

Incentives and Disincentives for Young Health Researchers in Cameroon

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ABSTRACT

The process of brain drain from developing countries is well documented. Retaining young scientist in the country is a major challenge to the health sector as globalization allows interactions across borders to become increasingly fluid, thus favoring the migration of health researchers. In the present paper, we analyzed the degree of motivation of young health research scientists using the Maslow's hierarchy of needs, and giving a score to each of the levels of needs according to predefined institutional clues. Clues were rated as achieved, not achieved or unclear. The highest score of 3/5 is reported for clues related to belongingness and self actualization. The bulk score is rated at 11/24, denoting a poor motivation of young scientist to work within the health sector. Most young researchers lack financial resources to satisfy their basic physiological needs, and to purchase the most needed supplies and research equipment. Most of them have evaded the public sector to more financially rewarding informal and private sectors, within and out of the country. Recently, major incentives have been developed nationally and at the university level to create role model and stimulate scientific research. More scientists are called upon to participate in strategic planning, to negotiate collaborative research, and to feature as consultants in their various areas of expertise and in matters of national interest. On the basis of merit, some (2) were awarded medals (Knights of the National Order of Valor) during the 2003 University Days for Science and Technology. The level of incentives provided to scientist to work in Cameroon is fair, and could be improved by providing young scientists the opportunity to win grants and networking that could be used to strengthen their research capabilities and peer collaboration. This could help alleviate the tendency for the young scientist to migrate. There is also a need for an improved valuation of the health research scientist by policy makers, donors and other agencies funding health research.

Introduction

In many African countries, the Structural Adjustment Programme of the 1990s resulted in significant restructuring in the public service with negative effects on education, social services and health sectors (Sanders *et al.*, 2004). The situation favoured the migration of health professionals, including academics and researchers from the public to the private sector, and from Africa to wealthy nations (Hyder *et al.*, 2003; Sadana and Pang, 2003). In Cameroon, recruitments within the public sector inclusive of research were frozen. The devaluation of the local currency in the 1994 led to a decrease in the purchasing power and difficulties in tax collection by government with deleterious consequences on the regular payment of salaries. The concurrent social tensions linked to the implementation of multiparty politics that took place in the 1990s exacerbated the situation. Though the growth rate of the Cameroonian economy stabilized at 4-5% over the last decade, it kept short in relation to the objectives of the improvement of the income and living standard of the population. Projections indicate that Cameroon may not be able to reach the Millennium Development Goals by 2015 (Commission économique pour l'Afrique, 2004). Health research contributes to societal benefits through the direct cost savings to the health care system and the benefits of a healthy workforce to the economy. Commercial development of health research-based products may also result in economic growth with intrinsic gains to society and improved quality of life (Buxton *et al.*, 2004). Developing countries generally lack a continuous support for research activities including basic infrastructure and incentives for research activities. Researchers are undervalued and their salaries are low, a situation that reflects the low status accorded to scientific production (Langer *et al.*, 2004). Health research in Cameroon covers a wide range of topics, ranging from basic biomedical studies to molecular Parasitology, parasite and vector genomics through implementation research. Research topics are determined by the researchers who are guided by donor oriented priorities. Parallel to global health research priority setting and resources mobilization, there is a need for countries to define their own essential national research agendas to ensure that international health research is appropriate to country specific health needs (COHRED, 1990). There have been informal but consistent claims from researchers not being able to meet their basics needs or career goals (Abena Obama *et al.*, 2003). This may lead to loss of motivation. If the current trend of the Cameroonian health research and development sector is maintained, the country may not respond adequately to its essential national health research needs. The performance of the health research sector is dependent on the production of its human

resource which is related to the degree of motivation and satisfaction with the working environment. In the present paper, we used Maslow's hierarchy of needs to assess the level of satisfaction of young health research scientist working in Cameroon, so as to propose corrective actions to stakeholders of health research, including the researchers, policy makers and donors. Maslow's hierarchy of needs offers the tools used to assess individual needs within organizations, and we are of the opinion that its main principles are applicable to the health research worker. Maslow's hierarchy of needs relies on 5 levels of needs that are the physiological needs, safety needs, belongingness, esteem and self actualization. These factors are known to be determinants of motivation and worker's performance (Griffin, 1984).

2. Methodology

Following a brief introduction on the motive of the study, 10 consenting young researchers (aged less than 35 years) from three different public universities were invited to a group discussion in October 2004. Subsequently, in-depth interviews with 10 other researchers from public research institutions were carried out. The general flow of the in-depth interviews and group discussion addressed the various items related to the indicators of physiological needs (level 1), safety (level 2), belongingness (level 3), esteem (level 4) and self actualization (level 5) needs. Questions were based on institutional clues, as they relate to motivation.

Items related to the physiological needs focused on the adequacy of food, air and the working environment. The assessment of safety needs focused on the security of the physical and emotional environment inside and outside work. Belongingness needs addressed issues related to social processes and acceptance by peers. Esteem needs were related to recognition and respect. Self-actualization needs focused on the potential for individual growth and development.

For each of the items discussed, the conclusions were drawn for the group discussion when participant reached a consensus. Topics addressed covered institutional and environmental variables that affect the motivation of worker for each level of needs (Griffin, 1984). A score of "1" was given when the clue was achieved and a score of "0" given otherwise.

A total score was obtained by adding up all scores to determine the end degree of motivation. The data collected during in-depth interviews were transcribed and processed using content analysis.

3. Results

1. Adequacy of the working environment

1.1. Wages and fringe benefits

The wages are low compared to the cost of living, and health researchers are poorly motivated by their normal income. Most of them have developed alternative survival practices which reduce the time that should otherwise be devoted to research activities. Some of them have left the country for the search of more paying jobs. Others have developed interest in the private and /or informal sector (*Enseignants: l'Exode vers l'Administration: Cameroon Tribune Newspaper N°8448/4647 Tuesday 4 October 2005*).

Physical infrastructures for health research

The physical infrastructures for health research are found in the 6 State Universities, and in research institutes. The Institute of Medical Research and Studies of Medicinal Plants (IMPM) is the most known, but it is in a state of decadence for lack of maintenance and funding for research activities. As of 2006, the physical infrastructure for research has neither grown nor been renovated over the last decade.

Financial resources and equipment for health research

Because of the limited financial resources available to them, health researchers in Cameroon may not compete with the international community on top of the line basic research. In order to make use of their unique asset of living in endemic areas, the field research component of their activity is often prominent. The most needed transportation equipment, information technology equipment, and financial resources to support field research are lacking. A researcher from the School of Education narrated : *There have been a few initiatives such as "CARIMA (Centre Africain de Recherche en Informatique et Mathématiques)", "Young researchers mobility" initiatives, but they just are not long lasting.*

Comfort, restrooms, lighting, ventilation

Power shortages are frequent in Cameroon nowadays. These events are related to the drought that caused a decrease in the velocity of the Sanaga River which supplies most of the electric power in the country. The shortage may lead to loss of valuable samples that are kept in freezers or fridges. This could lead to demotivation of young researchers who are dedicated to their work. A researcher from the School of Education narrated: "*(...) No. The working environment of young researcher is not comfortable. They do not have good restrooms, their offices - for those who have - is not well ventilated. There have been promises of initiatives to*

provide comfortable environment for research, but they are not brought to a successful implementation.”

2. Safety Needs

Job security

The Cameroonian public service to which health research scientists belong offers job security and continuity. Except for aggravated misdoings, the public servant's job is secure, even under poor job performance. This job security is quite attractive, and is a highly motivating factor for the returning nationals after training in the developed world. Can the job security and continuity compensate the low wages of the young researchers?

Table 1: Degree of fulfillment of Organizational Indicators of Maslow's Needs by selected young Health Research scientists in Cameroon (Yaounde, November 2004)

organizational Indicators of need	Level of achievement		
	Achieved	Not achieved	Undetermined
1. Adequacy of food, air in the work environment			
Physical infrastructures		X	
Financial resources and equipment for research;		X	
Comfort, restrooms,		X	
lighting, ventilation		X	
Subtotal score 0/5			
2. safety and security of the physical and emotional environment			
Job security and continuity	X		
Existence of a grievance system to protect against arbitrary supervisory actions			X
Adequate insurance for security against illness		X	
Adequate retirement benefits packages	X		
Provision of income in later life	X		
Subtotal score : 3/5			
3. Belongingness Needs, Social processes, and acceptance by peers			
Family and community relationships outside of work	X		
Friendship on the job			X
Social interactions at the work site	X		
Implementation of a spirit of team work		X	
Sensitivity to family problems	X		
Subtotal score 3/5			
4. Esteem Needs, Recognition and respect			
Issue of letters of congratulation	X		
Financial incentives, spacious office, Nomination			X
Allocation of medals	X		
Provision of more challenging jobs and other opportunities			X
Subtotal score 2/4			
5. Potential for self actualisation: continued individual growth and development			
Participation in decision-making	X		
Participation in strategic planning	X		
Participation in continued education activities (fellowships, collaborative research, consultancies, ..)	X		
Greater autonomy			X
More responsibilities			X
Subtotal score 3/5			
TOTAL SCORE: 11/24			

Protection against arbitrary supervisory actions

The Cameroonian law provides for measure to protect the health researchers against arbitrary supervisory actions. This law is however difficult to enforce, and young scientists are sometimes abused by the system which was suppose to nurture them and help in the professional development process. A 38 years old researcher, Faculty of Science-University of Yaounde I narrated *“When your boss arbitrarily punishes you, you can only bear with it. You have nothing to do but to escape, to run away ...”*

Abuses are in the form of transfers to research-hostile localities where it is difficult to have access to literature, collaborators and to carry out research activities. Other forms of abuse take place whereby the researcher is prohibited to work in given laboratories or he has difficulties obtaining administrative clearances. These practices known as “inertia” have been recognized as a disincentive to public service and research performance by top ranking decision-makers (*1st January Issue of Cameroon Tribune Newspaper: Message of the Head of State to the Nation - 31 December 2005*)

Healthcare Insurance

The Cameroonian public has a mitigated perception and understanding of health insurance. This is probably related to the fact that the insurers historically seldom fulfilled their obligations in case of injury or damage. The insurance is often contracted on an individual basis. Young research scientists often fail to subscribe because of its high cost compared to their wages. A senior lecturer from the Faculty of Health Sciences narrated: *“The university system does not have insurance. Even if you are sick or if you die, it is your problem. There is no insurance.”*

Retirement benefits

The National Social Insurance Fund (Caisse Nationale de Prévoyance Sociale) is a public operated body that provides retirement benefits for contract based public service workers. For permanent workers, retirement benefits are paid by the Ministry of Budget and Finance. Workers pay a monthly premium through direct cuts on the salary. At the time of retirement, a bulk payment related to number of years of service is served. Following the bulk payment, a stipend is also paid to the retiring servant every trimester. The level of satisfaction with the system is not uniform as it is appreciated by some, but other find the process of acquiring the due unsatisfactory. A 40 years old researcher from the Faculty of Medicine & Biomedical Sciences narrated: *“The Ministry of Finance offer retirement benefits. You do have to fight and chase your own file before you can cash what you are due.”*

3. Belongingness Needs

Family and community relationships

Young researcher scientists working in Cameroon are able to enjoy family and community relationships. They are regarded as elite and moral role models. The family circle which is extended to cousins and uncles create a favourable entourage and enviable social environment that improves the quality of life through the social networks. This could be seen as incentive. However, the financial pressures that this environment creates on the researcher are disincentives for living in this resource limited setting. A senior lecturer from the University of Dschang narrated: *“The Community does not recognize or acknowledge the contribution of researchers to society. Research results are not valorized. There is no financial reward attached to the title and this does not motivate researchers.”*

Friendship on the job and team work

The researcher’s relationship at work and among peers may range from the very positive friendship to unhealthy competition. Positive relationships range from the personal to professional ties between researchers. Under these conditions, collaborative actions may yield high scientific productivity. Unfortunately, this type of relationship is rare. Young and middle aged research scientist often get into unhealthy competition, conflictive relationships, each trying to protect a specific field of expertise. This may be due to the lack of collaborative research initiatives and networking among researchers working within the same main theme. A researcher from the Faculty of Sciences (UY1) narrated: *“Most researchers work alone, in isolation. Sometimes, when you ask something like a document or equipment, your colleague will lie that he does not have. It is a pity...”*

Social interactions at the work site

Some young researchers get together in associations and networks. These networks provide an opportunity for the members to socialize. However, these are rare events which take place only when there is a planned professional activity, often funded by a foreign donor. A researcher from the Faculty of Sciences (UY1) narrated: *“There are no network of scientist. Networks are rare. People do not have those motives. Most associations and professional groups to which people belong are run from abroad...”*

Sensitivity to family problems

Institutions of the Cameroon public service are sensitive to workers' family problems.

Generally, this is in the form of financial, material or moral support in case of fortunate and unfortunate family events. The assistance may be formal and included in the law governing the institution. The young researchers that we interviewed had varied opinions. Some asserted that even though it happened, there are no clear operating procedures, a situation which gives way to arbitrary allocation of benefits. The following is the attitude of one of our respondents from the Institute of Medical Research “... *laughs...* *Even if you are listened to, you should consider yourself blessed. .. If they can hear your complains and pleas, then you must be one among many...*”.

4. Esteem Needs

4.1. Promotion and Letters of congratulation

The administrative promotion of researchers is done every two years, but the change of grade from assistant lecturer to senior lecturer to professorship requires scientific production. At times, some researchers have received letters of congratulations. However, these are rare events in the health research administrative system. Such letters are motivation factors and should be instituted. They could be written to researchers at the end of the thorough execution of a grant or project, when a good final report has been submitted. One of our respondents from the School of Education exhibited the following reaction: “*Since you have been working yourself, have you ever received any? As you have a computer, a shelf, a closet in your office, it means that your boss likes you a lot. Do you think that other chiefs do like that?*”.

Unfortunately, the system of promotion of lecturer is at times obscure, lacking transparent standard operating procedures. The situation gives way to many malpractices which discourages some young researchers. A young research scientist from the Department of Anthropology (UY1) narrated: “*The process of change of grade is blended with obstacles such as academic report, administrative report, scientific report, ... to which you must add the stealing or loss of the elements of the application file.*”

4.2. Financial incentives

Financial incentives are rarely given to researchers for good performance, and the present author has no knowledge of such an event.

There are however a few initiatives that have taken place of late, with the Cameroonian Academy of Science which rewards the best dissertation, and the best article each year. The Ministry of High Education is also undertaking a programme through which it offers support

to research teams. The latest support is in the form of information technology equipment. Even within the grants that are obtained from external funding bodies, there are often no provisions for financial incentives to researchers, despite the relatively large sums of money (compared to their income) that they are called upon to supervise and control. Attitudes towards these initiatives are varied, and one of our respondents commented: “ *The Programme for the mobility of young researchers awarded by the Ministry of High Education is not sufficiently motivating because the amount allocated is too small. Within the initiative one lecturer-one computer, you end up paying a lot more..* ”.

The low financial incentive that the young researcher receives locally also takes place in international collaboration where they are undervalued, despite their renowned credentials and experience. A researcher from the Department of Anthropology narrated: “*The recent activities with the OCISCA is a case where the contribution of Cameroonian researchers was undervalued...*”.

There are however some independent initiatives such as the Cameroon Academy of Science (CAS) which provides Annual Awards and Prizes for the best thesis and innovations in health sciences (Socpa A. personal communications).

4.3. Other Non financial incentives

Non financial incentives to health research scientists could include the award of larger working spaces, nomination, allocation of medals, provision of more challenging jobs and other opportunities. Some nominations to positions of responsibilities have been made taking into account the performance of the researcher. They offer greater opportunities for the scientist to organise their activities at a higher and more productive level. Unfortunately, in some cases, these nominations took the researcher off the bench, as they became so absorbed by administrative duties that they lost contact with research.

During the University Days for Science and Technology (2001), two scientists were awarded the medal of Knights of the National Order of Valour, which are highly regarded in the Cameroonian society. These were top ranking scientists. Even though they are not young, they are status models, and example that the young scientist could seek to emulate. Such rewards should be extended to young performing health research scientists. A researcher from the Faculty of Science narrated: “*A few researchers have received decorations, but this is rare. They offer those things but to workers of the private sector, civil servants of other sectors but education and research..*”.

5. Perceived potential for self-actualisation

Participation in decision-making and strategic planning

Involvement of young health research scientist in decision-making is getting higher and higher in Cameroon. They are being called upon to draft national programmes for disease control and to carry out operational research activities. These are motivation factors for young researchers. Some researchers are called upon to act as advisors to national and international bodies, in agreement with their national employer. These activities provide the researcher with most needed financial rewards. Unfortunately, only a few researchers benefit from these activities. A researcher from the Faculty of Science commented: *“This is for old professors, ...”*

Continued education activities

Young Cameroonian researchers are allowed to seek and undertake continued education activities. This is done through the participation in seminars, workshop, fellowships, ... Faculty and students exchange programmes are encouraged and supported to the satisfaction of young health research scientists. Awards for these activities are made annually, and the salary of the research fellow is maintained for the duration of the training as part of the contribution of the institution to the activity. However, these benefits are plagued by the inadequate exposure of young researchers to potential collaborators in Western and Southern countries, because of poor access to internet connection and access to information technology.

Greater autonomy, more responsibilities

Highly skilled researchers are allowed greater autonomy. They have the opportunity to develop and undertake research activities with minimal supervision. They may be given more responsibility. These factors are highly motivating for the researcher who find a favourable environment to think independently, and reach a level of fulfilment and self actualisation.

6. The Meaning of Maslow’s hierarchy of Needs : Towards the Next Generation of African Research Scientists

The lowest scores were reported for the physiological needs (level 1). The highest scores were reported for the belongingness (level 3), esteem (level 4) and self actualisation (level 5). Under conditions of poor satisfaction of the lowest level of needs, the positive effect of the satisfaction of higher levels of the hierarchical needs is spurious. The worker tends to revert rapidly to his physiological and survival needs through several evasion mechanisms (Griffin,

1984). Evasion mechanisms include migration from the health research sector to the private sector inside or outside of the country and engaging in lucrative tasks that may not require learned skills but offering better financial rewards among others. This leads to a waste of research time and unfulfilled expectations of the researcher whose training often cost much to the public service.

It has also been repeatedly emphasised that achieving the MDGs will depend on knowledge being applied to strengthen health systems (Horton, 2004). The process of embedding research into the national health systems requires competent indigenous scientists and a strongly supportive and enabling environment that will allow research communities to grow and deliver research goods. Although there has been remarkable progress over the past two decades, research capacity in the south remains one of the world's unmet challenges (Nchinda, 2002). Training is an essential step in capacity building, but retaining the researchers and maintaining their interest in health research remains a bigger challenge. Common problems cited are the dependence of African researchers on funds from research institutions and donors in developed countries, and the gross difference in salary scales between nationals and international entities (Wolffers *et al.*, 2002). It is often reported under those conditions that the payment of the salaries of nationals is the duty of their own state. However, the efforts devoted to research by health research scientists from developing countries do not often pair up to the compensation they receive from their national employers and therefore does not sustain their motivation. This situation was judged common to several countries that participated in the WHO capacity strengthening workshop on health research systems Analysis (Nairobi 11-13 October 2004). It is urgent that the physiological needs of the researchers should be addressed so as to provide a positive environment for the development of health research. The marginal living standard of scientists could be addressed by providing some incentives for the time devoted to manage and execute internationally funded research activities, or through national investment in direct salaries and other financial rewards. Non financial rewards may include letters of congratulations for outstanding research achievements. The national budgets should be redirected to express the political will in the strengthening of health research. There is a need to stimulate and foster the culture of research at the national level. The closure of the National Institute of Social Sciences that occurred in Cameroon in the late 1980s as a response to economic recess is a sign of undervaluation of research and a disincentive for the researchers.

Developing countries often forgo their primary responsibility for investing in health research. Taking this responsibility and assuring leadership in health research will enable them to develop indigenous capacity that responds to countries' own needs and priorities (WHO,

1996). It will be necessary that the national budgets be redirected to express the political will to strengthen health research. It is worth noting that the benefits of investing in health research may extend beyond the health sector to include gains in other sectors of the economy and poverty alleviation. Several countries such as India and Brazil that were, until recently, depending on international funding for a large part of their health research have become major producers and exporters of pharmaceutical and health technologies through their own well-focused investment in research, research infrastructure, and research governance (Kettler and Modi, 2001). In the Philippines, a former minister of health found that allocating 1% of all sources of government revenues for health-related activities could raise US\$ 18 million to US\$ 54 millions per year for a health research endowment fund (Lansang and Dennis, 2004). A stronger leadership and appropriation of health research needs to be developed in Cameroon and other developing countries in Africa, taking into account the spin-offs that health research could have on economic growth and poverty alleviation, towards the achievement of the Millennium Development Goals.

Conclusion

The motivation of young health research scientists remains a major challenge to the development of the health sector in Cameroon and in developing countries. The marginal living standard of health research scientists from developing countries could be addressed through the provision of incentives for the time devoted to manage and execute internationally funded research activities, or through national investment in direct salaries and other financial rewards. Non financial rewards may include letters of congratulations for outstanding research achievements.

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