially psychologists have devoted enormous resources to give the definition the fullest practical expression, hence the development of assessment tools to measure different aspects of psychological (mental) health, and well-being. One approach; the predominant, is to measure the extent of prevailing psychological distress, that is, psychological (mental health) morbidity associated with physical pathology/pathogenic conditions, or other environmental stimuli, with the intention of providing therapy or psycho-prophylaxes. The second approach, a fast developing one, seeks to assess mental health status even when there may not be obvious pathology. This approach besides being able to detect pathology is especially useful in establishing base line information regarding the wellbeing of a target group. It is mostly used to build a health data base, upon which future comparisons could scientifically be made, in case of any significant physical, social, or indeed any environmental change, for instance; disasters, or developmental projects. This approach not only defines current emphasis of positive psychology, but situates in APA (2007)'s assertion that wellbeing is a state of happiness, contentment, low levels of distress, overall good physical and mental health, and outlook, or good quality of life.

Assessing eudaemonic wellbeing provides a multidimensional understanding of wellbeing beyond hedonia (subjective), and aligns with a comprehensive, more accurate understanding of wellbeing. Comprehensive models measures that try to combine different wellbeing constructs include Ryff's Psychological Wellbeing Scale, which encompass six distinct dimensions of wellness (autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance) and have a range of versions, including 84-item, 54-item, 42, item and 18-item (Ryff &

Keyes, 1995). The most recent measure tapping into the domains of Seligman's (2011) Wellbeing Theory is the PERMA Profiler – Short Form, a 15-item measure of positive emotion, engagement, positive relationships, meaning, and achievement (Butler & Kern, 2012).

The Warwick and Edinburgh Mental Wellbeing Scale (WEMWBS) is a 14-item measure designed to assess the most relevant dimensions of mental wellbeing in the general population, which is considered to be a measure that combines the hedonic and eudaemonic aspects of wellbeing. The WEMWBS measures positive aspects of mental health in the two weeks prior to the scale being completed. It is comprised of 14 positively phrased items, rated on a 5-point Likert scale, which cover both hedonic and eudaemonic aspects of wellbeing. Of these, Ryff's PWBS was developed in Africa, and the 42 item version seems to capture the diverse nature of well-being in everyday language among Africans.

Socioeconomic Wellbeing connotes the level of satisfaction derived from social and economic factors that interact within a system or society. It is a measure of the level of happiness, satisfaction and relaxation afforded by access to social and economic advantages. By this understanding, the level of, or the relative amount of advantages accruable to a person or group defines the extent of wellbeing. Wellbeing in this context is akin to welfare, happiness, and comfort. APA (2007) masterfully (inter alia) defines wellbeing as good quality of life. This condition of life (good quality) when accessed through social and economic advantages is accordingly referred to as socioeconomic wellbeing. In effect, an encompassing definition of socioeconomic wellbeing is 'a measure of the quality of life; the level of happiness, calm, and need satisfaction which a person or group has attained by the instrumentation of social and economic abilities, assets, merits, or wherewithal'.

Assessment of socioeconomic wellbeing has been a very important research interest to governments and scholars, especially psychologists and other social scientists because the variable is deemed to influence many other consequential variables like health, security, political engagement and productivity. Most researchers proxy socioeconomic wellbeing by socioeconomic status, to the extent that the predominant paradigms for measurement of socioeconomic wellbeing is the measurement of socioeconomic status (SES), consequently, discussions on prosperity, comfort, and development center on/ around SES. APA (2007) defines socioeconomic status (SES) as the position of an individual or group on a socioeconomic scale, which is determined by a combination of social and economic factors such as income, amount and kind of education, type and prestige of occupation, place of residence, and (in some societies) ethnic origin or religious background. Accordingly, APA highlights the main components to be measured:

Education

Education should be measured in single years completed up to 5 or more years of college, and should also include collection of information on whether the individual obtained a high school diploma or equivalent. Surveys should also collect information on degree attainment.

Income
Income should be asked for the individual survey respondent and for the respondent's entire family, as well as household income. The collection of income should include the measurement of total income, earned or unearned, from specific sources (e.g., wages and salaries, dividends and interest, Social Security, unemployment insurance, disability income, etc.)

Occupation
Occupation should be measured at a minimum by a set of two standardized questions: one question to collect occupation and one question to collect industry. Additional information about work tasks and employer should also be considered.

Family size and relationships
Given that family size and household composition are required to calculate poverty, and survey measures should collect information on family size and household composition in compliance with official federal poverty guidelines as issued and published each year.

APA also advices among other things that if one wishes to examine how a new policy affected the number of individuals living in poverty, one may look into how many people are living below federal poverty thresholds before and after it takes effect(APA,2017).

Earlier, Milenkovic, Vukmirovic, Bulajic, and Radojicic (2014) had favoured a multivariate measurement of socioeconomic development. These researchers scientifically proved that the traditional paradigm of measuring socioeconomic development which consisted of only three variables is deficient, since socioeconomic indicators should be seen as dynamic; changing with advancement in technology. Accordingly, the authors found that the addition of health and ICT to the assessment instrument will provide a large amount of cogent information.

The two rather classical authorities above are unequivocal about multivariate paradigm for assessing socioeconomic status/well-being, however they did not provide simplified scale for this. Obi-Nwosu, Nkot, and Nwafor (2017), defined socioeconomic wellbeing as a state of happiness and contentment emanating from the ability to harness and approximate social and economic resources. They further produced the first likert response type scale to measure socioeconomic wellbeing known as the Interviewer Rated Multivariate Socioeconomic Assessment Scale (IRMSEWAS). This 13 item scale has five core indicators that are measured through a few questions: Economy is measured by three questions, Education by two, Social interaction by four (including ICT), Health by three, and Local transportation is measured by a single question. The response choices are specific to the items though within the same range of 1 to 5. The interviewer is beforehand exposed to the components of each domain, which were derived mainly from APA (2017)

With the foregoing expose~ in perspective, and considering the target population of this study, the six factor Ryff's Psychological Wellbeing Scale was adopted as the psychological research instrument, while the Interviewer Rated Multivariate

Socioeconomic Well-being Assessment Scale was adopted for the assessment of socio-economic wellbeing

The following questions were addressed.

1. What is the psychological well-being profile of Cameroonians living in the Vector Infested Areas?
2. What is the socioeconomic well-being profile of Cameroonians living in the Vector Infested Areas?
3. What is the relationship between psychological well-being and socioeconomic well-being of the residents in the Infested Areas?

Related Literature

Psychological wellbeing (also psychological or mental health) is an important part of public health. It matters much for the life of humankind, as it engenders intelligence, adaptability, and vigor, which have impacts on accelerating economic growth. It may be referred to as a state in which a person can use his or her own abilities and cope with the normal stresses of life such that the individual can work productively and fruitfully, and is able to make a contribution to his or her community (Herrman, Saxena, & Moodie, 2004). It is more than the absence of mental illness and can be measured by several psychological and social indicators (e.g. life satisfaction, depression, anxiety, self-esteem, etc.) (Klanšček, Ziberna, Korošec, Zurc, & Albreht, 2014; Kovess-Masfety, Murray, & Gureje, (2004).

Psychological well-being (PWB) is symbolized by Ryff's six-dimension structure of positive psychological functioning. Ryff (1989) proposed autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance as core dimensions of well-being based on a review of mental health, clinical and life span developmental traditions and translating them to a scale (Leal-Soto, Dávila, & Valdivia, 2014; Peréz-Aldeguer, 2014; Chitgian-Urzúa, Urzúa, & Vera-Villarroel, 2013). These theoretically founded set of facets represents the core components of human thriving.

Socio-economic well-being on the other hand is a consideration of both the economic status and quality of life for people. Central to socio-economic wellbeing are: Inner Peace, Political stability and Strong Social Network (Ma.Kresna, 2015). Socioeconomic wellbeing is however believed to necessarily lead to improvements in human welfare in a society, as the people's material living conditions, such as food, housing, education, and medical care, are closely tied to the economic resources at their disposal and to the resources available to the government for the provision of public goods (e.g., Kotaporpi & Laamanen, 2010).

One of the theoretical undertones that explain the link between psychological wellbeing and socioeconomic wellbeing is **Tunnel effect theory** which argues that a greater degree of socioeconomic wellbeing can be interpreted as a sign of better prospects for economic developments and greater availability of increased human welfare (Marshall & Firth, 1999), which in turn raises the levels of wellbeing in a society.

Empirical findings clearly show evidence of association between an aspect of socioeconomic wellbeing known as socioeconomic status and psychological wellbeing or eudaimonic well-being. Socioeconomic status is often measured as a combination of education, income and occupation, and commonly conceptualized as the social status or class of an individual or group. It has an important impact on facets of PWB like mastery and self-acceptance. Studies show that SES is related to the internal locus of control (Mirowsky, Ross, & Van Willingen, 1996); similar to mastery, SES is also related to self-esteem – r = 0.08 in a general meta-analysis (Twenge & Campbell, 2002) and r = 0.17 in a meta-analysis of elderly people (Pinquart & Sorensen, 2000). Occupation is closely tied to socioeconomic level and job characteristics related to type of occupation, like autonomy and complexity, which are highly correlated with social class and are positively related to PWB (Kohn & Schooler, 1983 in Miller-Loesi, 1995). Some data also support that PWB is related to high SES (Ryff et al., 1999), a correlation of 0.3 was found in Portugal between education, SES and Ryff's scale score (Fernandes, Vasconcelos-Raposo, & Brustad, 2012).

In terms of the association between income and PWB or eudaimonic well-being, using data collected over 29 years, Kaplan, Shema, and Leite (2008) found that higher income and increases in income over time were associated with higher scores in purpose in life, self-acceptance, personal growth, and environmental mastery, and these scores were lower for those with a lower average income, lower increases in income, and higher reception of social benefits. Autonomy was unrelated to income level and changes (Kaplan et al., 2008).

Furthermore, studies in lay notions of well-being in Chile have found that the lower classes emphasize harmony, security and control of social milieu, whereas the upper classes emphasize more purpose of life and personal growth as aspects of happiness – sharing at the same time the importance of security and a controlled life (Programa de las Naciones Unidas para el Desarrollo [PNUD], 2012), High-status people have supposedly fulfilled more basic needs of security, control and relational (Ryan & Deci, 2001) and can therefore stress more self-realization and attribution of meaning, growth and autonomy in psychological wellbeing.

Overall however, one may expect that high social status (an aspect of socioeconomic wellbeing), defined as high income and belonging to the upper class, occupational status and high education should be related to PWB. SES is related to HWB and PWB, primarily because it is obviously related to a better quality of life. This is consistent with a direct effect of social status (i.e. high occupation, income, education and belonging to the upper social class) on PWB. Appraising these reports plausibly suggests that SES is related to psychological wellbeing, primarily because it is obviously related to a better quality of life.

Psychological well-being and violence/criminality

Crime is a salient societal problem, a very big threat to the survival and development of many societies. It is a societal vice associated with harm: harm to individuals, destruction of property, and the denial of respect to people and institutions. Crime has clear costs for its victims, and might also cause considerable harm to other local people

who fear being victims in the future. Crime has been known to discourage investment, reduce competitiveness and create uncertainty and inefficiency (Detotto & Otranto, 2010). Crime not only leads to both material and immaterial costs for those who have become victimized but also burdens society as a whole with both material and immaterial costs.

Related literature has investigated the effect of crime on well-being both between and within countries (Arvin & Byron, 2012; Katz et al., 2001). While between-country studies have focused mostly on the relationship between economic (financial) crime and well-being, suggesting that countries with relatively higher levels of corruption, organized crime, and property rights violation report relatively lower levels of life satisfaction, within-country studies have focused mostly on the negative impact of local crime on wages, and on property prices (Braakmann, 2008).

Method

Participants

A total number of 400 persons from the infested areas (Ndonakem 100, Bafia 145, Massock 55, and Edea 100), comprising 271 males (68%), and 129 females (32%), aged between 15 and 60 (mean 36.47) participated in the study. 54 participants were aged 15 – 20 (13.5%), 330 participants were aged 21 – 45 (82.5%), 15 were aged 46 – 60 (3.8%), and 1 participant was aged above 60 years (.2%). Multistage sampling was adopted: simple randomization to select the locations, and purposive sampling to select the participants.

Inclusion criteria were: having lived in the affected area for not less than 10 years, and being able to understand French language well.

Instruments

Two Instruments used in this study were the Ryff's Psychological Wellbeing Scale, and the Interviewer Rated Multivariate Socioeconomic Wellbeing Assessment Scale (IRMSEWAS).

Ryff's PWB scale was predicated on the philosophy that the goal in life is not just feeling good, but is more about living virtuously: having positive relationship with others, personal mastery, autonomy, a feeling of purpose in life, and personal growth and development. Psychological wellbeing is attained through achieving a state of balance affected by both challenging and rewarding events in life. Ryff therefore operationalised psychological wellbeing through the six factors of: Autonomy, Environmental Mastery, Personal Growth, Positive Relations, Purpose in life, and Self-acceptance.

Each subscale has 7 items. It is possible to determine the score for each of the subscales as well as determining the overall PWB of an individual (Ryff, 1989b). Responses to negatively scored items (-) were reversed in the final scoring procedures so that high scores indicate high ratings on the dimensions that were assessed. Least possible domain score is 7, while highest possible is 42. The raw scores were used in the analysis of the data. A total mark can be calculated to determine the general level of well-being.

The higher the mark the greater the person's psychological well-being. The criteria (domains) as explained by Seifert (2005) are:

1. Autonomy: High scores indicate that the respondent is independent and regulates his or her behavior independent of social pressures. *High scorer:* Is self-determining and independent; able to resist social pressures to think and act in certain ways; regulates behavior from within; evaluates self by personal standards.
   Low scorer: Is concerned about the expectations and evaluations of others; relies on judgments of others to make important decisions; conforms to social pressures to think and act in certain ways.
2. Environmental Mastery: High scores indicate that the respondent makes effective use of opportunities and has a sense of mastery in managing environmental factors and activities, including managing everyday affairs and creating situations to benefit personal needs. *High scorer:* Has a sense of mastery and competence in managing the environment; controls complex array of external activities; makes effective use of surrounding opportunities; able to choose or create contexts suitable to personal needs, and values. *Low scorer:* Has difficulty managing everyday affairs; feels unable to change or improve surrounding context; is unaware of surrounding opportunities; lacks sense of control over external world
3. Personal Growth: High scores indicate that the respondent continues to develop, is welcoming to new experiences, and recognizes improvement in behavior and self over time. *High scorer:* Has a feeling of continued development; sees self as growing and expanding; is open to new experiences; has sense of realizing his or her potential; sees improvement in self and behavior over time; is changing in ways that reflect more self-knowledge and effectiveness. *Low scorer:* Has a sense of personal stagnation; lacks sense of improvement or expansion over time; feels bored and uninterested with life; feels unable to develop new attitudes or behaviors.
4. Positive Relations with Others: High scores reflect the respondent's engagement in meaningful relationships with others that include reciprocal empathy, intimacy, and affection. *High scorer:* Has warm, satisfying, trusting relationships with others; is concerned about the welfare of others; capable of strong empathy, affection, and intimacy; understands the give and take of human relationships. *Low scorer:* Has few close, trusting relationships with others; finds it difficult to be warm, open, and concerned about others; is isolated and frustrated in interpersonal relationships; not willing to make compromises to sustain important ties with others.
5. Purpose in Life: High scores reflect the respondent's strong goal orientation and conviction that life holds meaning. *High scorer:* Has goals in life and a sense of directedness; feels there is meaning to present and past life; holds beliefs that give life purpose; has aims and objectives for living.
   Low scorer: Lacks a sense of meaning in life; has few goals or aims, lacks sense of direction; does not see purpose of past life; has no outlook or beliefs that give life meaning.

6. Self-Acceptance: High scores reflect the respondent's positive attitude about his or her self. *High scorer:* Possesses a positive attitude toward the self; acknowledges and accepts multiple aspects of self, including good and bad qualities; feels positive about past life.
   Low scorer: Feels dissatisfied with self; is disappointed with what has occurred with past life; is troubled about certain personal qualities; wishes to be different than what he or she is.

The reliability of the subscales is good, with Cronbach alphas ranging from 0.77 to 0.90 (Van Dierendonck, 2004). A Cronbach alpha of 0.600 is normally accepted to indicate the validity and reliability of a measuring instrument. According to Potgieter (2004), an alpha-coefficient of 0.9 was found in a study with South African adults. Clarke, Marshall, Ryff, and Wheaton (2001) confirmed that factor analyses provided support for the 6-factor model, as conceptualised by Ryff. Wissing (2006), holds that the Ryff's Psychological Well-being scale shows a lot of promise within the complex South Africa context, and asserts that in the South African setting, where social wellbeing could be argued to be more important in the comparative collectivist cultural context than the usual individualist ideas of well-being, such as self-actualisation, the application of the PWBS of Ryff could be of immense value. For this study, a complete scale Cronbach alpha of 0.67 was obtained.

Psychological wellbeing in this study was rated in domains, and at three levels: from 1 – 21, 22 - 32, and 33 – 42 as low, middle, and high respectively.

The Interviewer Rated Multivariate Socioeconomic Wellbeing Assessment Scale (IRMSEWAS).
The IRMSEWAS is based on the conceptualization of socioeconomic wellbeing as 'a measure of the quality of life; the level of happiness, calm, and need satisfaction which a person or group has attained by the instrumentation of social and economic abilities, assets, merits, or wherewithal'. It is theoretically aligned to APA (2017)'s logico-empirical deductions on the components of socioeconomic status and class, as well as Milenkovic et al (2014)'s multivariate approach to the measurement of socioeconomic development.

It consists of five components (Domains) and a few questions (items) under each that assess specific target areas. For each question, the interviewer assesses the respondent based on description of his or her situation or condition on a scale that ranges 1 to 5, each expressing the quality and amount of access to the value represented by the item. The domains are:

1. Economy, which has questions on daily income, and employment
2. Education, which has questions on level attained by self, and next of kin
3. Social Interaction has questions on participation in: family, community, and religious meetings/activities, as well as use of ICT
4. Health, has questions on housing quality, hygiene, and access to Medicare
5. Local Transportation, which assesses intra and inter community land communication.

Scoring: IRMSEWAS items are scored 1 to 5, depicting the corresponding ratings. Possible highest score is 65, while the least possible is 13. The higher the score, the more wellbeing is assumed. For classification purposes, scores 13 to 39 depict generally low socioeconomic wellbeing, while 40 and above depict higher socioeconomic wellbeing. For researchers wishing to have a three level classification, 13 to 33 depict Low; 34 to 46 depict middle; while 47 to 65 depict high socioeconomic wellbeing.

Reliability:
Since the instrument was developed in a cognate environment (in Nigeria), only inter rater reliability was tested for this study, and it was 0.68, which was deemed adequate.

Procedure
Simple randomization was used to select the communities from which participants were sampled. The communities so selected are Ndonakem, Bafia, Bassa, and Edea. Prior to take off of data collection, Community leaders in each community were engaged to assist educate their people on the study, hence community assemblies consented to the exercise. Following this, the field research officers chose market days to collect data through purposive sampling technique.

The French translations of the scales were administered to the participants on individual basis. Each respondent responded to the IRMSEAS, then to Ryff's PWB scale. At the end of two weeks, field exercise was completed, then data collation and analyses followed.

Being an indefinite population, the Scott Smith (2013)'s formular [Z(value)^2 X SD(1-SD)/margin of error^2 = n] for sample size was used to determine the least adequate number of participants, which came to 384. By purposive sampling however, after data cleaning, 400 persons fully participated.

Design and Statistics
This was a survey study that sought to establish base line data. Collection of data was cross sectional, and descriptive statistics used to interpret same.

Results
Table 1
Distribution of Participants by Locality, and Age group

Locality	No.	%	Age group	No.	%
Eton	100	25	15 -20	54	13.5
Bafia	145	37	21 – 45	330	82
Bassa	55	13	46 – 60	15	3.7
Edea	100	25	Above 60	1	0.3
Totals	400	100%		400	100%

From the table above, out of 400 participants/respondents, Eton and Edea residents were each 100 or 25%; residents of Bafia were 145 or 37%, while residents of Bassa were 55, or 13%. As for age group, out of the 400 respondents, 54 or 13.5% were aged

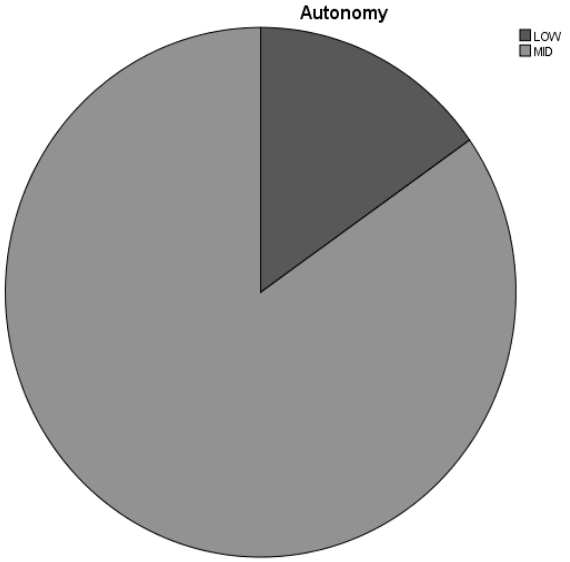
between 15 and 20; 330 of 82% aged between 21 and 45; 15 or 3.7% were aged between 46 and 60, while only 1 respondent or 0.3% was aged above 60.

Although the distribution may seem skewed in favour of 'youths' since age range 15 – 45 had a cumulative of 384 of the 400, or 95.5%, this is most likely because the instruments were administered in French, also, the world over, younger persons are more enthusiastic about the future which they believe belongs to them so they willingly participate more in environmental and social research. It may also represent a reflection of health status (older people may have been weighed down by disease and deformities), and low life expectancy due to disease burden. However, for this study, this could be a positive development since information/data obtained could be very useful in follow up studies (longitudinal sense)

Analyses of PWB Data

Table 2
Autonomy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LOW	61	15.3	15.3	15.3
	MID	339	84.8	84.8	100.0
	Total	400	100.0	100.0	

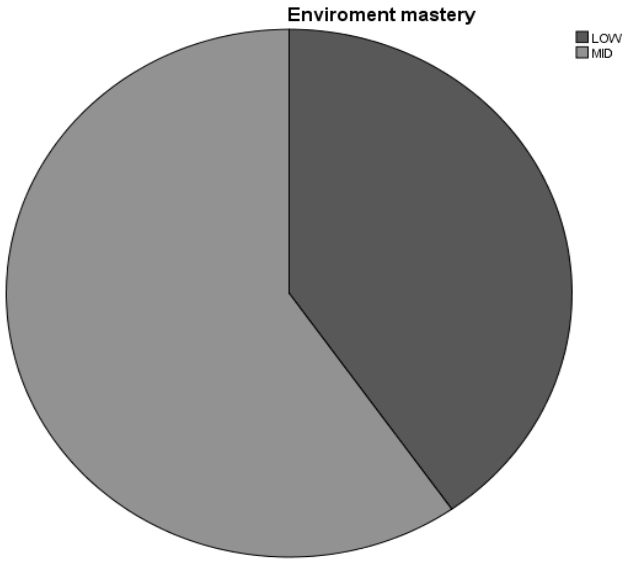


The table and Chat above shows that none of the sampled persons was high in autonomy. 15.3% were low, while 84.8% were at middle level.

Table 3

Environment mastery

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LOW	161	40.3	40.3	40.3
	MID	239	59.8	59.8	100.0
	Total	400	100.0	100.0	

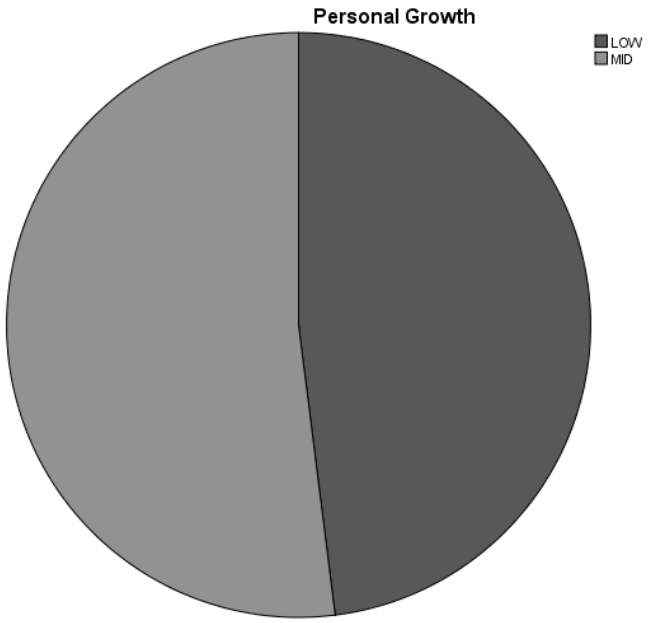


From the table and chat above, none of the sampled persons was high in Environmental Mastery. 40.3% were low, while 59.8% were at middle level.

Table 4

Personal Growth

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LOW	192	48.0	48.0	48.0
	MID	208	52.0	52.0	100.0
	Total	400	100.0	100.0	

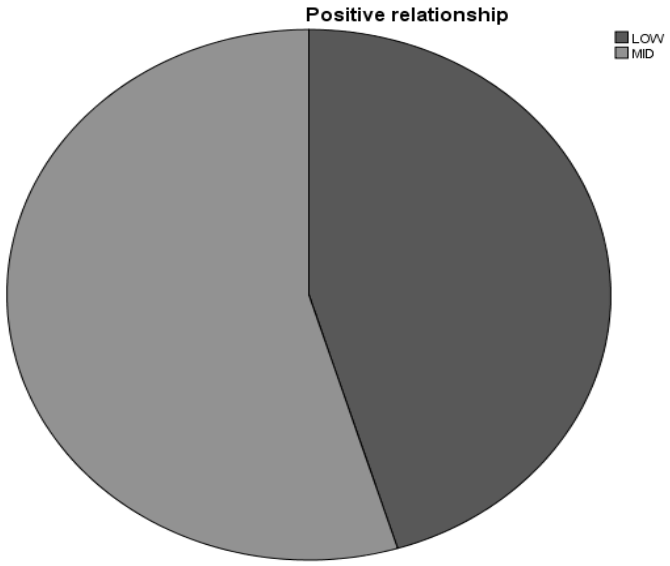


From the table and chat above, none of the participants was high in Personal Growth. 48.0% were low, while 52.0% were at middle level.

Table 5

Positive relationship

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LOW	181	45.3	45.3	45.3
	MID	219	54.8	54.8	100.0
	Total	400	100.0	100.0	

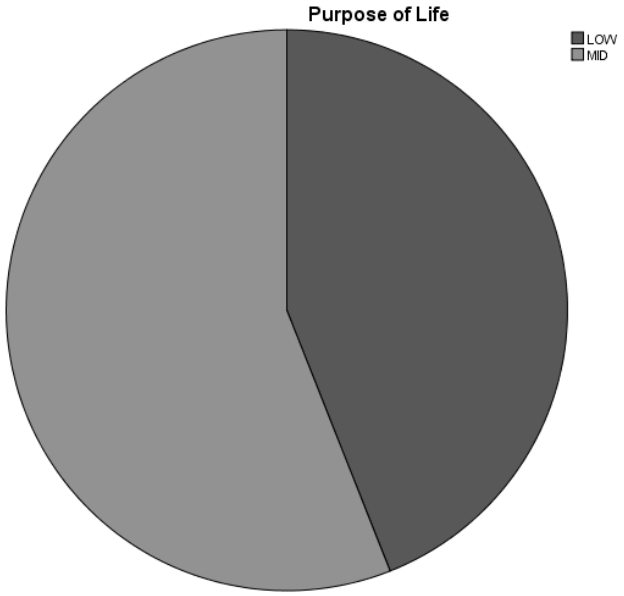


From the table and chat above, none of the participants was high in positive relations. 45.3% were low, while 54.8% were at middle level.

Table 6

Purpose of Life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LOW	176	44.0	44.0	44.0
	MID	224	56.0	56.0	100.0
	Total	400	100.0	100.0	

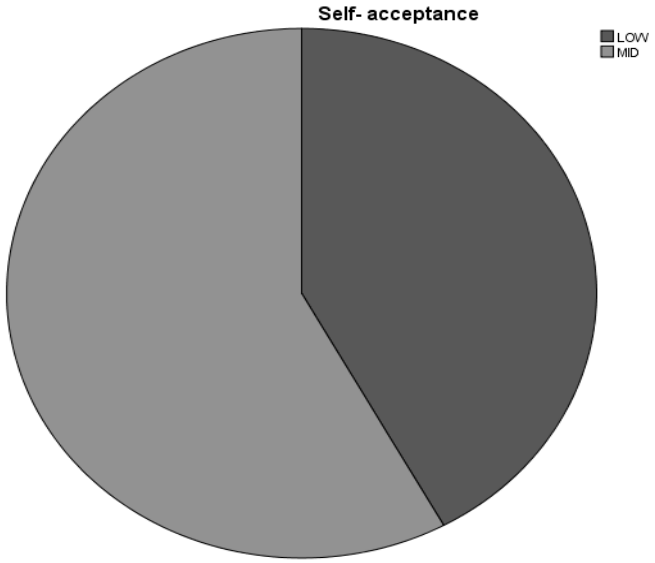


From the table and chat above, none of the participants was high in purpose of life. 44.0% were low, while 56.0% at middle level.

Table 7

Self- acceptance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LOW	168	42.0	42.0	42.0
	MID	232	58.0	58.0	100.0
	Total	400	100.0	100.0	



From the above, none of the participants was high in Self-Acceptance. 42.0% were low, while 58.0% were at middle level.

Table 8

Cumulative Mean Scores: PWB		**No.**
Autonomy	**22.54**	**400**
Env. Mastery	**21.80**	**400**
Personal Growth	**21.70**	**400**
Positive Relations	**21,86**	**400**
Purpose in life	**21,73**	**400**
Self-acceptance	**21.75**	**400**

The table above shows the cumulative mean scores. Juxtaposed with the other PWB tables, it is apparent that the respondents who were classified as middle level PWBs were on the average less than one point above the low PWBs. In practical terms therefore the respondents were not enjoying good physical and mental health: their quality of life is low.

Interpretation of Psychological Wellbeing Assessment, and Socioeconomic Wellbeing Assessment results

From the data analyses above, it can be posited that residents in the black fly/vector infested areas of Cameroon are generally not happy enough with their living conditions. The environment is stressful, and the economy is poor.

Table 9
Descriptive statistics for Socioeconomic Wellbeing
Key: N = number, P = Participants, H = high, M = Medium, L = low, and SEW = **socioeconomic wellbeing.**

Locality	N of P.	%	H	%	M	%	L SEW	%
Eton	100	25	nil	0	5	5%	95	95%
Bafia	145	37	nil	0	2	1.4%	143	98.6%
Bassa	55	13	nil	0	nil	0%	55	100%
Edea	100	25	nil	0	8	8%	92	92%
Cumulative:	400	100	0	0	15	3.75%	385	96.25%

Table 9 shows that none of the 400 respondents met the criteria for high socioeconomic wellbeing. 15 out of 400 that is, 3.75% were in the medium/middle socioeconomic wellbeing rating, while 385 out of 400, representing 96.25% were rated low in socioeconomic wellbeing. Edea, Eton, and Bafia had 8%, 5%, and 1.4% respectively of their residents that reached the middle socioeconomic rating.

The data above strongly portrays Cameroonians living in the Black Fly infested areas as poor and socioeconomically distressed, and as people in dare need of intervention.

Discussion of Results, and Conclusion

84.8% of respondents were in the middle level Autonomy, suggesting that majority of the population may be bold enough to stand on their own in many instances but not all the time. It may also mean that most may under pressure yield to persuasion, since it is only people very high in autonomy have been found to be able to resist social pressure. One may argue that the seeming high level of 'semi-independent' persons is a product of competition for scarce social and economic resources: survival instinct/pressure reduces conformity to norms and increases self-preservation behavior.

59.8% were middle level, and 40.3% low in Environmental Mastery, suggesting that about 40% of the inhabitants are not able to manage their daily lives within the context of the environmental challenges, while almost 60% are struggling to cope with the challenges with difficulty. It implies that inhabitants feel so overwhelmed by the challenges that they are not able to harness resources within the environment to better their prospects. This may be a function of vector bites and associated diseases, which reduces significantly human energy, and the number of hours of work. It could also be resultant of low education and consequent lack of requisite skills needed to manage daily challenges, and control the environment to personal advantage.

Personal growth measures sense of development and achievement, as well as ability to develop advantageous attitudes and behaviour. 48% were low in this wellbeing measure, while 52% were in the middle category. Not a person got to the 'high level'. This presages low sense of improvement/achievement, and unsatisfactory level of motivation to explore/exploit new options. This condition may have emanated from poor skills, illogical comparisons, or years of unrewarded hard work. In turn the condition precedent might be unfriendly physical and social environment.

Positive Relationship is a measure of social warmth, affection, and prosociality. No one measured high here. 54.7% were middle level while 45.3 were low. The general impression here is that inhabitants are empathic, desire communality and affection, they make effort to accommodate one another, including necessary sacrifices, but many fail to achieve a good number of close relationships. Perhaps, economic pressures preclude social interests, and prosociality. This possibility seems implicit considering the dominance of the early adults in the sample: people at the stage of building themselves and family; including care of aged and debilitated relatives. Unfortunately, this condition further complicates both mental health and economic improvement, since poor positive relations tantamount to deficient social support.

For the Purpose in Life domain, 44% and 56% of the population measured low and middle levels respectively, which is almost the same picture with positive relations. It is persuasive that more inhabitants have not lost faith in their tomorrow. Many inhabitants are willing to work, and are working hard to make life more meaningful and enjoyable however some seem to have given up the struggle; they lack necessary sense of direction and intrinsic motivation. For people in the low level, they live one day at a time. They are more likely to be vulnerable to maladaptive and non-normative behaviour. Among possible predisposing factors to 'low purpose in life', are repeated failures, and low level education.

Self-Acceptance is a measure of one's satisfaction with whom he or she actually is. Low self-acceptance defines dissatisfaction with self, a desire to become someone else, and low confidence. 42% of the respondents were low scorers. 58% were mid-level scorers, depicting mixed feelings about self, not completely happy with self, and wish that many aspects of their lives could change. Self-acceptance may be influenced by sense of autonomy, social engagement, morality, and a sense of achievement.

Implications of the study

Result of socioeconomic wellbeing assessment portrays 96.25% of the population as low. Therefore, juxtaposed with the psychological wellbeing assessment result, the picture is that of a poor and unhappy people. This study has produced a dependable data set on which the Government can base her public policy on health and poverty alleviation. It will also serve the interest of future researchers (and the Government) who may be interested in measuring the success of Government interventions in the areas studied.

It is expedient to note that scholars have found strong correlations between psychological distress, poverty, and insecurity. Positive correlation also exists between psychological distress and low productivity. This implies that there is urgent need to improve on the psychological and socioeconomic wellbeing of inhabitants of these areas of Cameroon to forestall possible security challenges to the Country, as well as deepening poverty with its associated physical and environmental health challenges.

Recommendations

Government should open up the affected areas through citing of trade and industry ventures, and institutions that are capable of attracting investors and other persons to these areas. Increased investment in education and health is cogent.

A primary/precedent consideration is to keep the vectors, especially the black fly under control, and to institute massive psycho-education and counseling of the inhabitants so as to significantly improve their psychological wellbeing to the level that they can become creative, and actively involved in shaping their environment for good.

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