

# Crop Diversification: Scope and Limitation

by Dr Subash Dasgupta

**H**ISTORICAL evidence showed that in the area where now Bangladesh is situated, agriculture was practised in diversified ways from the beginning. But in course of time, this diversity has been lost due to several reasons. During the Pakistan period, there was little scope of diversification of agriculture as well as crops due to the absence of research on the issues. Lack of appropriate planning and research coupled with other circumstances adversely affected the rich diversity of crops that was built up over centuries.

After the independence, all efforts were concentrated towards achieving self-sufficiency in foodgrain production leaving all alternative thinking. As a result, our agriculture has become risk-prone. At present, 82 per cent of total cultivated areas are used under rice production. We have lost even huge diversity of varieties in rice available in the early period of this century. The rice dominated cropping patterns has created problems to the soil-plant health and to the farming systems of the small farm holding, making it more vulnerable in terms of sustainability. The production of pulses and oilseeds has declined because of reduction of acreage.

Since the mid-60s, acreage under jute and aus season, rice showed year to year variability with the decreasing trends which have been filled up by boro season rice. The government policy for increasing rice production to attain self-sufficiency in food production has further narrowed the scope of crop diversification in the country. On the other hand, crop diversification provides

sustainable growth in agriculture, stability of production, reduction of malnutrition, diversity of crops and diets, income and services and distribution of labour throughout the year.

Crop diversification ensures the optimum use of natural resources such as sunlight, water and land as well as other inputs. It contributes towards increasing the total biomass production that ensure the food security for both human being and livestock and reduces the cost of production by increasing productivity of per unit area as well as reduces the use of pesticides as some plants in multiple cropping act as an repellent plants. Striking feature of crop diversification is that it can escape natural calamities like drought, flood, etc., successfully and restore soil fertility quickly. But progress in shifting to a crop diversification and maintains overall food security and also raises farmer's income is not easy task in the present context of our agricultural development.

Some of the reasons are: climatic factors have endowed the Bangladesh with a comparative advantage to produce mainly rice crop; poor drainage and water logging have become acute problems over large areas; scope of land expansion has now been almost exhausted; farmers choice and decision-making in the production process are greatly constrained by factors which are beyond their control; quite a good number of crops compete for the same land; limited genetic diversity of less popular crop varieties; food habit is basically based on rice and flow of institutional credit is not adequate. These problems are aggravated fur-

ther by poor research and extension supports and weak delivery systems of input supply.

Furthermore, the monoculture has some advantages also such as: easy to support institutionally; the range of inputs required is limited; farmers can quickly adopt to a particular cropping technology; marketing and pricing can be relatively easily focused and controlled and extension agents can focus on a single package of advice. Nevertheless, a successful crop diversification programme can enrich the fertility of the already-fragile lands, reduces soil erosion and open avenue to transform subsistence farming into commercial farming. Following strategies may be undertaken for successful implementation of crop diversification in the country.

- Realising the limited scope of crop diversification it will be better to identify the most potential areas of specific crop which are grown there since long and make all out efforts to increase the productivity of crops in those particular areas and the government should ensure availability of rice in the open market at reasonable prices throughout the year.
- Efforts must be made to develop new varieties of different crops with photo-insensitive, thermo-insensitive and short duration characteristics so that crops can easily be fit into the cropping system and seeded out at any time of the year and extensive research on multiple cropping systems giving emphasis on mixed cropping on agro-ecological basis need to be initiated.
- In irrigated area-land that

are not suitable for rice production should be sown to low duty crops requiring less water. Some of these areas are more suitable for growing minor cereals, pulses oilseeds. In some areas, these crops can be grown together with rice.

- Appropriate credit policy is needed to success this programme.
- Crop diversification needs to be linked up with rural based agro-industry with a view to developing linkage through demand and supply. Development and smooth functioning of markets at the grassroot level is essential for the purpose.
- Considering the soil conditions the present level of cropping intensity (172 per cent) is quite high. Soil conditions will be deteriorated further if cropping intensity to be increased with the expanding the rice cultivation. So, in the districts where cropping intensity is below the national average, attempts must be taken to increase it through crop diversification.
- Total rice production should not be more or less than total country's demand. The present level of yield per hectare of rice has to be increased to meet the country's demand as well as to vacate the land for other crops which could be done by bridging the gap between national demonstrations yield (4.5 t/ha) and national average yield (2.01 t/ha) or by adopting HYVs of rice.
- A massive and proper extension programmes not only demonstrations with



the help of public and private extension agencies including the NGOs supported by research organizations and input supply agencies should be initiated.

Diversification of crops that will conform to local environmental conditions and variety of farming systems is one of the ways to mitigate the influence of risk the increasing demand of agricultural products, production allocations and utilization of agricultural resources. It has special relevance for our country, as it is a labour-intensive activity, and therefore, more persons can be provided with employment on a unit of land than on a similar unit put under conventional crops.

The role of agriculture in the Bangladesh economy will increase in the next century and rice self-sufficiency will be the major food programme should also be promoted. It means that spectrum of food production should be broadened without sacrificing the capacity to produce rice.

The writer is Director (In-charge) Technology Transfer Monitoring Unit, Bangladesh Agricultural Research Council.

# Bribery Oils Wheels on the Roads to Ruin

George Frank Asmah writes from Accra

Corruption is rife on the roads of west Africa, as lowly-paid police demand backhanders from drivers. Gemini News Service reports that the practice not only hinders the free movement of people and goods, but also presents real dangers.

**I**T is Sunday morning and I am driving down Accra Ring Road West, taking a visitor to a final meeting before he leaves the country. The rain is lashing down on my windshield and the wipers are swishing back and forth.

Suddenly, a flash of yellow light cuts through the raindrops. Reluctantly, I pull over. Why are they stopping me? Is one of my headlights not working? Is it just a routine licence and insurance check? I wind down the window and wait.

"Good morning sirs," comes the authoritative drawl as no fewer than four policemen saunter over. The flashlight glares over the dashboard. I wait for the request to see my car papers but it does not come. The torchlight has stopped searching now, but no new instruction is forthcoming. I look inquisitively at the four faces crowded into my window and raise my eyebrows, still waiting to know why I have been stopped.

"Sirs, it's raining."

"Yes, so it is."

"And we are very cold. Very, very, cold indeed."

I hand over a 500 cedi note. We all smile and wave to one another. The deal has been made. They are happy because they have a few cedis. I am happy because I can proceed to our meeting place.

Throughout Ghana at every police checkpoint, the same illegal business deals are struck every day.

Vehicles teetering with loads over three times their capacity are waved cheerily through police barriers. Lorries with faulty handbrakes, drive from one end of the country to the other without fear. Young boys jump off every time such lorries stop, and wedge blocks of wood under the wheels to prevent them from rolling. The "business deals" take care of all the motoring worries.

"And what a lovely dose of feelgood factor we get from those arrangements," says the (minibus) driver Ataa Neekyee. "The policeman feels good because he has something to cheer him up. And when the driver hands over the cash, he feels almost charitable."

Ghanaian police, like many other professions, do not earn enough to keep themselves and their families above the prevailing economic troubles.

"So you can't blame the chronically bribe-taking police," points out Ataa Neekyee.

You see, when you arraign erring drivers before motor-traffic tribunals, all the big fines imposed on them go to the state without anyone caring to improve our salaries and conditions of service," one constable told Gemini News Service.

Police road blocks between countries are also a source of corruption, irritation and inefficiency, and officials in west Africa are under pressure to take steps towards making travel easier.

GEORGE FRANK ASMAH is editor of the 'Weekly Independent' in Accra.

# Quality Basic Education : The British Experience

by Tapon Kumar Das

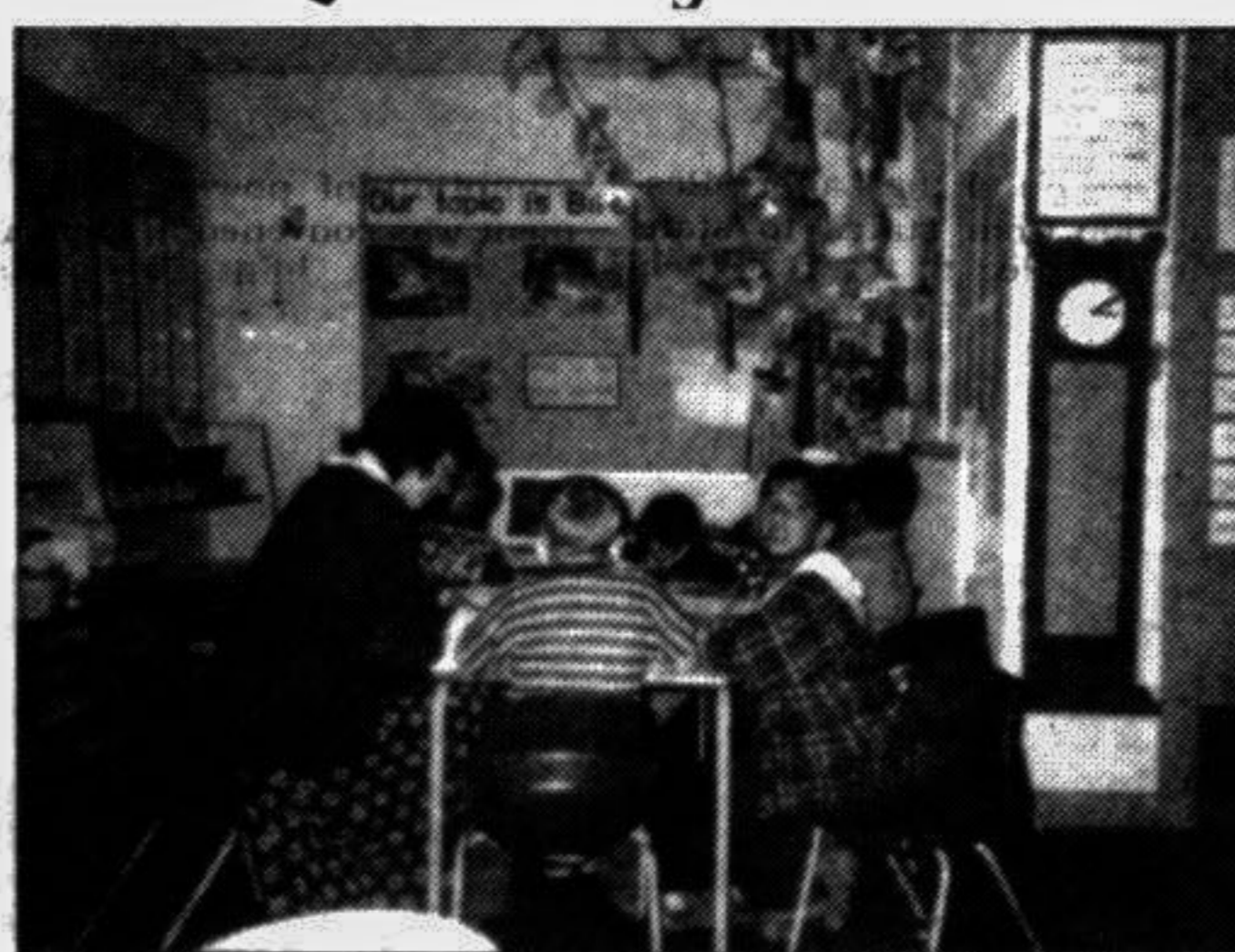
**T**HE main objective of Britain's basic education programme is to develop a child as a good citizen with an 11-year compulsory basic education. It means that a child will enter the school at the age of 4, and complete his/her basic education at 16. During this period, he/she will achieve the ability to go for higher education as well as required skill, knowledge and values of day-to-day life.

There was no common curriculum for primary education in Britain until the passing of the Education Reform Act 1988.

This introduced a basic curriculum for the entire country. Three core subjects were mentioned in the curriculum including foundation subjects and religious education. The core subjects are English, Mathematics and Science. The foundation subjects are Technology, History, Geography, Music, Art, Physical Education and Local Language. At the same time, the National Curriculum introduced attainment of target up to X level of schooling covering the age 5-16 and objectives for learning.

The National Curriculum was reviewed by Sir Ronald Deering during 1993 and some other areas such as career education and guidance, health education, personal and social education together with gender and multi-cultural issues were suggested to include in the curriculum. The report was published in 1994 and all the proposed subject were included as cross-curriculum.

The National Curriculum is gradually being imple-



Children with the teacher in group learning

mented between 1989 and 1997, because it is a new concept and many new subjects have been added to it. It can be noted here that this new curriculum may not fulfil the need of all students, and some may be excluded from the provision of the National Curriculum.

Basic education is free and compulsory in Britain. Generally, children go to school at the age of five and are admitted to reception class. There are four key stages in compulsory education of Britain: key stage 1 consists of class I-II, key stage 2 consists of classes III-IV and key stage 3 consists of classes VI-IX, key stage 4 consists of classes X and XI. This is the end of compulsory education and children complete this education between 5 and 16 years of their age.

There are different kinds of schooling system in Bri-



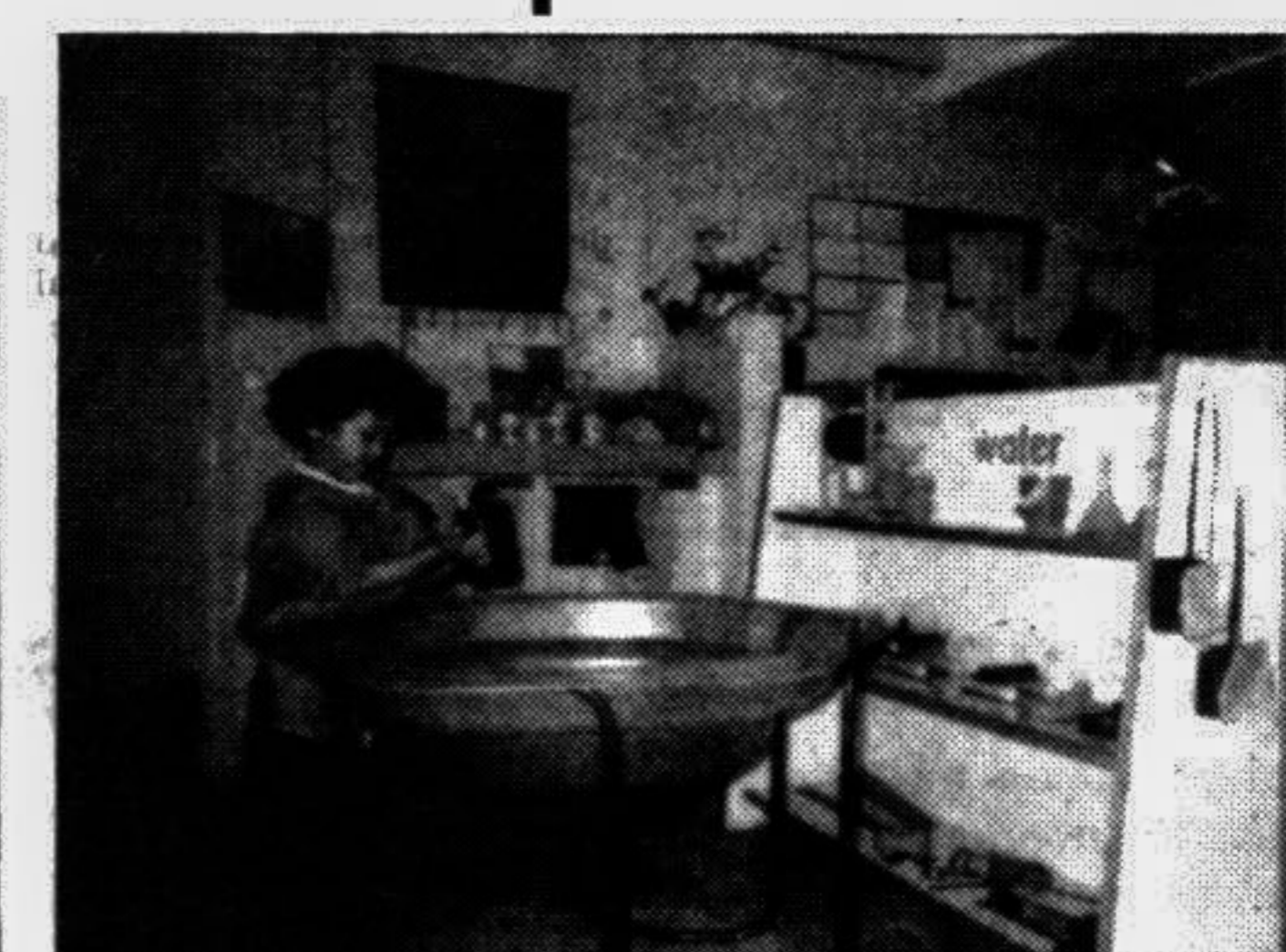
Children are learning cooking

ber of students is not more than 35 in one class. A class-teacher is assisted by two or three assisting teachers who are responsible to teach all subjects in the class. Moreover, there is a co-ordinator in the school who is responsible to teach the core subjects. The coordinator is responsible to prepare class-based action plan on the basis of curriculum. A head teacher, assisted by a secretary and two or three supporting staff takes care of day-to-day administrative work and overall management of the school. For instance, there are 450 students in Bankside Primary School in Leeds, and a total of 47 staff work there as teachers and assisting teachers. The student-teacher ratio is almost the same as everywhere in England.

There are no basic primers in any class of primary school but a lot of books are used in these schools. These books are graded and children select them according to their choice. All learning activities are carried on with game and play. A lot of teaching aids and material including computers, calculators and TV-VCRs are available in the school. In a word, nothing which is useful and necessary for daily life is scanty in the school. Students learn everything functionally such as — from dish-washing to buying tickets for a plane journey.

Generally, a primary school opens for the students at 8.50am. During the first 20 minutes, students come and change their clothes in the cloak room. Then they change their bag with the books and take new books from the book box. At 9:10 am the teacher calls them in the carpet area for registering and discusses about any late coming or any other problems. Then the teacher talks about the lesson plan of the day. After that, the students leave the carpet area and sit in small groups (group size is 4-6). Ten-thirty is the morning break or play-time for 15 minutes. Then all the students go to the assembly room for 30 minutes. Then lunch for one hour. Schools supply lunch to all children although they can bring lunch from home if they like. From 1 pm to 2:30 pm, students work in groups and then they go to the field and enjoy 15-minute playing. Then they join in carpet area and enjoy a story-telling class for next 45 minutes. Finally, at 3:30, they change their clothes and shoes and leave the school for home-taking new books with them for home reading.

The speciality and excellence of British primary education system is classroom management. There are basically two areas: 30 per cent of each classroom area is the carpet area. Children join in carpet area when they work



A child at dish washing in the class

with whole class together with their teacher. The carpet area is used for registering and story-telling classes. The other area is for group work. The other area comprises of math corner, water corner, sand corner etc. Students work in groups in different corners (areas).

Group-learning is the heart of the techniques of British primary education system. Every class is divided in many groups. There are different ways for dividing groups. Sometimes groups are divided according to level or standard, and some are divided according to subjects, i.e. Bengali group or Math group. At the same time, different groups work in different corners. Sometimes, teachers or assisting teachers work with the groups, sometimes students work individually.

There are no memorising or reading work in the classroom. Mainly, discussion, brainstorming question-answer, practical demonstration are the methods used by the teachers. Everyday teachers prepare a lot of teaching materials related to the lesson and students also prepare a lot of materials in the classroom. All the materials are displayed in the classroom. There are many display boards inside the school. The

rationally for such displays is the repetition to look it up again and again which is helpful for sustained learning. All displays are changed after certain time.

Teachers give weightage to children's work and their opinion. They include students to prepare classroom principle and rules and regulations of school themselves. Each class prepares its own rules and regulations. Everybody has to honour them. There are no punishment system in the school but if any student does any wrong, then the teacher invites all students to discuss on it and the wrong-doer has to say sorry for the act. It is really wonderful that little children (6-11) can maintain all the norms properly. The school encourages all the guardians to visit the school and observe teaching techniques. So everyday many parents come to the school with their children and can stay in the classroom whenever they like. Doors of classroom are always open to the parents. The British believe that parents should be included in the learning process. So they maintain fulltime communication with the parents.

All primary school teachers are highly educated and trained, and most of them are female. Importance is given to selecting and posting them on the basis of their nationalities and colour, because students are different in nationalities and colour. The Bengali teachers are working in the schools dominated by Bengali students. But basic role is played by the British as class teachers.

The basic educational qualification of teacher is graduation. Post-graduate Certificate in Education (PGCE) degree is essential. PGCE is an 18-month training course. Another option is to have BED degree (a 4-year course) for teachership. It may be noted that 60 to 70 per cent teachers' training is school-based.

Responsibility for the education service in England and Wales has been distributed among Central Government and the Local Education Authorities (LEA), the funding agency for schools, the churches and other voluntary bodies, as well as the governing bodies of schools and the teaching professional bodies. It is called "National Policy Locally Administered." The Education Reform Act, 1988 and the Education Act of 1992 have altered all the power and given more power to governing bodies.

Generally, local Educational authorities are responsible to carry on educational activities in their areas under the control of the Secretary of State who has to stand before the Parliament.

Recruitment, capacity-building and posting of teachers, as well as enrollment, collection of education materials, salaries of teachers is controlled by local Education authorities. But gradually governing body of the school is being empowered and it is hoped that it will take all the responsibilities with the passage of time.

The education system of Britain is very scientific and systematic. Every teacher starts his/her work at 8:00 clock and works 10 to 12 hours at a stretch in the school. There is no tendency to avoid work for a moment; all teacher are very sincere, they cannot manage time for the visitors during school time without appointment. Learning status of the school is very high; there are a lot of assets in the school. But still the British are not happy about their education system. There are many criticisms: It is said that 90 per cent of the for fund for school is used for the salary of the teachers and the teachers spend 40 per cent of total time for non professional work. Some even say that this system is not appropriate to motivate student to have higher education, it is not functional etc.

As a fun-loving nation the British also do not hesitate to make fun about this system, they say, "Well, it's a British system." They say this when anything goes wrong.



# Garfield®

by Jim Davis



Children at play ground in play time