



## USING HERZBERG'S TWO FACTOR THEORY TO DEVELOP A CONSTRUCT VALIDITY FOR MOTIVATION OF EMPLOYEES IN UGANDA'S NATIONAL AGRICULTURAL RESEARCH ORGANISATION (NARO): A PRELIMINARY ANALYSIS

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### Abstract

This paper attempts to explore how Herzberg's two factor theory can be used to validate what motivates employees in an agricultural research organization within the context of a developing country; Uganda. This is a preliminary analysis; based on the existing literature and information before the empirical findings are concluded. Agricultural Research Institutions, by their nature, present a unique context whose attempt to adopt traditional approaches or theories may post different results altogether. Our variables are constructs contained in Herzberg's theory and their variances, mean values, correlations, and factor analysis will be measured to validate the theory. We have conceived employee motivation as the dependent variable while hygiene and motivational factors constitute the independent variables. Employee characteristics will be tested as a moderator variable. A detailed methodological stance that the empirical study will adopt is presented.

**KEY WORDS:** Motivation of employees, Herzberg's two factor theory, construct validity, agricultural research, Uganda.

### 1. Introduction

Agricultural Research Institutions, by their nature, present a unique context whose attempt to adopt traditional approaches or theories of management may post different results altogether. Moreover, studies in Uganda on motivation of employee have mainly focused on areas of health, public service and education. The studies on education have focused on job satisfaction of university academia, secondary school teachers and staff in tertiary institutions (Namuddu, 2008; Odubuker, 2014; Oywak, 2002; Ssesanga & Garrett, 2005). Ssesanga and Garrett (2005) investigated job satisfaction among the University academics in Uganda and indicated in accordance with Herzberg's two factor theory, that interpersonal relationship, tenure, promotion and workplace influenced the context of job satisfaction. Hygiene factors such as reward, remuneration, however, were found not to be mutually exclusive and also affected the satisfaction continuum. Studies on motivation have discouraged generalization of findings as applicable in all situations and instead recommended for specific motivational studies (Alharji & Yusoff, 2011; Bassy, 2002; Bjorklund, 2001; Kuvaas, 2009; Malik & Naeem, 2012; Quartey & Attiogbe, 2013). We undertake a preliminary analysis of the relevance of Herzberg's two factor theory in the context of an agricultural research institute.

The history of management and motivation is interrelated and extends many centuries in the past. Motivation theories have emerged, aimed to illustrate the relationships among human behaviors, performance, job satisfaction and motivation. Among these theories are Maslow's needs theory and Herzberg two-factor theory of motivation. Maslow identified five levels of basic needs. These needs are hierarchically arranged; one need rests on the prior satisfaction of the previous, a more pre-potent need (Simons, Irwin, & Drinnien, 1987).

Underlying factors of motivation in agricultural research setting in Uganda has not been analyzed. Given, however, that Uganda's economy is agricultural based, it is important that these theories of motivation be validated in an agricultural environment. The proposed study seeks to close this gap by validating Herzberg's theory of motivation on research staff of NARO in Uganda. This paper is a theoretical exploration of literature and methodology for an empirical study intended to develop construct validity for motivation of employees in National Agricultural Research Organization of Uganda (NARO), using the Herzberg's theory. The empirical study will identify specific motivational factors that will be incorporated into the human resource practices of the organization which in turn would, assuming other factors are constant, enhance the staffs' capacity to deliver on NARO objectives.

### 2. The Context and Problem statement

NARO's mission is to generate and disseminate appropriate, safe and cost effective technologies through its various national and zonal based Agricultural Research Institutes (NARS Act, 2005). NARO as a public institution, charged with agricultural research in Uganda, should have motivated staff to enable improved work performance, efficient generation of technologies and achievement of its goals embedded in the national aspirations of economic growth, food security and poverty eradication. NARO has 15 research institutes categorized as either a National Agricultural Research Institute (NARI) and Zonal Agricultural Research and Development Institute (ZARDIs); and a NARO Secretariat. The strength of NARO is built on, among others, availability of technical agricultural expertise. Herzberg's two-factor theory for motivation, a widely renowned practical approach towards motivating employees, has been identified as appropriate construct validity for the study. NARO research staffs have various categories of employees that include researchers,

research managers, and technicians whose motivation is expected to vary according to the Herzberg's two factor theory. The outcome of the study would help NARO management to make a "mix" of these factors for improved performance of the research organization. NARO should have sufficient motivated staff for improved performance, efficient generation of technologies and achievement of its goals. Since its inception in 1994, a total of over 974 staff have left the organization and of these 225 are research scientists who have resigned, absconded or terminated their contracts (NARO, 2014). DFID (2007) questioned the motivation and commitment of agricultural researchers of Uganda, given the attitudinal and poor reward systems. The picture of sub-Saharan Africa is not different. The number of research staff in agricultural research institutes has decreased in most African countries, with South Africa, reaching a turnover rate of 24% in 2010 when agricultural research scientists reduced to 474 from 620 in 2008 (Sene et al, 2011).

Generally there has been little empirical research in employee motivation in agricultural research in Africa and particularly in Uganda. Lack of information on the underlying determinants of employee motivation leads to poor redress of issues that would otherwise result into improved employee motivation; which in turn has implications for productivity and performance of organizations. The result of such a scenario is a poorly motivated staff, poor staff retention, limited generation and adoption of agricultural technologies. There also remains a knowledge gap; yet it is such information that policy makers would need to devise appropriate strategies. The scenario further negates Uganda's economic development efforts where agriculture is a key driver. Such a situation would equally lead to a poor population depicted by low household food security, low food nutrition security, low household incomes and increased poverty levels. Under the study, we conduct a literature review of motivational factors affecting agricultural research in Africa to enable the researchers identify those factors that are relevant to Uganda. These factors will be subjected to empirical analysis. The study uses Herzberg's theory to determine motivators and hygiene factors that specifically influence research staff motivation in NARO.

### 3. Theoretical and Conceptual Framework

Theoretically, Gawel (1997) opine that Herzberg's two factor theory of motivation of employees is constructed on a two-dimensional set of factors affecting employees' attitudes to work. The first set of factors consists of hygiene factors such as company policies, supervision, interpersonal relations, job security, working conditions, and salary. According to the theory, the absence of hygiene factors can create job dissatisfaction, but their presence does not motivate or create satisfaction. This is contrasted with a second set of factors Herzberg called motivators which enrich an employee's job. These are termed strong determiners of job satisfaction and include: recognition, work itself, responsibility, growth and advancement. These motivators (satisfiers) are associated with long-term positive effects in job performance while the hygiene factors (dissatisfiers) consistently produce only short-term changes in job attitudes and performance, which quickly fall back to its previous level (Loiseau, 2011). Herzberg's two-factor theory is widely renowned as a practical approach towards motivating employees. While the theory, however, gives an in-depth explanation of factors those employees find satisfying or dissatisfying about their jobs, the context of this explanation may differ from sector to sector and from country to country. A need to subject its validation to the agricultural sector in a developing country context suffices. The proposed study; for which this paper is a preliminary analysis, aims to undertake this validation in NARO.

According to Herzberg, overall job satisfaction can be measured separately using job satisfaction and job dissatisfaction parameters. Under each of these, he emphasizes, there are various variables that are related to factors of satisfaction and dissatisfaction. This study, however, will specifically concern itself with the variables for job satisfaction of work itself, growth, advancement, recognition, and responsibility. These variables are directly linked with motivation and have been identified as applicable under NARO's research environment. Agricultural research is a discipline where staffs yearn to achieve, be recognized, advance, grow and be empowered. The hygiene factors identified for the study are also applicable under NARO and these are company policy, supervision, working conditions, interpersonal relations, job security and; salary and fringe benefits. Similar studies have also identified these factors as appropriate in motivation studies in in Africa and the developing world (Acom, 2010; Kwasi & Amoako, 2011; Manzoor, 2010; Mwala & Mwale 2011; Namuddu, 2008; Sene et al; 2011). Contradictions in some cases have, however, been indicated in the analysis of these factors (Malik & Naeem, 2012). Ssesanga and Garrett (2005) investigated job satisfaction among the University academics in Uganda and indicated in accordance with Herzberg's two factor theory, that interpersonal relationship, tenure, promotion and workplace influenced the context of job satisfaction. Hygiene factors such as reward, remuneration, however, were found not to be mutually exclusive. In our study, the dependent variable which is employee motivation will be measured in terms of intrinsic and extrinsic motivation.

Kwasi and Amoako (2008) further indicated that in Africa, hygiene factors such as pay are critical to motivation; however the study depended on non-systematic review of secondary data for empirical evidence and did not indicate the order of importance for each of the factors identified. The proposed study will use both primary and secondary data to draw inferences and determine the importance of each motivation factor. Worlu and Chidozie (2012) applied Herzberg's theory in the context of the Nigerian political marketing practice using correlation analysis. They showed that hygiene (salary, party policies, interpersonal relations and working conditions) and motivating factors (recognition, work itself, growth, responsibility, and advancement) all influenced job dissatisfaction and satisfaction, among the political marketers, a variance from the theory. They were able to measure overall job satisfaction using the job factors. This inconsistency arises when different methods of validation of the theory are used (Malik & Naeem 2012). The gap of validating the theory and measuring employee motivation in the context of agricultural researchers will be filled by the proposed study under Uganda's economic and social settings which differ from those of Nigeria.

Empirical construct validation of Herzberg's theory has been found to be appropriate for determining the effect of motivational factors of NARO staff. NARO, typical of a public, non-profit institute in a developing world, does not provide all the hygiene and motivation factors mentioned above, leading to a possibility of employee dissatisfaction and

demotivation. NARO research staffs are the pivot of the organization which offers a unique situation to study motivation in an agricultural research setting through validation of Herzberg's theory. There has not been any study of this nature in Uganda and the study will therefore go a long way in revealing the underlying factors of motivation in agricultural research. Agriculture is a key sector in Uganda economy providing up to about 23% GDP and employing 66% of the working population in 2011 (GoU, 2012). National Agricultural Research Organization (NARO) is a public institution in Uganda mandated under the NARS Act 2005 for coordination, oversight and guidance of agricultural research in the generation of agricultural technologies in Uganda.

Motivation is defined as the act or process of giving someone a reason for doing something. Synonyms of motivation include impetus, boost, encouragement, goad, incentive, stimulant, impulse and provocation (Webster, 2013). Heathfield (2013) describes motivation as an employee's intrinsic enthusiasm about and drive to accomplish activities related to work. Employees in an organization when well-motivated pull their weight effectively behind the organization; remain loyal and contribute, to their satisfaction, the organization's goals and objectives. In terms of motivation, job and organizational performances, motivation is very important for an organization as it provides a number of benefits both to the employee and to the organization. While an employee is educated or qualified, getting the best out of him must address the gap between his ability and willingness to work. The issue of how employees can be motivated to enable organization achieve its goals therefore becomes paramount. To motivate employees requires an incentive plan which benefits them.

#### **4. Empirical studies on motivation and Application of Herzberg's theory**

There have been various studies in support of this theory. Focused on work motivation in Hyderabad Industries of roofing products in India, Shahid (2013) illustrates how financial incentives, performance appraisal system, good relationship with co-workers, promotional opportunities in the present job, and employee empowerment largely affect the level of employee motivation. His study did not, however, score the varying importance of these factors to motivation. His sample size was only 50 respondents limiting wide generalization of his findings. The researcher proposes to carry out a similar investigation in an agricultural research setting and with a bigger sample size. Shahid (2013) also recommends continued studies on motivation over time as these factors may vary their motivation roles with time. Chien (2013) tested the validity of Herzberg's two factor theory and found it to be plausible for studying job satisfaction among employees in a Chinese chemical fiber company. He proposed to management areas of improvement as workforce planning, succession planning and clarity of performance standards. The sample, however, excluded all foreign labourers in the company who faced similar motivational challenges as citizens and therefore tended to bias results. Job rotation that he identified as an important hygiene factor is not common in agricultural research where there is high professional specialization. The proposed study will determine motivational factors in a setting that is different from that of a manufacturing industry. Kwasi and Amoako (2008) in Ghana justified for application of this theory on Ghanaian worker in particular and Africa in general which the study intends to undertake in Uganda.

Schwab and DeVitt (1971) investigated the relationship between satisfaction and performance, among 124 employees in a public accounting management consulting firm in USA and found no significant performance implications that could distinctly be linked to hygiene and motivation factors. The study, however, only sampled male workers. This study is useful to the one being proposed as it has generated information on key factors of motivation and categorized them under hygiene and motivation as recommended under Herzberg's theory. Nonetheless, Schwab and DeVitt (1971) show weaknesses as it only sampled males and in the context of an accounting firm. The proposed study will sample both male and female employees given the importance of women in agricultural production in Uganda. Our study will focus on agricultural research context in a developing world and the underlying factors of motivation are expected to differ from those of USA whose economy is developed and social conditions are different from those of Uganda.

Lindner (1998) in his study of importance of certain factors in motivating employees at Piketon Research and Extension Centre and Enterprise Centre in Ohio, USA, ranked motivational factors as interesting work, good wages, full appreciation of work done, job security, good working conditions, promotions and growth in the organization, feeling of being into things, personal loyalty to employees, tactful discipline and sympathetic help with personal problems. The study, however, did not recommend a single motivational theory to managers for improvement. The study is relevant as it is taken in an agricultural research setting similar to that of NARO. USA is a developed economy and these factors are likely to differ in Uganda. Secondly, the methodological differences in terms of sample sizes and data analysis will suggest any differences in findings.

Manzoor (2010) explored, using integrative literature review mainly focused on business organizations, the factors affecting employee motivation and the relationship between organizational effectiveness and employee motivation. He empirically revealed the influence of empowerment and recognition on motivation and how in turn these impacted on organizational effectiveness. The proposed study has identified empowerment and recognition as motivators for investigation and will use both primary and secondary data in an agricultural research institute where conditions differ from those under business-oriented organizations. Business oriented organizations are private and profit-oriented and therefore their motivation factors are expected to differ from those in a public sector like agricultural research. This will be investigated by the proposed study.

Elding (2011) in a study on motivation of staff in four private business organizations in UK showed how similarities between variables under different theories of motivation could be used to produce a practical model of motivation for use in employee motivation and performance. He, however, faulted his methodology on data collection on motivators as employees in the sample tended to glorify their achievements on self and blamed others for shortcomings. He also got a poor response of his sampled population as organizations took motivation to be a sensitive issue. The proposed study will specifically validate Herzberg's theory and will be undertaken in a context of a public

organization where motivation is not as sensitive as in business organizations. This is therefore an area for further investigation by the proposed study.

Wesley (2012) justified for mixed methods in his study of worker motivation in Lincoln Manufacturing Company, Nebraska. The quantitative part relied on the survey data designed using Herzberg's two factor theory as a basis. He used a triangulated analysis where data from multiple sources were compared and cross checked with data collected from people with different perspectives or from follow-up interviews with the same people. He identified the top 10 hygiene factors in the study among which were as: Childcare, -Lounge facilities, salary/relationship peers, workload, Micromanagement, and -Disability benefits. Wesley's triangulation approach in data analysis is plausible as two or more methods of analysis in the approach, offset biases and results are converged and corroborate one another, giving enhanced construct validity. His respondent size was poor as only 10% of the sample size (500 respondents) responded to his questionnaire leading to limitations in statistical analysis and implications associated with such small sizes. His, study, however, is useful as it provides an insight into the factors affecting employee motivation using Herzberg's two factor theory. Our study has focused on validation on Herzberg's theory in a research setting in Uganda and will generate information that would be comparable given the differences in the context and economic and social differences between USA and Uganda.

Within Africa, there have been numerous applications of Herzberg Theory in the study of motivation in Africa. For example, Ehiorobo (2004) conducted a study in Nigeria on the implication of adequate motivation on workers' productivity in a power generating company. In a sample of 100 respondents, he concluded that salaries and other rewards were equally as important as other motivational factors. He juggled among most theories of motivation including Herzberg's and recommended further studies in other organizations to further analyze motivational factors with other predictors other than age and experience which he had used in his study. The proposed study will investigate motivational factors under Herzberg's theory in an agricultural research setting in Uganda where the environment is different from that of Nigeria.

Kwasi and Amoako (2008) justified, through exploratory literature, for application of Herzberg's theory in Ghana context given relevancy of hygiene and motivation factors and Africa in general to employment conditions. The paper calls for re-assessment of the thinking that workers rate motivators higher than hygiene factors which forms part of the proposed study. Meanwhile, Marnewick (2011) in South Africa investigated the applicability of Herzberg's two factor theory to Africa 50 years after the theory's existence and in Africa where it's "foreign". He researched into motivation of IT Managers and concluded that IT team members were indeed motivated by achievement, recognition, responsibility. He indicated that age, race and gender did not influence motivation. Lack of in-depth analysis underlying the motivation factors is identified as the gap that the proposed study tends to fill. It also proposes a context of agricultural research which is different from that of IT and as such the results may differ.

Mawoli and Abdulsalam (2012) investigated motivation and job performance of academic staff in State universities in Nigeria and found a significant relationship between motivation and teaching performance. There was, however, no relationship between motivation and research performance. Given that a University's primary objective is to teach and graduate students, these findings are valid. Under an agricultural research setting, this is expected to change as research is a primary objective as opposed to teaching. This study will take the opportunity to contrast these two professionals in terms of motivation. Namuddu (2008) used Herzberg's two factor theory to understand the performance of Sebagala and Sons, a private supplier of electric equipment in Uganda. With a purposive sample of 60 respondents, she focused her study on salary, company policy, career development, and causes of higher turnover rate. The study revealed that most employees would leave due to job insecurity and if offered better pay elsewhere. The proposed study focuses on a public institution where the main objective is to give services to the agricultural communities as opposed to business where profits are the guiding principle. The study will therefore enrich such a comparison. Lubogo et al (2011) in the study on motivation of health sector in Uganda found half of the doctors in Uganda dissatisfied and would consider leaving the health sector or the country. It would be of importance also to know how agricultural research staffs feel about motivation in their workplace.

Despite the criticisms, Herzberg's Theory is valid and is widely accepted because of its theoretical and practiced simplicity and has been endorsed by most researchers (Idris & Wan, 2012; Malik & Naeem, 2012). The studies referred to and other studies worldwide and in Uganda specifically lead us to a conclusion that studies based on Herzberg's theory are inconclusive. The theory, however, provides a satisfactory framework for studying motivation. Therefore efforts to validate the theory should be continued in respect of other similar organizations in an effort to improve on motivation and job satisfaction. Studies on motivation using Herzberg's theory have cautioned on generalization of findings and recommend application of the theory in other environments as motivation differs in workplaces and under different environments. None of the studies has been done in the agricultural research setting in Uganda. It is from this conclusion that the study for construct validity using Herzberg's theory on motivation has been proposed for National Agricultural Research Organization, an agricultural institute in Uganda.

There have been few studies on motivation in agricultural research in Africa not necessarily directly applying Herzberg's theory. For instance, Sene et al (2011) analyzed trends, challenges and opportunities in agricultural research and development in Sub-Saharan Africa (SSA) focusing on five National Agricultural Research Institutes of Zambia, Kenya, Burkina Faso, Senegal and South Africa and identified poor salaries, and poor working environment as major causes of poor researcher retention. The study is however exploratory and avoids any analytical construct validity of the factors. Lack of analytical studies directed to the agricultural sector further makes it imperative to undertake a study to fill this gap. Overall, some studies have indicated indifference in motivation between hygiene and motivational factors an invalidation of Herzberg's theory while others have validated the theory. Very few of these studies, however, have validated Herzberg's theory in an agricultural research setting. The proposed study therefore will validate Herzberg's

theory in agricultural research focusing on NARO a public research organization in Uganda to generate the missing information on employee motivation.

In conclusion, the cited literature review has indicated that employee motivation is behavioural and that Herzberg's theory is applicable in analyzing this behaviour. Literature has also shown that due to different contexts, validation of Herzberg's theory differs between profit-oriented or public organizations. While factors underlying motivation have been analyzed under the theory in organizational settings of businesses, universities, schools and hospitals, motivational factors under agricultural institutions have not been analyzed. The proposed study will therefore analyze the underlying factors of employee motivation and validate Herzberg's theory in NARO to address these gaps.

## 5. Implications for policy and practice from the empirical study

Agricultural research generates technologies aimed to improve communities at household levels in three major areas of food security, nutrition security and increased household incomes. The lack of empirical evidence on factors that influence employee motivation in agricultural research in Uganda has led to limited interventions which would otherwise improve on the achievements of agricultural research goals. This limitation has grossly undermined debates on appropriate actions to take in order to increase employee motivation, reduce staff turnover and increase performance in agricultural research. If these factors are redressed then it would inevitably lead to improved staff motivation, more technology generation, improved agricultural productivity that would ensure household food security, nutrition security and increased household incomes for improved livelihoods of communities. Employee motivation varies from institutes, environments and approaches. NARO is a very strategic organization in Uganda's economy as it generates technologies for farmers' adoption. The study would help in answering questions that are related to improved staff motivation.

Given the importance of the agriculture in Uganda's economy these technologies must be generated to enable the community score in these livelihood areas. The study aims to investigate the motivational factors that are specific to NARO. If motivational factors appropriate to NARO are identified and construct validity indicated for each of the factors, then the study will generate relevant information that can be applied in human resource policies for improved performance. Critical factors of motivation will be identified and recommended for inclusion in motivation enhancement strategies. A study of this nature is timely given the importance of agriculture in Uganda's economy and the need to generate appropriate technologies for the purpose and especially at the time of high staff turn-over, high demand for technologies, and the need to increase food productivity in the wake of high population growth rate. The study will therefore go a long way in contributing to the general livelihood of Uganda's agricultural community and the entire value chain involved. The study will also contribute to the body of research knowledge. In a nutshell agricultural community and related value chain, policy makers, research managers, researchers and students will find the study findings useful.

## 6. The research focus and Methodology

The research study will develop construct validity for motivation of employees in NARO using the Herzberg's two factor theory. Cross-sectional and exploratory designs have been identified as appropriate for this study (Manzoor,2010; Worlu & Chidozie, 2012;). The study will use both quantitative and qualitative approaches. Qualitatively the study will identify hygiene and motivational factors that have been justified in the studies on motivation in Africa and are relevant under NARO for inclusion in Herzberg's two factor theory. The quantitative approach will be used to collect data as each of the variables to be studied will have a quantified indicator incorporated in the questionnaire with a numerical scale. The combination of both approaches will enhance validity and reliability of the study. The sample population is NARO researchers totaling to 340 out of whom 184 scientists (47%) will be selected as a sample size at 95% level of confidence and  $\pm 5\%$  level of precision. This sample size will be derived from the formula provided by Yamane (1967: 886) indicated below:

$$n = \frac{N}{1 + N(e^2)}$$

Where n = sample size required, N = Population size, and; e = Desired level of precision.

This method is simple and takes into consideration of the size of the study population. Using stratified sampling two strata have been derived for the study namely National Agricultural Research Institute (NARI) and Zonal Agricultural Research and Development Institute (ZARDI) and; rural and urban based. Proportional stratification has been adopted in sampling to ensure all programs, departments and units at research institutes are taken into consideration. A survey method will be used to collect the primary data. In cross sectional design studies surveys are mainly employed. Secondary sources of data will also be collected for identification of motivation factors in agricultural research setting or a similar setting in Africa through exploratory research using literature review of publications on the subject in Sub-Saharan Africa. The sources will include libraries both physical and electronic, and documents published for the purpose.

A standardized questionnaire will be administered to all respondents. The questionnaire has been designed to capture data on the measures of motivation using most of the questions in the Herzberg's questionnaire as adopted by Smerek and Peterson (2007) and Kundratova (2009). Questions will be formulated to capture data on variables related to factors of hygiene and motivators, employ characteristics and employee motivation. Using a Likert Scale of 1-5 where 5 is most ranked and 1 least ranked, scores will be given for each question by the respondents. Data will be collected on the variables of hygiene, motivation factors, employee characteristics and employee motivation to be studied. The motivation variables are work itself, growth, advancement, recognition, and responsibility. The hygiene factor variables are policy, relation with peers, working conditions, salary and fringe benefits, job security, and; supervision. The dependent variable is motivation of employees with variables of intrinsic and extrinsic motivation.

Correlation matrix will quantify the magnitude and directions of the relationship between hygiene, motivators and employee motivation. Factor analysis will help to find out the underlying variance among the variables (Mangi, Soomro, Ghumro, Abidi, & Jalban, 2011) and will be useful in developing the validity construct. Multiple regression, independent t-tests and analysis of variance (ANOVA) will be used to answer the research questions and hypotheses set in the study and to examine the predictive power of each independent variable on motivation. Applying the 5 areas of evidence as demonstrated by Messick (1989), construct validity will be demonstrated.

## 7. Conclusion

The study attempts to demonstrate employee motivation in an agricultural research context in a developing country using both qualitative and quantitative approaches and; to draw implications of the validated construct to improved performance of employees in NARO. The study will answer the research questions that have been set. We expect motivational factors of work itself, growth, advancement, recognition and responsibility to influence intrinsic employee motivation. Likewise, hygiene factors of policy, relations with peers, supervision, working conditions, and salary; and fringe benefits will impact on extrinsic employee motivation. Employee characteristics are also expected to influence both intrinsic and extrinsic employee motivation. Findings of this study will identify critical factors of motivation and recommend them for inclusion in motivation enhancement strategies. The study will also contribute to the body of research knowledge in employee motivation of agricultural research staff in a developing country through validation of Herzberg's two factor theory of Motivation.

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