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OPINION

AGRICULTURAL SHOWS AND FARMERS' FESTIVALS

If there are standards at all in doing anything such should be maintained and continuously improved upon. Keeping up with any standard is no joke and much more so in terms of improving on an old one.

The last Lagos State Agricultural Show and Farmers' Festival has come and gone much to the relief of the organisers who must have spent hectic hours planning, discussing and executing plans for the momentous occasion. What has the whole exercise left in our minds?

Without doubt it is a yearning for a better one.

And what is the purpose of an Agricultural Show and / or Festival? These facts are clearly listed out by the Oba of Lagos, Adeyinka Oyekan II in his opening speech. Rightly, the Oba disclosed that a show cum festival is a period of rethinking, comparison and exchange of ideas.

Farmers are drawn from a surrounding area to acquaint them with the latest in equipment, new breeding and planting techniques and other relative matters. Since the Show will be dull without some fun hence the dances and displays.

Unfortunately, the latter have taken up the essence of the whole affair. Usually, after the brief inspection of the stalls by the Chairman of the day, everyone else flocks to the foreground of the visitors' shed to watch the displays, leaving the exhibits and exhibitors to themselves. Some of the stall staff are therefore not to blame for leaving their places to peep at the dancers.

The Shows, usually lasting about 2 hours at most, often end the day (i.e. around 1 p.m. local time) even though the stalls are expected to be open till dusk for workers, clerks, technicians and others unable to attend the morning session, to have a glimpse. It is only in this way that young minds and vacillating would-be farmers can be attracted.

A Show of the standard envisaged for annual event should consider educational platforms, giving talks at intervals to would-be pursuants of particular ventures. Pamphlets informing visitors where and when talks are taking place should be profuse and obtainable for the asking.

Statistics is totally neglected. How many attended when and from where along with a total break-down of the whole crowd is a day dream from any questioner whereas such figures will help the organisers to know if the event is holding its own or losing grounds and why.

Furthermore, it will help to ginger up areas where response has been poor.

What is equally annoying about the last Lagos State Show was the abruptness of the whole affair which to many came like a whirlwind giving no one time to sort out things along its path. While good publicity had not been given to the whole affair, the Day Two events were also tumbled over one another.

The Press which should have been given a booth at vantage point was almost unseen but for the occasional flashes from the cameramen.

Even with all these lapses the occasion, for being marked at all, has carved a niche for itself in the minds of people as an event they have to look forward to.

It is our hope that future Shows and Festivals will be better arranged in all ways catering unexcepted bearing in mind the site.

A big 'thank you' goes from this medium to all those who in one way or another worked to bring about the Show. In years ahead we hope, when the event shall have become a very very important annual event, most of the pioneer workers and organisers can look back proudly for being ever connected with the event.

COVER PICTURE :

Lagos State holds third Agric Show and Farmers' Festival

The Lagos State held its third Agricultural show and Farmers' Festival in Ikeja for three days running from February 7 - 9 this month. Oba Adeyinka Oyekan II of Lagos was the Chief Guest of Honour for the Day Two of the Festival. The Oba spent some time inspecting the produce, livestock and machinery. The Oba was keenly interested in the whole show as he talked cheerfully with the exhibitors all over the ground. In the front cover picture, the Oba accompanied by other Obas, Chiefs, Commissioners, eminent personalities including the Military boss of the Lagos City Council Col. K. Sho - Silva (back to camera at extreme left) was conducted round the show by Mr. S. O. Oke (in suit near Oba) the Chief Agricultural Extention Service Officer of Lagos State and Chairman of the Central Working Committee, Organisers of the Show and Festival.

by Courtesy of APN, Nigeria

Africa's Agriculture, Soviet

by G. ABRAMOV

Two research studies by Soviet economists have recently been published in Moscow. It is Ivan Svanidze's "Tropical Africa's Agriculture" (Mysl Publishing House) and "Problems of Agricultural Planning and Development in African Countries" by Nikolai Gavrilov (Nauka Publishing House).

The very fact of practically simultaneous publication of these two extensive monographs in Russian testifies to intensive agrarian research being carried on by the Soviet students of Africa.

Their active interest for the countryside problems is quite legitimate. The backwardness of Africa's agriculture employing four-fifths of the continent's population is mostly keeping in check the processes of economic growth of Africa's countries. Analysis of the prospects for converting Africa's agriculture from the traditionally extensive into up-to-date intensive farming is the major task of science.

Speaking of the contents of the book by Soviet authors, one cannot help mentioning their profundity, seriousness, the complex and comprehensive character of research. The two works are no repetition of one another, but rather wonderfully add up to each other both in the choice of subject matter and in the approach to problems.

Indeed, while I. Svanidze tackles the agrarian sphere "from within", N. Gavrilov approachs it as a subordinate element, "inscribed" into a wider system. This kind of approach "from without" is quite justified, because the dynamic development of the African countryside is increasingly determined by the processes taking place outside its limits.

As emphasized by the Soviet author the main responsibility for t backwardness for Afric countryside rests with colonialis "Economic activities of colonialis in Africa" writes I. Svanidz "capitalized on this backwardne and this situation was quite to t satisfaction of the white owners "black continents".

What is more, colonialism w deliberately retarding the dev lopment of Tropical Africa an was conserving backwardne to facilitate and prolong he its political domination. Africa backwardness contributed normal functioning of the colon list system – here lies the "secret of the policy pursued by th colonialists.

Africa's peoples which have won the independence from colonialism fac the task of undertaking a tri

as seen by Scientists

reconstruction of their agricultures: technical-economic, economic and social-political. What are the available prerequisites for such a reconstruction, what are the productive forces of modern Africa, I. Svanidze attempts to give answers to the questions by giving a detailed description of natural conditions, agrotechnics, farming crops, animal husbandry, technical basis of agriculture and its economic structure.

A special chapter deals with the African peasant's social psychology. It would be no exaggeration to say that I. Svanidze's book has a truly encyclopaedic character. At the same time, the author focuses attention on key points and debatable issues exposing the colonialist-fabricated myths.

According to one of such myths, modern agricultural techniques are allegedly inapplicable in Africa because of its natural, particularly soil-climatic conditions, and because of the peasantry's backwardness. These assertions, as proved by the Soviet author served as a camouflage for the colonialists unwilling to take any realistic steps for the modernization of traditional farming.

In reality there were some failures when attempts were made for mechanical transfer of European farming methods into African conditions. Modernization machines, implements and methods of their utilization.

Mechanizations, I. Savanidze maintains, "as a development stage is not to be avoided in Africa's agricultural progress".

An analysis of the experience of farming mechanization in a number of countries has brought the author to a conclusion that this process is not to be conceived separately from a transformation of farming practices, from a reconstruction of the entire economic and social pattern.

Optimal conditions for a wide, complex mechanization of agricultural production lie in the unification of the farmers into a system of production cooperatives and in the growth of the network of state-owned farms and plantations.

Social factors are having a tremendous effect on the status, development rates and structure of agricultural production in Africa's countries.

As noted by the Soviet authors, today even the bourgeois researchers recognize the need or a transformation of the African village's traditional institutions which are restraining the producers, intiative and energy.

But in what manner at whose expense this kind of transformation is to be carried into effect? The bourgeois ideologists see the way out in the

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Africa's Agriculture

"individualization" of the produces, i.e. in promoting private in place of former communal farming.

However, the historic experience of other regions indicates that private land ownership accounts for irreconcilable class contraditions in the society, giving birth to a section of rural bourgeoisie, on the one hand, and a mass of landless proletariat, on the other. The capitalist way destines the overwhelming majority of peasants for interminable poverty, oppression and illiteracy.

Moreover, at the present development stage of Africa's productive forces the small — and even averageholder farming, N. Gavrilov writes, "will be unable considerably to raise the farming output and adequately to improve its quality".

In I. Svanidze's opinion, neither communal nor private farming can secure the overcoming of peasantry's conservatism in economic questions: this can only be done by a system of farming composed of state-owned establishments and production cooperatives.

Under the conditions of big public production the African concept of collective land property will obtain a further development, casting off at the same time its patriarchal tribal and religious-mystic cover. Tribal mutual assistance will be superceded by the mutual assistance of all workers in production.

As evidenced by the experience of the Soviet Union and other socialist countries, involvement of the peasantry for a drive towards collectivisation does not come by itself, without a leadership provided by the vanguard party, without the state's assistance.

It is the state that must step in to organize a cooperative movement and find transitional forms of cooperation, that would be intelligible and accessible to the farmer. The state poses also as the employer where state farms come into questions. It wins command over such levers of influence on the village as taxation, credits, state purchases, etc.

An increasing economic role of the state in African countries is not to be achieved without planning. Therefore, an attempt by Soviet economist N. Gavrilov to offer a generalization of the agricultural planning experience in Africa's independent countries appears to be quite urgent.

But the author's analysis by no means confined to problems of methodology and technique of planning. The study of the problems in question has enable him to make some important general inferences on the development trends in the African countryside which is now in the period of transition.

The Soviet researcher expresses confidence that "the Africans will be able to see in due time from their own experience that only the public ownership of basic means and implements of production paves the way to the setting up of a genuinely scientific system of planning and ushers in the possibility of rational development (from the viewpoint of the entire society's interests) of agriculture".

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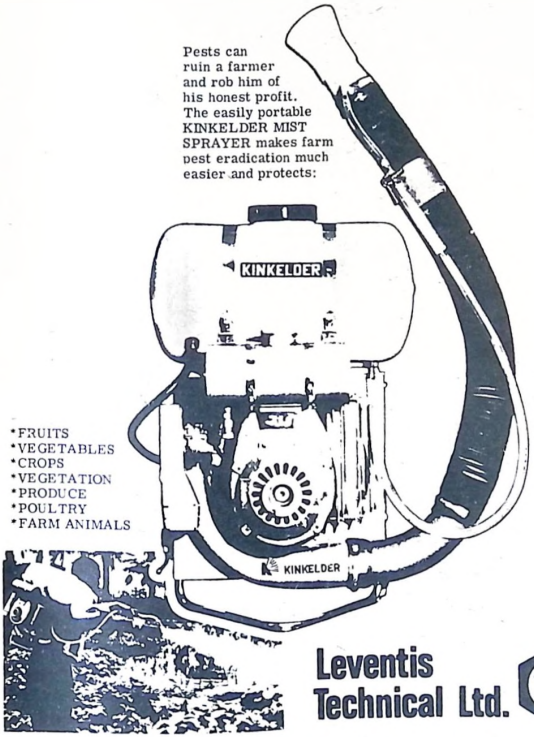

Leventis Technical Ltd.

MAN HAS CONTROLLED BIRD &

Ibadan &

Scientists

control

Nowadays crops are cultivated with everi-ncreasing skill to improve the final yield harvest of grain, fruit, root or leaf.

All plants, including those we use for crops, require water, nutrients and sunlight to grow. Their yield can be increased, therefore, by the application of irrigation water and fertiliser where these are naturally in short supply.

We are becoming so good at this that it is now possible to forecast accurately the ultimate yield from the amount of these inputs applied, assuming a number of other factors— which we generally include under the heading of "weather" - can be relied on.

One ingredient of "weather" is sunlight.

Now agricultural scientists are beginning to ask if yields can be increased even more by controlling the way in which crops collect and use sunlight. A group in Britain concerned with tropical crops thinks we can and is working to find out how.

Light Measurement

One of the group, Dr. Jeremy Elston, lecturer in Agricultural Botany at Reading University, southern England, explained the thinking to me.

The yield of a crop, be it cereal, legume, root or fruit, depends principally on the formation of starch within the plant. This starch, a carbohydrate, is synthesised from the elements of carbon hydrogen and oxygen taken from carbon dioxide in the air and from water in the soil.

Synthesis takes place within the leaf and is brought about by the sunlight that falls on it. The rate of photosynthesis (as this is called) and hence the formation of crop starch is proportional to the amount of light collected by the plant through the leaf surface.

If light received by a plant is measured, this can be used to predict yield - remembering to take into account water and fertiliser as well, of course. But even more exciting, if it were possible to change the total light collected by a plant then the yield could be controlled.

Here is the germ of the idea that has inspired the group.

Already Achieved

Prediction of carbohy-

ANIMAL BREEDING, NOW

British want to crops

by KEN BEAN editor : "World Crops," London

drate formed in a plant by measurement of the light

has already been achieved using experimental work done by Professor John Montieth, an environmental physicist at Nottingham University in the English midlands. His experiments have enabled him to calculate the rate of photosynthesis of carbohydrate from light received in various crop plants.

By building up a set of "models", or typical situation for the variables of light intensity and total leaf area, he and his colleagues have been able to make predictions accounting for 80%-90% of the carbohydrate formed in plants such as maize.

It is a short step from there to translating the figures for carbohydrate into crop yield.

Britain's Overseas Development Administration has made a grant of N30,000 towards further research, aimed at determining why actual growth and yield often fall short of maximum known figures. In other words, why are all our harvests not recorded?

Timeliness Of Planting

Until now we have explained this away by pointing to variations in water, soil nutrients or weather – including sunlight. It might be due to the availability of sunshine to a far greater extent than we have previously thought. If this is so, timeliness of planting so as to make the best use of the sun may become as much part of our calculations as the quantity of fertiliser or the irrigation we apply.

The scientists who will do this work are Professor Montieth, Professor A. H. Bunting, tropical agriculturalist at Reading University, Dr. J. R. Milford, senior lecturer in metereology at Reading, Mr. M. D. Dannet, a Research Fellow of Reading University and Dr. Elston.

They will work in conjunction with the International Institute of Tropical Agriculture at Ibadan, Nigeria, where

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Crop Control

much of the practical fieldwork will be carried out. Principal crops the group expects to study will be rice, maize, cow peas, soya beans and groundnuts.

Ibadan is particularly useful for carrying out practical tests because it is close to the equator and in consequence has a constantly high temperature but relatively little direct sunlight, due to cloud cover typical of the tropics.

Prediction And Comparison

At Reading and Nottingham and at Ibadan the group of scientists will be doing three things: trying to predict rates of growth and yield from light measurement and leaf area, measuring actual rates of growth and comparing the two results and accounting for the difference as far as possible.

"Meanwhile we can look forward to the time when as a result of their work we can predict and perhaps control our harvests to an even greater extent than we can today."

Explaining the significance of the work as it would help the tropical farmer, Dr. Elston said: "Supposing we found that maize produced a better yield if it had a lot of leaves in its early stages but less later on – in fact, less than the plant normally carries. If we know the exact timing, we could improve yield by stripping the leaves at the right time.

"This could be done by using, perhaps, a chemical defoliant or even by hand stripping".

Dr Elston stressed that this was only hypothetical - as yet there is no evidence that stripping leaves might help yield. It may be that more leaves would improve yield or even if the leaves [illegible] is a different angle. [illegible] with the new hybrid short-stemmed rices.

Plant Breeding

This is where the plant breeder comes in," said Dr. Elston. "Just as he has been able to breed for improved yield under better conditions of irrigation and fertiliser application, might he not be able to breed for the best yield according to the known amount of sunlight in the region in which the crop is to be grown?"

One thing is certain: other scientists and agronomists helping farmers have experiences where variations in growth during controlled experiments have been affected by what can only be attributed to sunlight – or lack of it. The British group is inviting other scientists who have any information which may be relevant to contact them through Dr. J. Elston at the Department of Agricultural Botany, Plant Science Laboratory, 'Whiteknights', Reading RG6 2AS, England.

Meanwhile we can look forward to the time when as a result of their work we can predict and perhaps control our harvests to an even greater extent than we can today.

TRACTOR—MOUNTED SPRAYER

A new high capacity tractor mounted sprayer was displayed by a British firm at the Royal Smithfield show held at London's Earls Court recently. Called the Allman Model 150, it has a tank capacity of 680 litres (150 gallons) and an application rate of up to 720 litres per hectare (or 60 gallons per acre). A wide boom of 12 metres (39ft approx) is available in place of the standard 10 metre (33ft approx) boom – both have boom flotation giving more even spraying and greater driver comfort. The new sprayer can be used for applying liquid fertilisers by using stainless steel nozzles, and is equipped with a self filler, anti-drip check valves in each nozzle and synchromatic control.

E. Allman & Co. Ltd., Birdham Road, Chichester, Sussex, England.

The Case For Machines On The Farm

— Farming Correspondent

No one denies that machinery has been a tremendous agricultural labour saver. But unfortunately it has received practically no credit as a direct contributor to increased yields.

This oversight is unfortunate, because when alternative ways are considered for increasing crop yields in the developing countries, the case for investing in machinery is often given too low a priority.

Because machinery is believed to be primarily a labour saver, many legislators and development planners believe machinery should be used only when labour shortage develop. They thus would deny a country the advantages machinery brings even while there is a labour surplus.

INCREASE YIELDS

How can machinery increase yields?

First, it can often do a better job than hand labour. Only a machine can plough deep enough to take advantage of a soil's full fertility. Only a machine can place seeds in exactly the desired spacing and depth and only a machine can spray herbicides and pesticides uniformly.

Second, a machine by doing a job faster, can take advantage of weather opportunities more quickly than hand labour. This is particularly true for seedbed preparation, but also for cultivating and harvesting. Indeed, with machines it may be possible to multiply crops when that was not possible before.

Third, as machines replace animals for farm labour, land formerly used for feed crops can be released to higher-yielding food crops.

Were machines and animals even just equal in efficiency this would be a strong argument to use machines.

RELATIVE PROBLEMS

Advocates of increasing use of powered machinery in developing countries must responsibly face numerous problems however. The machines used will often need to be much smaller than are commonly used in say America.

It is better to try to adopt the machine to the social and economic situation than to try to change the situation to fit the machines. Machines will have to be designed and manufactured with the needs and problems of the developing countries in mind – they must be made simple and rugged.

But most important, if machinery is to be effectively used, agric-machine centres must be established within the range of the farmers who are to purchase the machines. These centres, which would distribute other agricultural inputs as well, would be responsible for educating farmers in the use and care of their machines in addition to being responsible for repairs.

Finally, credit may have to be provided for machinery purchase, although that could be a function of a governmental institution.

LAGOS S

OLUWERI

From Epe came the OLUWERI group of traditional dancers. As they danced, they appealed to the god of rain to shower plentifully during the next planting season. Above the leader of the group raised a tune as her members (picture top right) danced. The lower picture depicts a stage in the dance.

Mrs Elsie Femi Pearse and Chief T. O. S. Benson shared smoked fish in the FISHERIES Booth at the Show in picture right.

The third Lagos Sta and Farmers' Fest in Ikeja. The F three days — Feb largely attended lities made up of Obas, Chiefs, an taries.

The Chairman of the Day 8th February, 1974, was of Lagos who represe Governor—Brigadier N to be the Chief Guest unavoidably absent fro another important event the State's Commissione

The Oba's opening speech punctuated with applause praised the effort of the State's farmers in their bid to feed the State and the nation. That life is co-operation is the theme of the Oba's speech. No sector of the State would be left out in the development schemes the Oba promised amidst cheers from all sections of the crowd.

AIMS

The aim of the Agricultural and Farmers' Festival continued the Oba was to create an atmosphere for the display and study of modern techniques tools and equipment and the exchange of new ideas. "The occasion, with the various prizes and certificates being awarded, offers much challenge to every farmer in a healthy rivalry to produce his best and

THIRD AGRIC

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farming an envi-
nd respectable
on", the Oba added.

The State Commissioner of Agriculture Mr. J. O. Johnson-Agiri, above, disclosing the unavoidable absence of the State Governor - Brigadier Johnson

Before the Chief Guest of honour and Chairman of the occasion Oba Oyekan went round the exhibition, the students of Ideal Girls School, Yaba, holding crude farm tools – hoes, cutlasses and matchets – rendered a Yoruba song confirming the importance of farming in the state's culture. Education without farming is a farce, they continuous sang to the thrilled crowd.

The Chairman of the last day of the Festival was the Federal Commissioner for Agriculture – Dr. J. O. J. Okezie. He also praised the effort of farmers and promised the assistance of the Federal Military Government whenever needed He was later conducted round the stalls as he spoke cheerfully to the exhibitors. Dances, shows and merriment rounded off the festival.

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Oba Adeyinka Oyekan accompanied by important personalities went round the booths and stalls. Above Mr. O. Oke, the Chief Agricultural Extension Services Officer, Lagos State explains a point of interest to the Oba closely followed by the State Commissioner of Agriculture - Mr. A. Johnson - Agiri, the Chairman of the Lagos City Council Col. Kehinde Sho-Silva and a Lagos White-cap Chief

WONDER!!!

From Badagry came pole dancers (above) who thrilled the visitors.

SHOW

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Lagos State Agric Show

COMPARATIVELY

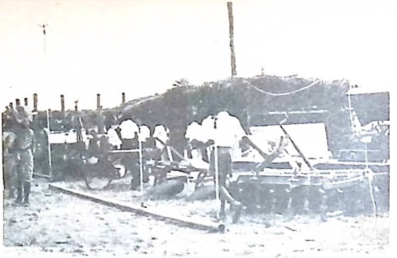
Compared with the previous occasions, the show was poorly attended and exhibits were scanty. Rather than becoming a lively and eagerly awaited annual event, most farmers complained of being taken unawares. As a result, many did not participate.

It seemed the Festival was losing its early momentum and unless a serious programme was drawn out involving the farmers properly, the whole exercise might soon collapse; haphazard effort never succeeded.

The crowd, mostly of aloof and sight-seeing illiterate market women herded about by group leaders were quite disinterested in all around them. Numerically thinner than previous ones, the crowd, about a third of last year's and a fifth of that of three years ago, lacked eminent farmers and young aspiring educated farmers who should have formed the core of the visitors.

No, they were not around at all. Rather, the same old faces of a few disillusioned politicians and blank school children asking stra[illegible] questions could be seen. A few displaced business men came to look for 'business' they could make definitely in a wrong place. Catering was poor in all aspects – food, drinks and service. Most farmers from far and near went away in hunger.

Nevertheless, FARMSTOCK congratulates the brains behind the whole affair, and wishes everyone to strive harder in making succeeding ones lively.



[illegible] with Agriculture to[illegible] in the Show. Among [illegible] were DIZENGOFF [illegible] displayed a good vari[illegible] farming equipment as s[illegible] in the picture (left). An[illegible] prominent booth was [illegible]pied by Oke-Afa [illegible]. Crowds were most cu[illegible] about the stages of pr[illegible]tion of seasoned planks, and timber by the Nig[illegible] Wood Preservation I[illegible]tries (picture extreme [illegible]). They satisfied questi[illegible] and distributed leaflet[illegible] their products. Other fir[illegible] the Show were OLAOG[illegible] BEWAC and AGRO[illegible] a division of OKE [illegible] FARMS LTD.

Above, Oba Oyek[illegible] amidst other Obas [illegible] Chiefs examined some gra[illegible] from a bowl held by Mr [illegible] O. Oke, the Chief Agri[illegible]ral Extension Servic[illegible] Officer, Lagos State. [illegible] The Federal Commissi[illegible] of Agriculture – Dr J. O[illegible] Okezie and Mrs Okezie [illegible] the Chief guests for [illegible] Three (Sat Feb 9) of [illegible] Show. In Picture (left) [illegible] Federal Agric Commissi[illegible] handed a prize to Mr A[illegible] Olukotun while the S[illegible] Commissioner of Agricul[illegible] – Mr. J. O Johnson – [illegible] (in suit) cheerfully witne[illegible] the occasion.

The last day of the Festival drew important personalities including Commissioners. Cassava being an important food item – it is used in making gari – was an important booth. The Federal Commissioner of Agriculture Dr. J. O. J. Okezie (picture left) points at the cassava tubers probably demanding some explanation from Mr. S. O. Oke (holding camera) Others in the picture are Mr J. O. Johnson – Agiri, the State Commissioner of Agriculture Mr. Odeyale, Mr. Badmus all behind Dr Okezie and Alhaji Ganiyu Dasodu

Vegetables no doubt are important in our food so Dr. J. O. J. Okezie examined them in picture below while to the left he watched a forestry man demonstrating [illegible]

IRRIGATING THEIR WAY TO PROSPERITY IN SWAZILAND

by A Special Correspondent,

A far-sighted scheme to make 160 square miles (414km²) of arid bush veldt fertile is bringing prosperity to farmers in north-east Swaziland.

Since water came to the area, which once supported little more than a few cattle, it has been producing more than half of Swaziland's exports. It is also helping to show farmers how to grow and earn more

Land where 25 years ago farmers scratched a subsistence living is today rich with rice, sugar and fruit crops. And the growth in agriculture has in turn led to processing plants, railway and two towns, Tshaneni and Mhlume – all created out of the bush.

The transformation of the area, through the Zwaziland Irrigation Scheme, has been planned and carried out by the Commonwealth Development Corporation in consultation with the Swaziland Government. Since 1950, when the corporation acquired the land from private ownership, 30,000 acres (12,000 ha) have been irrigated.

Profit Motive

Established in 1948 to assist the economic development of Britain's then dependent territories, the CDC today operates in countries which have become independent within the Commonwealth since 1948. With the agreement of the governments concerned, the corporation can also act as a managing agent and render advisory services. It works on commercial lines and has an obligation to pay its way.

Commonwealth Development Corporation staff operate in Africa, the Caribbean and Asia on projects involving agriculture, forestry, fisheries, mining, factories, electricity and water undertakings, transport, housing, hotels, building and engineering.

The Swaziland scheme is the CDC's biggest direct project and is wholly owned by the corporation.

The CDC information officer, Mr John Stocker, said: "The scheme is probably one of the best examples of the sort of development an organisation like ours should be doing, and one of the most successful."

Canal

The idea for an irrigation scheme in the north-east corner of Swaziland was taken up by the corporation when it acquired the land. The site is 40 miles (64km) from the river Komati, whose water now runs to the irrigation areas along a canal.

Hot and wet in the summer and comparatively cool and dry in the winter, Swaziland low veldt is potentially ideal for cotton growing. Sugarcane too is an early choice for extensive trials.

Experiments with rice began in 1951 and contracts for the Komati weir and canal followed in 1955. The construction of a dam across the Sand river valley to impound surplus canal water after rain for use in times of drought was completed in 1955. The CDC spent £2 million in getting water to the area.

The success of the irrigation scheme through the development of agriculture has been accompanied by the growth of ancillary industry which has had an impact on the economy of the entire country.

Houses Now

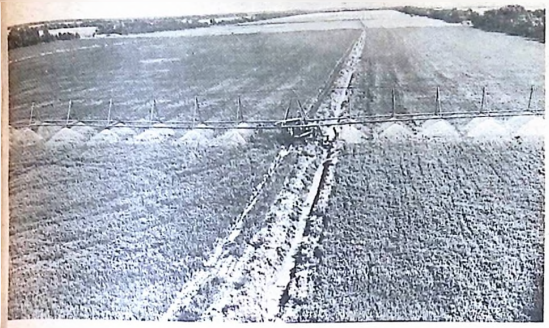
Mr Stocker explained: "Before irrigation, farmers were making, even in a good year, just enough to live on.

An average income of £140 a year has gone up to £1,600 since irrigation and farmers now are able to live in houses instead of mud huts."

Towards Guaranteed Harvests

Three million hectares of irrigated land are to be put into use in the Soviet Union in the current five-year plan period (1971-75). With this in view, new irrigation systems are under construction and the existent ones are being expanded.

A 112-km trunk canal that had been built in the fifties in the Don steppes in the south of the European USSR is under reconstruction. Its capacity will increase by 50 per cent. The line will increase to 60-70 metres in width and up to 6 metres in depth. It will be transformed into a veritable steppe river letting through at its head 250 cu.m of water per second.



The bridges and viaducts on this course are being widened, and other units built. Automation and telemechanics are being introduced on a broad scale.

New extensive areas of guaranteed farming are being created in the canal zone. Rice, maize, vegetables, grapes and other fruits will be grown there; cattle husbandry boosted.

Large state farms are located in the zone of the trunk canal in the Don area. Sprayers as in picture, left, are widely used there for watering the fields.

The development of a major sugar producing area, citrus growing and rice fields all owe their success to the irrigation scheme. Just as important is the industrial growth that followed.

Before irrigation there was not enough produce to justify a railway. Now the line is busy, contributing too to the development of the Swaziland iron ore industry.

The mills of the Mhlume (Swaziland) Sugar Company, a wholly-owned CDC subsidiary, process one half of the country's entire sugar quota. In a good year Swaziland is one of the biggest rice producers in southern Africa and is rapidly becoming a big grower of citrus, mostly grapefruit.

Fruit which does not meet market standards goes to the local canning factory — in which CDC also has a big investment.

Land not worth irrigating is used for cattle, and the herd's quality has improved. Six thousand heads of cattle were included in the CDC's original purchase. But although the ranching of beef cattle is subordinate to the chief effort, during the past 15 years an important infrastructure has been established on which non-intensive systems of fodder production and animal feeding can be explored.

Farms Scheme

Another by-product of the scheme has been the introduction of a project to settle Swazi farm workers on irrigated smallholdings through Vuvulane Irrigated Farms, a directly managed CDC organisation started in 1962.

Under this scheme, smallholders lease land and hire machinery. Vuvulane offers 30 new settlements a year on farms of 16 or eight acres (6.4 to 3.2 ha). Even before they start work, the CDC farmers know that the problems they once faced, of drought and uncertainty in the marketing of crops, have been removed by irrigation and the provision of a ready market through CDC outlets.

So sought after are the smallholdings that there are more than 300 applicants each year from all over the country.

Most of this scheme is concentrated on the growing of sugar, which is sold to Mhlume (Swaziland) Sugar Company, but a quarter of the land is planted with cotton, maize and other vegetables.

The intensification of commercial farming under irrigation and the setting up of the sugar mill have attracted labour from neighbouring villages. An estimated 15,000 Swazis, including dependents, are supported by the opportunities created by the scheme.

When he works for a CDC farm, the labourer is provided with housing and food and his employer is expected also to undertake other civic and social obligations.

Schools have been built; there are three clinics, with full time staff, recreational facilities, literacy classes and churches also fall on the employer's budget.

Insight

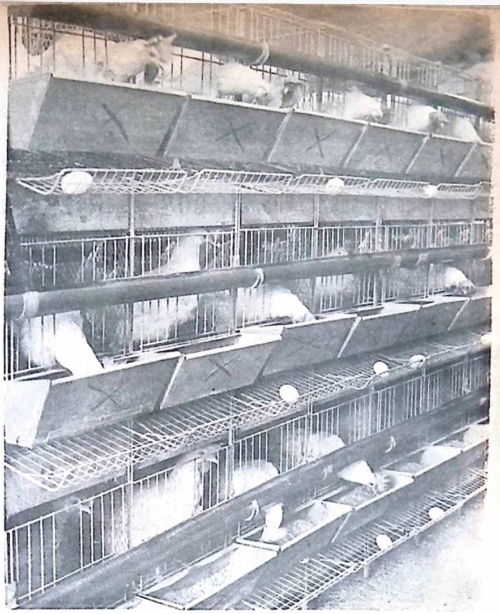
The CDC also operates the Managa Agriculture management Centre, for training potential agriculture project managers.

The irrigation engineer, Mr. Hugh Dawson, formerly project general manager in Swaziland, and an executive of the corporation, said: "The Swaziland Irrigation scheme has captured the interest of people inside and outside the CDC and the agriculture training centre is a good plan, giving people an insight into agricultural management".

The scheme is a continuing process which is not subject to a set programme of years to run before it is complete. What is the plan for the future?

Mr. Dawson said: "The thing is to train the local people to take the place of expatriates so that eventually it becomes a Swazi-run operation and Swazi-owned too."

Which Layout for Battery Cages?



by Our Farming Correspondent

There are three principal ways of building a battery cage for layers, each of which, however can be made in many individual varieties. Three principal forms are,

(1) Stepped Cages
(2) Tiered Cages
(3) Flat Deck Cages

What are the particular advantages of each of the three types, and how should the farmer choose between them? Is there one type which is best for all condition?

Does the best type depend on the conditions, or can the farmer choose any of the three types according to his personal preference and get equally good results? To find the answers let us consider each type separately and see what are the advantages and disavantages.

The Stepped Cage is the commonest type in Nigeria and in other hot countries. It is built in either two or three stepped rows of cages, the two step kind being the more popular since it is easier to look after.

Its advantages are

(1) The construction is simple and cheap.

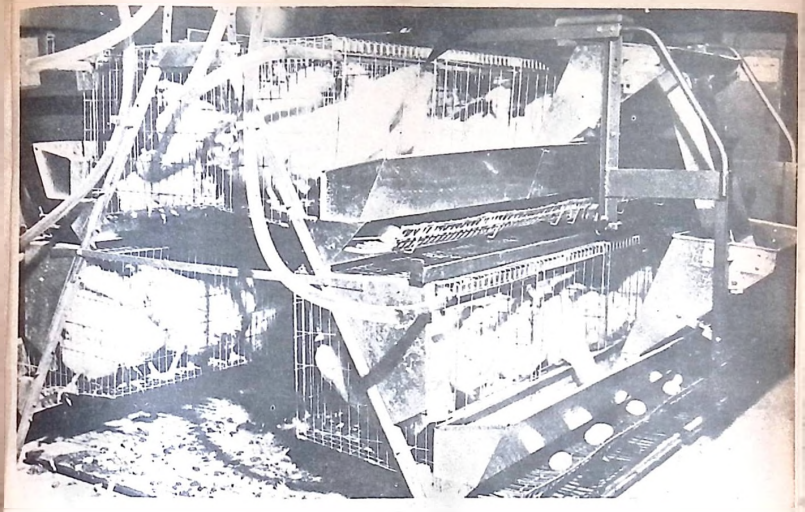
(2) There is no need for any mechanisation unless the farmer wants it.

(3) There is a good natural flow of air through the cages, which is especially important in hot climates.

The tiered cage is most popular in Britain and other temperate climates. Its advantages:

(1) The cages take up much less space than any other system, so reducing the cost of housing, which is expensive in cold climates where the birds have to be

A general view of one of the departments of the Zarya poultry farm in the Krasnoyarsk Territory (Siberia)



Automatic Poultry Farm

The Zarya poultry farm in the Krasnoyarsk Territory (Siberia) will produce 35 million eggs in 1972. The farm has 330,000 chickens including 147,000 laying hens in its 30 buildings.

There are several automatic lines for the distribution of feed and for collecting eggs on this poultry farm. In the past year, three lines were commissioned with another two in 1973. Within two years the entire factory will be transferred to the cage maintenance of poultry, thus providing for increasing the number of laying hens to 300,000 and for annually obtaining 70 million eggs.

kept warm.

(2) The mechanisation of this type of cage is well proved, and can be used in stacks up to 200 ft. long.

(3) The arrangement of tiers above each other makes it easier to keep the birds warm.

(4) The type of cage is usually dearer than stepped cages, but is also usually better and therefore lasts longer.

The flat deck cage also has its special advantages.

(1) All the birds are on the same level, and therefore get the same temperature, and the same attention from the poultry attendant.

(2) This type of cage is as suitable for hot climates as the stepped cage.

(3) Automatic egg collection is always included with this system.

Varying Factors

The choice for egg laying in the Nigerian climate will therefore be, normally, between stepped cages and flat deck cages, with tiered cages being considered in special circumstances. The smaller and medium sized farmer will therefore always choose the stepped type of cage because it is cheaper in small units than the flat deck.

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Which Layout ?

Also he can easily increase the size of his farm in small units by buying another section of cages at a reasonable price.

For a small unit the advantages of the flat deck in case of supervision and automatic egg collection are of no importance. The large scale egg producer will want to compare the two systems. In comparing them he will find that the stepped cage is cheaper to buy, but because it is usually less well built, it will probably not last so long, and may cost more per year of use that he gets from it.

In favour of the flat deck will be that it is easier to work in large units than stepped cages. A lot of the work can be mechanised, leaving the poultrymen free to attend to the birds, instead of spending their time carrying things.

The birds can be seen more easily so that supervision of a large unit is easier, and the flat deck system is designed for large units, whereas the stepped cage is mainly intended for small units.

Until recently there have been a number of disadvantages in flat deck cages, mainly because only a few makes have been sold. Feeding has depended on chain feeders, which can break down, or stop because of an electrical failure.

There is very little reserve of food in the trough with this type of feeder so the birds quickly finish what there is. Hand feeding is extremely difficult because the trough is not only small but also difficult to reach.

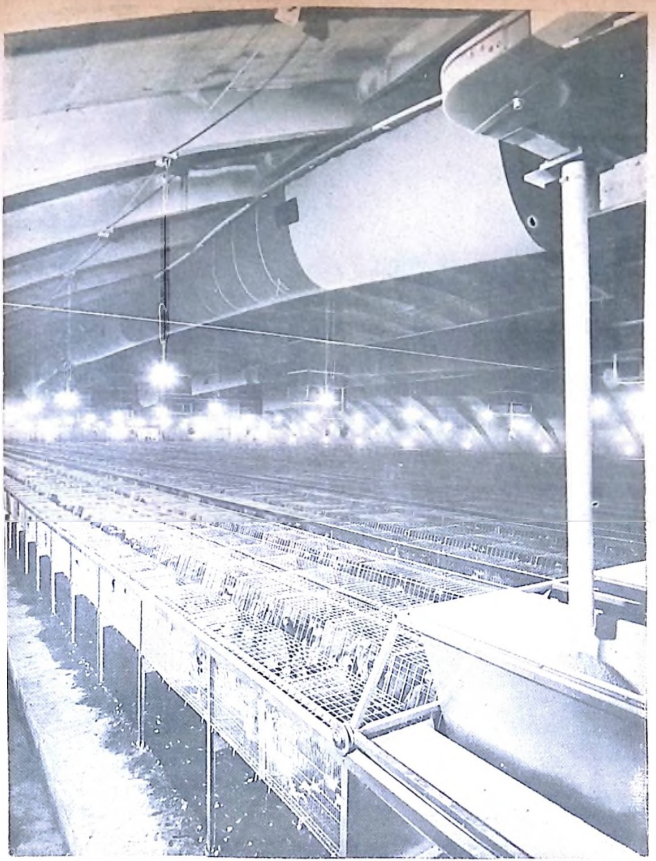
Then the drinking system has been old fashioned water troughs. While these are all right on small units fed by hand they are not really satisfactory on long mechanised cages, as it is difficult to get the level right, and either birds will be short of water or else some will spill into the feed trough, spoiling the food and probably causing problems with the chain feeder.

To try and overcome the disadvantages of present flat deck cages, but keep the good points of the system, one British manufacturer, Thornbers, has recently introduced a new version of the flat deck cage.

Overlapping Advantages

This new cage has hopper feeding instead of chain feeders, so that not only is there less risk of breakdown, but if anything does go wrong with the electricity supply or the motors the birds still have plenty of food in the trough.

The hoppers can easily be pushed by hand so if the



Which Layout for Battery Cages?

electricity supply fails there is no problem feeding by hand. In fact some farmers always feed by hand so they say they can inspect the birds at the same time as they push the hopper along.

Another important point is that all the birds get the same sort of feed put in front of them, whereas the chain feeder moves feed in front of one bird, then along in front of the next, and so on, so that the first birds remove the best tasting bits of the ration, and the birds at the far end get the least attractive bits.

Neither has the balanced ration the food compounder intended.

Instead of drinking troughs the new Thornber flat deck cage has the well tried nipple drinking system, which saves water, and more important, brings an absolutely fresh supply to each bird so that there is no chance of disease spreading along the water trough.

The nipples are also away from the food trough so there is no chance of water getting into the feed.

Other advantages claimed for the cage are its extra wide egg belt, wide enough to take 3 days supply of egg if necessary, though usually twice a day collections are recommended.

One farmer in Britain has already installed a 50,000 bird unit of the new cages, 15 stacks each nearly 300 feet long, in one house. Now Thornbers are trying to find out if the cage can be used to rear from day old the birds which will lay in it.

If they succeed it will be yet another factor for the farmer needing cages for 2,000 birds or more to consider.