

THE ATTITUDE OF BLACKS TOWARDS SCIENCE AND AGRICULTURE

SJ DE SWARDT Faculty of Agriculture and J R SERETLO Faculty of Science, University of Fort Hare

Introduction

Science deals in the main with material phenomena and is on observation, experimentation, induction and deduction. Agriculture is both a science and an art.

The relatively poor performance of Blacks in science and agriculture compared to that of Whites is a wellknown phenomenon. Is it because Blacks per se are incapable of coping with these disciplines? In this paper an attempt will be made to indicate the attitude of Blacks towards science and agriculture. The main emphasis will fall on agriculture within the framework of the rural black community. In conclusion some suggestions will be made that may help to change the present-day poor image of science and agriculture in the mind of the black man.

The child

The pre-school black child in a rural area is relatively free from western influences and values. The child's horizon is limited to the everyday happenings in the village. The spirit world, superstition and animal kingdom, figure prominently in the folk-lore stories that are constantly told.

The father is the dominant figure in the home — when he is present. He is respected, idolized and feared. His word is treated with the utmost deference. Moreover, he is regarded as an authority on every aspect of knowledge. Whatever explanation of a physical phenomenon he ventures to offer, it is accepted without question, no matter how naive or far removed from the truth the view taken.

Two examples from the many available will suffice to illustrate the authoritative explanations given by the father. A rainbow is a path to heaven for the departed souls; a tornado is a big water snake which is forced to move because of some quarrel with another snake, or by some undesirable person carrying dangerous 'muthi', and who may have strayed too close to its habitat (Seretlo, 1973).

The child has to accept the answer offered and dare not argue about it. His mother will in any case give a similar answer. Moreover the wellknown white child's "why?" to an adult is almost totally absent in the black child's life because children are not encouraged to converse with adults anyway.

Children do not travel widely, do not tinker, do not grow things in bottles. Educational toys are seldom if ever seen. Bought toys consist of cheap plastic pistols, cars and dolls at Christmas.

The school-going child is exposed to a wider variety of true facts but very often the teacher does not know the fundamental reason himself why a certain object is behaving in a certain manner, thus he may give any answer, true or false, as long as it is answered. Arguing with a teacher about his answer is unheard of and will lead more often than not, when attempted, to severe punishment for being insolent.

In most black schools, science and agriculture are taught by a teacher who is completely incapable of teaching these subjects. Furthermore scientific apparatus and equipment are usually non-existent so that proper experimentation and/or observations cannot be executed.

The black child's first contact with agriculture is usually also not very stimulating. In a rural area, work in the form of herding animals, chopping wood, leading oxen, etc will be expected of him. Few children really prefer routine work to playing!

At school level the only practical agriculture to which a child can be expected to be exposed, is weeding and cultivating a small patch in the school yard — definitely not the best way to establish a good image for agriculture.

Finally most teachers know very little about science and agriculture — what it really entails; training facilities available; educational requirements; job opportunities, etc. It is not surprising therefore to find that teachers will influence and advise their pupils to become either glamorous professional men or to seek employment in the urban areas. "Do anything but don't become a permanent farmer because that only brings hardship" is apparently regular advice given to rural school children (Lilley, 1973).

From the above it should be clear that the average black child's attitude to science and agriculture will more than likely be negative. This attitude may be modified if the young man is exposed to the correct influences in adult life.

The adult

The story of agricultural practices amongst the black peoples of South Africa, has many facets. Some of these read like Aesop's fairy tales, or perhaps Shakespeare's episodes of witches in Hamlet and thus may have a peculiar entertainment value to the listener. However other facets have a tragic ring of fruitless toil and strife in an attempt to increase crop and livestock production in an effort to keep starvation at bay. Some of these efforts are in many respects akin to the alchemists' efforts devoted to produce gold out of what they regarded as the four 'basic elements' of soil, water, air and fire.

Until fairly recently a large proportion of the educational facilities for Blacks were provided through the different churches. The missionaries' attempts at educating the Blacks from the 19th century onwards, although laudable in themselves, seem to have been largely motivated by the desire to save their souls and thus to convert Blacks to Christianity. It is therefore not surprising that much of this effort was expended on the humanities, with instruction in technical fields such as wagon-making, carpentry, agriculture, etc taking second place (Molema, 1920). This emphasis on those aspects of the Gospel concerned with spiritualism and the life-here-after together with the fact that this fitted in with the traditional ancestral worship in accepting the occurrence of all events as being an 'act of God', resulted in the development amongst Blacks of an almost fanatical devotion to all spiritual things (Seretlo, 1975). Thus the public awareness of science in general and agriculture as a science in particular, as a major mechanism for development and advancement in increased production, suffered a very serious setback at a most crucial stage in the education of Blacks. Even today it is unfortunate that quite a number of the clergymen serving black communities are against the introduction of modern technology in the production of agricultural produce (Mngxekeza, 1975).

The community leaders in a black rural community are the local school principal, the shopkeeper, the minister and of course the headman. The agricultural officer serving the area is very seldom regarded as a man whose opinion is valued.

Some of the reasons why the agricultural officer's image is usually fairly low in the eyes of the farmers are as follows: when the agricultural extension service was expanded, vacancies for extension officers abounded and it became a practice to transfer officers fairly frequently. This actually reduced the impact of extension and failed to cause an increase as planned. Unfortunately the early transfer practice still exists today. It is vitally important that an extension officer gain the confidence of the community and its leaders, before he can hope to be effective in his extension. The minimum time period for this adoption process for the average present-day officer is in the region of three years. Thus if an officer is transferred before he has served for three years he may be considered to be relatively ineffective. In some cases the community may build up antagonism towards the next officer before he even arrives on the scene (De Swardt, 1976). Coupled to the above, the average officer is generally fairly young and thus will not automatically command the respect as may be the case with an older man. In addition the young man invariably grew up in another area and has a low level of technical knowledge because of his training.

The socio-political system of the rural communities is based upon the chief, the Tribal Authority and the headmen. For a specific community the headman is a keyman in determining the attitudes of the people towards anything that may affect their lives.

The headman system today is based upon the hereditary system. Traditionally the headman was the wealthiest man in the community. Wealth of course is determined through the number of livestock possessed. Apart from placing a man in a particular 'income bracket' which is above the average level of a community, these possessions also conferred on him a special social status which in turn invested him with authority in the community. The significance of the possession of authority in the traditional community is best appreciated when viewed against the background of their culture. Authority carried with it considerable power and influence which when given effect to, transmitted to all parts of the community, like pressure in a hydraulic system.

From the above it should be clear that as long as the headman is by far the wealthiest man in the community, he will not be in the way of progress made by some of the farmers. Unfortunately, because of the hereditary system, the headman is today not the wealthiest man in most of the communities. This fact has resulted in these headmen being actively against any introduction of improved agricultural practices. They fear their authority will be further undermined because some other farmer will benefit more than they themselves. It is a fact that the innovators of a community are always in the minority, thus the headman who is against advancement, will invariably have the majority of the people on his side when he acts against an innovator.

Most black farmers regard agriculture as a way of life and not actually as a means of earning an income. This together with the fact that the black man is much more socially integrated into his community than the white man, makes it not difficult to understand why the majority of farmers prefer to 'toe the line' rather than risk becoming a social outcast through being progressive.

That this factor is influencing the attitude of the black community against modern farming methods must never be underestimated.

How to change the black man's attitude

If the black homelands want to develop, agriculture will have to develop first in order to feed their own population. In order for agriculture to increase its output significantly, certain preconditions for the later take-off must exist. There are inter alia substantial changes in the social structure and political system (Rostow, 1961). In short the traditional society must be destroyed. It is true that the present social and political system tends to give stability to the overall economy, but this is at the cost of development and growth.

In the developed countries a man is respected and has the authority for what he is worth to the system. His worth is usually dependant upon his ability or his possession of

resources and not because of some hereditary claim to fame. It is advisable that the change from a traditional to a modern society is executed in an orderly way but it can still be done in a fairly rapid way.

At the moment the political power of the homelands is still fairly decentralized through the chiefs, Tribal Authorities and headmen. An obvious place to start this change from traditional to modern would be to phase out the system of headmanship. This will remove a very big obstacle in the way of agricultural progress.

The witchdoctors' power should also be finally broken with all the means at the disposal of the homeland Governments. Their influence on the methods employed for arriving at any knowledge or scientific practice is still immense in the rural areas. It is therefore not surprising that nature as a whole and agriculture in particular, is frequently looked at by a large number of rural people through spectacles coloured by mysticism, superstition and the like. No homeland can afford the luxury of harbouring these parasites of society any longer if it wants to become developed in a reasonable period of time.

In the South African homeland situation, education of the children is currently receiving a high priority and must receive an even higher priority in the future development programmes. However, there is a tremendous backlog to be made up amongst the adults, especially in the rural agricultural areas. Thus there is a dire need for adult training programmes, directed at current farmers who are in the main illiterate and unschooled in even the most rudimentary of agricultural production methods (Graven & De Swardt, 1976). The median education level of farmers in the Keiskama district of the Ciskei was found to be Standard 3 (De Swardt, 1975).

The vast majority of schools in the homelands offer curricula which are based upon the old classic academic approach to education as found in the rest of South Africa. It is the contention of the authors that the vast majority of the rural population should not be educated as is done now but should rather be trained for specific vocations and specifically for agricultural production (Graven & De Swardt, 1976).

There is however overwhelming evidence that the higher the educational level (any type of education) the more progressive is the society in terms of economic activities (Harbison & Myers, 1964; Hansen, 1970). This is also true for the agricultural sector (Wharton, 1970; Cleave, 1974).

Land reforms, so that land can become more easily and readily available to those who want to make a living from farming is also desperately needed. According to Heady, 1967 "low supply elasticity for land has its most notable effect in causing a low income bracket to lie over all of agri-

culture. Low elasticity and mobility for labor cause particular individuals and strata of the farm population to suffer extreme income depression." It is not very important what type of land tenure system is employed as long as some kind of 'market' exists which ensures a reasonable turnover for land holders. The system must however be basically founded upon the ability of the individual and must also provide for the growth potential of the agricultural units.

In conclusion, it can be stated that we believe that the present negative attitude of the Blacks towards agriculture will only change if a future for them in agricultural production exists. This future should not be on a par as a labourer in any urban area, but should potentially be as financially attractive as any other profession as is the case in the white economy. In order to attain this end, certain restrictions as indicated above in the way of advancement will have to be removed.

References

- CLEAVE, J.H., 1974. African farmers: labor use in the development of smallholder agriculture. New York. Praeger.
- DE SWARDT, S.J., 1975. Verslag oor 'n monsteropname om landboustatistiek van 'n gebied in 'n Bantoeu-land in te samel. Landboukomitee van die Bantoe-sakekommissie. Unpublished.
- DE SWARDT, S.J., 1976. Towards agricultural development in the Trans- and Ciskei. Submitted Univ. of Fort Hare Press.
- GRAVEN, E.A. & DE SWARDT, S.J., 1976. The introduction of an agricultural reform programme in a rural community. Proceedings of Trans- and Ciskei Research Society. East London.
- HANSEN, W.L., 1970. Education, income and human capital. New York. Columbia University Press.
- HARBISON, F. & MYERS, L.A., 1964. Education, manpower and economic growth. New York. McGraw-hill.
- HEADY, E.O., 1962. Agricultural policy under economic development. Ames. Iowa State University Press.
- LILLEY, H.W.L., 1973. Agricultural Extension in the Homelands. Univ. of Fort Hare class notes. Unpublished.
- MNGZEKEZA, R.S., 1975. Personal communication.
- MOLEMA, S.M., 1920. Bantu Past and Present. Edinburgh. Green.
- ROSTOW, W.W., 1961. The stages of economic growth. Cambridge. Cambridge University Press.
- SERETLO, J.R., 1973. Some factors influencing the African's attitude to science and his performance therein. Alice. Fort Hare University Press.
- SERETLO, J.R., 1975. Science in an African Milieu. S. Afr. J. Sci. Vol. 71.
- WHARTON, C.R., 1970. Subsistence agriculture and economic development. London. Frank Cass.