

Adoption of Agricultural and Safety Hazard Awareness By Research Officers And Field Farmers Of Farming Systems Research Programme Of National Root Crops Research Institute Umudike.

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Abstract: *In the past, agriculture and agricultural farm practices was seen as a normal routine of life and therefore not seen as an occupation that can cause any harm to anybody let alone serious injury or death as the worst case scenario. With the progression of agriculture and agricultural technologies especially on big scale agriculture, research agriculture and industrialized agriculture, farmers are beginning to realize that agriculture comes with its own hazards and work place risks. Agricultural workplace accidents injure farmers and in some cases kill these farmers. In the case of large scale industrialized farming, they could cost industry millions of naira a year. Most of these accidents need not happen if there is careful planning and awareness to the farmers be it on a small or large scale farming. This means a proper health and safety culture needs to be put place and functioning properly to avoid or reduce to the barest minimum accidents, injuries or death in worst case scenarios.*

Date of Submission: 27-07-2017

Date of acceptance: 25-08-2017

I. Introduction

National Root Crops Research Institute is a federal agricultural research Institute in Nigeria which has a mission to provide necessary environment for production, processing, storage and marketing of value added products of root and tuber crops for national food security, income generation, gainful employment and rapid industrial development. It carries out a lot of research activities on root and tuber crops in the country. As well as working hard to meet its set targets and mission, the Institute has also put in place safety measures to make sure all employees in the institute work in a safe manner in a safe environment. It has various units and departments that does various work activities. All their work activities are done in the laboratories and largely on farm fields. One of such departments of the Institute is the Farming Systems Research Programme which has mandate to develop management practices for root and tuber crops and to identify the major constraints to agricultural production in South East zone of Nigeria through diagnostic survey. To achieve these mandates, we have over sixteen number of research officers and over twenty field farmers who carry out various farm activities in the fields and poultry of the programme.

For the research officers and field farmers or labourers who work or carry out farm activities, it is important that these people are healthy, work in a safe environment and as well carry out their farm activities with functional farm tools and machinery. This is very important as Health is defined as the total good, physical, emotional and mental state of an individual and not a mere absence of diseases which the individual, the business and the nation need for sustainable development. (Fubara, 2002). Safety is the Protection of people from any form of accident, injury or harm or damage to equipment. (Fubara, 2002). The healthy state of a farmer (body and mind) with good workable farm tools is relative to positive work productivity.

An Accident is defined as any unwanted or unplanned event that could lead to injury, ill health, death or damage to properties or equipment. (Fubara, 2002). Hazard is defined in the Approved Code of Practice to the Management of Health and Safety at Work Regulations 1999 as “something with the potential to cause Harm” or the inherent capability of something (chemical or mixture) to cause adverse effects on man or the environment under the conditions of exposure or it can be defined as anything which has the potential to cause injury or sickness or the potential of a substance, activity or process to harm. Harm is defined as injury or ill health to people. (Fubara 2002)

Agricultural hazard and safety on the farm is very important as farm accidents are caused by hazards and people who do not have a functional health and safety system or culture, know how to recognise, reduce or eliminate farm risk, adhere to simple instructions and in some situations cut corners while working

The identification and management of agricultural workplace hazards and safety awareness in the research institute is a joint responsibility between employer and employees of the institute where we must help each other to provide a safe workplace for everyone. Then with regards to the small scale farmers, is all about creating awareness and seeing to it that these farmers adhere and accept these safe farm practices as part of their work schedule or day to day farm activities. Hazards include things like rusty machetes and hoes, torn or damaged PPE such as head hats, coverall, hand gloves and safety boots. Risk is a result of what can happen as a result of the accident, injury or illness caused by the hazard. The three steps with dealing with a hazard are: Recognise the hazard, report the hazard and remove or resolve the hazard.

For the purpose of this work, I will be looking at how the Farming Systems Research Programme has adopted the safety awareness put in place by the Institute to prevent or reduce to the barest minimum, the hazards that come with the job specification. There are a number of hazards that can occur in moving, working with or feeding livestock and working on open fields. Some of the more common hazards include: Physical hazards include manual handling - lifting feed and moving machinery, animal (birds) handling which involves physically catching, feeding and treating animal. Asphyxiation in grain silos and bad odours emanating from poultry houses and dust inhalation which involves grain dust and yard dust especially as the programme produces its own livestock feeds for the poultry. Noise as a result of noisy machinery and noisy working environments for those working in intensive poultry livestock houses and where feeds for the livestock is manufactured, feed processing and mixing machinery. Trips and slips from muddy, wet conditions. Injuries from working with livestock, injuries from working with bad or rusted farm tools and lack of use of PPE, and extreme weather conditions or temperatures (rain, sun and heat - sunburn and heatstroke) especially for those that work on fields.

For the biological hazards, a lot of agricultural workers are at risk of a wide range of work related diseases and disorders. These range from diseases caught from birds and animals such as bird flu and Zoonoses which are diseases that animals also pass to humans. Micro-organisms such as bacteria, fungi, parasites and viruses which can cause illness by infecting the body when they are breathed in, swallowed, or when they penetrate the skin through small cuts or grazes. Also we have asthma and other lung diseases from biologically contaminated dusts.

For the psycho-social hazards, they include problems that can cause ill health such as low minimum income, delay in salary payment and job insecurity. Work organization hazards include hazards that are caused by poor work organization such as a poorly organised shift work hours and lone working especially for those that work in the poultry units, man work hours, excessive overtime and lack of control over work. Ergonomic hazards include hazards associated with poor engineering designs or badly designed machines which can result in injuries and disablement, repetitive work especially for those that work on fields, unsuitable tools used by field workers and poor seating positions like when cutting stems for planting.

Chemical hazards include chemicals such as pesticides, insecticides, herbicides and fertilizers which can result in health hazards ranging from poisoning to long term effects on female and male reproduction, cancers and other illness. The Institute which takes the health and safety of its workers as very imperative has so far put in place health and safety management systems which includes provision of PPE, installation of new and working machinery, provision of working tools which includes handheld tools, implementation of work shift hours, introduction of new farm working techniques to reduce stress and pains and building of farm sheds. So for the purpose of this paper, I want to look at how research officers and field farmers in Farming Systems Research Programme of National Root Crops Research Institute are adopting and making use of the Agricultural and Safety hazard awareness put in place by the institute.

II. Materials And Methods

The focal point of this research project is to evaluate the adoption of agricultural and safety hazard awareness by research officers and field farmers of Farming Systems Research Programme of National root crops research institute umudike. These includes those that work on farm fields and those that work in the poultry livestock unit.

The main material used for this research work was the use of questionnaires presented to the research officers and farm field workers which includes those that work in the livestock /poultry unit. For the preparation of the questionnaires, continuous site visits were carried out during work hours to the various farm fields and livestock/poultry farms both announced and unannounced to physically observe things and know how these employees were adopting the safety measures put in place, short oral interviews that involved questions and discussions between me and different research officers and field farmers were all used to build the questionnaires. This was later handed over to these employees which they all filled and returned to me.

III. Results And Discussions

This chapter will critically analyse the adoption of agricultural and safety hazard awareness by research officers and field farmers of Farming Systems Research Programme of National root crops research institute umudike The critical analysis will be based on the answers and feedbacks gotten from the questionnaires that were distributed to ten research officers and twenty field farmers working in farming systems research programme. Out of the ten research officers, six work and carry out their research experiments on the field while four research officers carry out their experiment in the livestock and feed unit of farming systems research programme. Among the field farmers, twelve work in the field while eight work in the livestock unit.

IV. Results

For the field farm staff in table one, they all agreed that they have heard of health and safety and have undergone some form of training on health and safety. Every field staff admitted that their farm fields were far from office areas and had to trek long distances to get to the farms except those who work in the poultry and livestock unit. They also complained that because of the long distances the trek, the normally get tired and therefore have to rest for a while before resuming work and this reduces their work input. Those in the field say their work involves manual labour ranging from cutting, planting, ridging, weeding, fertilizer application, spraying of chemicals and other field activities. Those in the poultry and feed livestock says their work also involves routine manual labour and machinery as well. The institute provides them with PPE but a lot of them complained that most of their PPE are worn out and thorn and therefore just managing it while some complained that the type of PPE given to them does not suit their type of job. An example is for those who work in the field who complained that they personal protective clothing given to them does not suit the weather conditions under which the work. This they said makes them feel uncomfortable and sweat a lot especially while working under the sun. There are farm shades on the fields which can serve as muster points in case of emergency and also as shelter in case of rains but some of the farm shades are in bad conditions. They all agreed that they have adopted the new farm techniques which has shown to make their work easier, faster and reduction in body ache and pains. Those in the poultry and livestock unit were happy with the work shift hours since these method now gives them resting time especially as they work during weekends. They said they do not have safety meetings and do not report any accidents or injuries. They said they have not had any issue of death resulting from any accident. They all said they do not go for any regular or routine check-ups to the hospital but only go to hospital when they fall sick. Those working in the poultry and feed livestock unit said none of them have suffered any serious work related illness such as bird flu, Zoonoses, asphyxiation or asthma but do have body aches and pains because of manual lifting and other repetitive movements and they said they take pain killers for such body pains rather than go to the hospital. They field farmers do not enter the fields immediately to work after chemical spray has been carried out on the farms.

TABLE 1:

FIELD FARMERS	Male	Female	Yes	No
Field farmers (Sex)	5	7		
Poultry farmers (Sex)	5	3		
Heard of health and safety			20	0
Do you have a functioning Health and safety culture system in place			15	5
Any form of Training in health and safety			20	0
Distance to farm fields (btw far and near, all the field farmers ticked far except those that work in the poultry and livestock unit)			12	8
Does your work activity involve manual labor			20	0
Have you adopted new safety farm techniques that makes your work less easier and less stressful (examples is the use of secateurs and short machetes for cassava stem cutting instead of the Long machetes that are heavy, new sitting position while cutting cassava stems for those that work in the fields)			12	8
Have you adopted new safety farm techniques that makes your work less stressful and easier especially for those who carry out repetitive routine work daily in the poultry and feed livestock unit			8	12
Does the Institute provide PPE for your work			20	0
Do you wear PPE while at work			20	0
Are your farm fields sprayed with chemicals(herbicides, pesticides)			12	8
Provision of hand held tools by the Institute			20	0
Entry of farm fields immediately after chemical spray			0	20
Fertilizer application(Do you wear hand gloves)			20	0
Do you wear nose masks for those in poultry and feed livestock unit)			8	0
Do you have routine or regular health and safety meetings			0	20
Presence of farm shades in the fields			12	0
Reporting of injuries or accidents			0	20
Any death occurrence as a result of farm injury or accident			0	20

Introduction of work shift for those in the poultry and feed livestock unit			8	0
Routine medical checkup			0	20

For table two, the research officers both those working on fields and those working in the poultry and feed livestock unit, they all agreed that they have heard of health and safety and have undergone some form of training on health and safety. Also they field research officers admitted that their farm fields were far from office areas and had to trek long distances to get to the farms except those who work in the poultry and livestock unit. They research officers agreed that their field work involves manual labor ranging from cutting, planting, ridging, weeding, fertilizer application, spraying of chemicals and other field activities but that they don't really participate physically in the field work but also join hands if the need arises because is also a learning process for them. They said their main job is to think out and design the experiment, see to it that the field farmers with the help of farm managers set up these experiments. They research officers also said they go to the field farms to also supervise their experiments to make sure the field farmers carry out their jobs according to the laid down experiment but mostly in a safe manner so that nobody is hurt while carrying out his or her duty. Those in the poultry and feed livestock says their work also involves routine manual labor and machinery as well. The research officers also said the institute provides them with PPE though the also complained that some of their PPE needs to be changed so as to make their work more efficient. There are farm shades on the fields which can serve as muster points in case of emergency and also as shelter in case of rains but some of the farm shades are in bad conditions. They all agreed that they have adopted the new farm techniques which has proven to make their work easier, faster and reduction in body ache and pains. Those in the poultry and livestock unit were happy with the work shift hours since these method now gives them resting time especially as their work involves working on weekends as well. They said they do not have safety meetings and do not report any accidents or injuries. They said they have not had any issue of death resulting from any accident. They all said they do not go for any regular or routine check-ups to the hospital but only go to hospital when they fall sick which they said is not work related like bird flu, asphyxiation and zoonoses. They research officers all said that the institute has in place a good functional hospital that can handle any injury or minor accident in case one occurs while at work.

TABLE 2:

RESEARCH OFFICERS	Male	Female	Yes	No
Research Officers (Field) Sex	4	2		
Research Officers (Poultry an Feed livestock) Sex	2	2		
Heard of Health and Safety			10	0
Any form of training on health and safety			10	0
Provision of Personal Protective Equipment by the Institute			10	0
Do you have a functioning Health and safety culture system in place			10	0
Does your work activity involve manual labor			10	0
Presence of fire extinguishers			10	0
Knowledge on how to use fire extinguishers			0	10
Presence of emergency fire exit point			10	0
Presence of Muster points			10	0
Any safety trained personnel in your place of work			10	0
Work equipment or machinery in good working condition			10	0
Reporting of injuries or accidents			0	10
Any death occurrence as a result of farm injury or accident			0	10
Do you carry out any personnel routine medical check up			0	10
Does the institute provide any health medical service in case of an accident or injury			10	0

V. Conclusions

Having studied all the questionnaires I gathered, oral interviews and going to the farms and poultry with my colleagues, I observed that they have all heard about health and safety and have a health and safety culture in place and therefore put in their best not just to carry out their work duties but to carry it out in a safe manner. They all complained with regards to the long distances most of them trek to get to where the field experiments are sited. They complained of fatigue and tiredness after trekking such long distances which I observed reduces the number of work hours they now put into working on the farm. With regards to new safety farm techniques, they all adopted it and make use of it and these they said has made their work less tedious, stressful and painful after the day's job. On PPE, the Institute is doing well to provide its workers with PPE but some of the employees are complaining that some of the PPE are old and torn and need to be changed while I observed some of them wear the wrong PPE to carry out certain jobs because that is what is available while those who don't have make use of other forms of PPE the can manage with. An example of such act is a situation where a field officer in the feed livestock was using a handkerchief to tie across his nose because the nose mask he has was spoilt and not yet replaced. During my oral interview sections, I observed that nobody

reports any injury or accident though they all said they haven't had any form of accident while at work let alone any death occurrence. Also during the interview, they all said they never go for any routine medical check-up but will only visit the hospital when ill. At the same time, they don't believe any illness they suffer could be work related aside body aches and pains.

My conclusions are that they institute has done a good job by putting in place good health and safety measures and creating awareness to this effect while the research officers and field farmers are positively adopting the health and safety hazard awareness. More work still needs to be done to see to it that safety culture is promoted more and sustained as this has shown positive results not just in the health of these farmers who have no recorded ill health, accidents or injuries at work, though insignificant man lost hours, but carry out their work activities in a safe manner.

VI. Recommendations

With regards to adoption of Agricultural and safety hazard awareness put in place by the Institute, the research officers and field farmers of Farming Systems Research Institute are doing a good job in thinking safety first and working in a safe manner.

The institute needs to look into the transportation area where by a vehicle (bus or truck) can be provided that can convey these field farmers from the office where they all converge and driven down to the fields where they work. This will reduce the fatigue and tiredness these workers experience after trekking such long distances to the farms. Such energy would rather be channelled towards work on arrival to the farms.

The area of PPE still needs to be addressed. While the employees of the institute are to report to the necessary quarters about their old and worn out PPE, the institute needs to make sure that these old PPE are supplied or replaced as at when due so as to protect and promote safety of these workers while at work/ also the appropriate PPE meant for particular type of work should be supplied. There should also be the introduction of Safety meetings be it weekly or monthly where these employees can discuss their progress on health and safety matters and ways to promote their work in a safe and sustainable manner.

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M.N. Mbadiwe. "Adoption of Agricultural and Safety Hazard Awareness By Research Officers And Field Farmers Of Farming Systems Research Programme Of National Root Crops Research Institute Umudike." *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*, vol. 10, no. 8, 2017, pp. 28–32.