

ALTERNATIVES TO TOBACCO?

by David Patchett

It is widely accepted that tobacco is one of the most profitable cash crops in both developed and developing countries and that, in general, tobacco complements rather than competes with food production, given that tobacco, on a global basis, occupies a relatively small area of land. For the individual farmer, this means a higher net income per unit of land from tobacco than from such crops as wheat and maize, even though tobacco is a very labour consuming crop.

Tobacco is of prime benefit to small landholders. It is also a significant generator of employment and is generally a more reliable source of foreign exchange than most other commodities. The fact has long been recognised by policy makers as tobacco generated income is an important source of revenue for local, regional and, in some countries, national development. Furthermore, as many small tobacco farmers are self-sufficient, to some degree, the cash earned from tobacco goes directly to the providers of goods and services. Consequently, income from tobacco is indirectly very important to the village, the district and ultimately the region where it is produced.

Because of its high labour requirements tobacco has been instrumental in stemming the flow of unemployed and underemployed people from rural to urban areas. As a consequence, tobacco is frequently seen as a means to partially alleviate the social and economic problems, associated with surplus rural labour which currently beset many developing countries.

Tobacco cultivation, which demands sound farming practices, has also been an effective way of introducing crop husbandry techniques which ultimately benefit other cash and food crops. Compared to most other crops, returns from tobacco tend to be more stable and this, linked to guaranteed market outlets and assured sale price levels, results in a greater degree of certainty and

thus of security than is often the case with most other alternatives.

In purely economic and agronomic terms, tobacco production can be said to have many tangible benefits not only for those who grow it, but also to the overall economy.

The World Health Organisation has recently asked for studies from other relevant UN agencies to investigate crop diversification programmes, particularly in countries whose economies depend significantly on tobacco production. At the moment such a switch seems to be out of the question given that world tobacco production and consumption have been projected by FAO to increase at an average annual rate of some 2 per cent, through to the year 2000. Therefore, it is unlikely that farmers will have the incentive to curtail tobacco production whilst demand is expected to remain buoyant during the current decade. At a more practical level, farmers will continue to produce tobacco whilst it remains profitable.

Market Factors

It is often stated that on purely technical grounds there are many opportunities for farmers to diversify away from tobacco. However, when economic and market conditions are taken into account, the position is somewhat different. For instance, a move to other crops is greatly influenced by topography, climate, soils, crop husbandry techniques and, for many alternative crops, the availability of irrigation facilities. Moreover, to evaluate the impact of tobacco crop substitution, it is necessary to ascertain the effect it would have on farm income and on rural employment, taking into account the fact that tobacco, in both developed and developing coun-

tries, is mainly produced on small family farms.

The removal of tobacco from the farming system would require it to be replaced by a crop or crop mix capable of generating a similar income to preserve the farm's viability. Although some crops do produce a higher gross margin than tobacco, it is erroneous to think that farmers could simply replace tobacco with other high value crops. First, high value crops such as fruit and vegetables require substantial investment in equipment, which would probably be beyond the means of many small farmers. Second, and of greater relevance, is the fact that the existing marketing channels for such crops would face severe problems in finding outlets for large additional volumes. Furthermore, substantial additional supplies placed on the market would more than likely have a regressive effect on prices: as a result, the livelihood of existing producers would be threatened.

Despite these factors, both fruit and vegetables could be grown in developed countries by a proportion of farmers who currently grow tobacco, if the appropriate financial assistance for investment and marketing purposes were available. However, it is obvious that any large-scale switch from tobacco to other high-value crops would have a disruptive influence leading to unstable market conditions and a subsequent fall in prices of these crops.

In areas where the terrain soils and climate are unsuitable for producing other high-value crops, tobacco farmers are left with a limited choice of alternatives — none of which comes near to matching the revenue derived from tobacco or of providing the same employment opportunities.

A further restriction is often the high degree of fragmentation of farms with fields widely dispersed. This clearly restricts mechanisation and thus, to a great extent, determines what crops can be grown. This problem is further increased in hill and semi-mountainous terrain in which, for instance, a significant proportion of tobacco is produced in Greece and Italy. In the higher elevations, in these countries, the only real alternative is livestock production: a change that would involve

farm amalgamation and a substantial investment in buildings to house the livestock during the winter months.

Sustainable alternatives?

In developing countries, the prospects of changing to other crops, which might generate equivalent financial returns to tobacco, are even bleaker and any changes are hampered by a general lack of information on production options and their subsequent effect on farming systems. The available evidence suggests that there ap-

pear to be few, if any, crops which could currently provide farmers with the income they derive from tobacco or provide for those presently engaged in its production, employment opportunities.

It is apparent that most theoretically possible high value crops such as fruit, vegetables and cut flowers have limited and non-sustainable marketing possibilities and increased production of tea, coffee and sugar is inhibited by international quotas which virtually determine the amount a country can produce. These

crops, however, are already grown on an extensive basis and if there were to be any increased production it would be on existing estates and plantations which have access to land and the necessary resources to enable them to increase output. Consequently, increased production quotas of these commodities would be of little benefit to small scale tobacco farmers.

For those who advocate a curtailment of tobacco production, crop diversification seems the obvious answer. However, a switch to other

crops and farm enterprises, even if they appear to initially realise the equivalent financial returns, is fraught with many socio-economic problems. At the moment, few, if any, tobacco farmers are likely to give up production whilst it is profitable. If demand declines and farm-age prices subsequently fall then market forces will ensure that farmers produce other crops or derive an income from other farm activities. Policy makers in major tobacco producing countries need to be made aware that any substantial reduction in tobacco production will cause a decline in farm income, a decrease in employment opportunities and a weakening of the agricultural and managerial skills that accompany the crop.

Courtesy: Tobacco Forum

THE Pathans, long renowned as fierce and legendary warriors of Pakistan's rugged North West Frontier Province, have engaged in a totally unexpected kind of warfare.

These fabled people — best known as gun-brandishing fighters and arms merchants who are not to be meddled with — are no longer merely armed to the teeth with bullets or, latterly, rocket launchers.

Now, they have added condoms to their arsenal.

A unique family planning programme in the Mardan District, north of Peshawar, has convinced almost 300 Pathans to go door-to-door promoting contraception. The initiative has, by all accounts, worked extremely well.

The project, launched in May 1988, had an initial goal of training 100 male volunteers, both literate and illiterate, about the intricacies and advantages of family planning. The stalwart Pathans, working in teams of five, had the momentous task of spreading information and distributing condoms among the 200,000 people of Mardan, a city in the heart of their tribal homeland.

The unusual decision to educate men to take on what had

Legendary Pathans Discover Benefits of Condoms

previously been viewed by Pathan society as a predominantly female role was seen as the most practical way of bringing the area's rapidly-growing population under control.

In the North West Frontier Province, only 10.7 per cent of the sexually active population is thought to use contraception — below Pakistan's national average of 11.8 per cent.

Many factors account for



this, including a low female literacy rate and a tendency for girls to marry early in life, before they have had the chance to learn about contraception. As well, the Pathans have often resisted family planning because their male-dominated society attaches great importance to the number of males born into each family.

In a male-dominated society where family planning could be viewed as a threat to inherited tribal roles, male acceptance was seen as critical to the success of any project.

Nonetheless, despite the cultural hurdles facing the Mardan project, it got off to a flying start. Volunteers literally queued up to do their part in reducing population growth. An original corps of 100 volunteers soon expanded to almost 300. The group now even includes a small number of religious scholars, known as Ulemas and spiritual leaders, called Imams.

A few women have also

joined the volunteers to help in discussions of family planning with other women, some of whom live in seclusion, or purdah, from all but close family members.

So enthusiastic are the volunteers that they have expanded their services to villages outside Mardan. They hold regular fortnightly meetings and have begun handing out condoms, leaflets and advice at booths which they set up at agricultural shows and other events. The promotional stalls are often colourfully decorated with blown-up, twisted and intertwined condoms shaped to resemble objects such as ships and animals.

If the number of people now asking for condoms is any indication of the project's success, organisers can take heart. Figures quoted in quarterly reports of Mardan's Urban Community Development Council (UCDC), the body administering the project, show that 76,600 condoms were distributed in the first three months of 1991 — as against only 18,250 for the same period in 1989. The reports were submitted to the United States-based Pathfinder International organisation.

THE world's first hospital on tracks now travels along India's railways.

It carries free medical aid to millions of handicapped patients in rural areas.

Called 'Lifeline Express,' the medical train is "a path-breaking enterprise and something for India to be mighty proud of," says one social worker.

And it is "already arousing considerable interest in other countries," according to Sir John Wilson, a senior consultant with Impact India, a social service organisation which is, together with Indian Railways, behind Lifeline Express.

Interestingly, it was Sir John whom India's first prime minister, the late Jawaharlal Nehru, suggested that the country's vast railway system could be used to deliver health and other social services. by Jagan Nath.

well. It will also complement or initiate local child immunisation campaigns and conduct health education.

At the Bombay railroad station recently, Lifeline Express was flagged off by V.N. Shukla, general manager of the Central Railway, and nine-year-old Sangeeta.

For Sangeeta, Impact India has proved to be a real lifeline. Until last year, she had been

fully crippled with no hope of ever walking on her own.

Today, thanks to Impact India, she can walk, albeit with the aid of calipers. The child was the cynosure of all eyes as the Bihar-bound Gorakhpur Express took off. Leading the coaches was Lifeline Express — three coaches in red, white and blue, embellished by a gay profusion of flowers.

— Dephneus

too early to say when human trials could start.

The group has so far conducted only preliminary laboratory tests. The next phase will involve animals and then humans. One area of study will be the metabolism of the orange peel oil to determine if the digestive system keeps the active constituents intact until it reaches the gallstones.

Health Briefs

ORANGE PEEL OIL DISSOLVES GALLSTONES

Oil extracted from orange peel has been identified as a possible new treatment for dissolving cholesterol gallstones that are painful and usually require surgical removal.

Researchers at the All India Institute of Medical Sciences in New Delhi have shown through laboratory tests that orange peel oil can dissolve, perhaps even disintegrate gallstones. Fragmentation of the stones immersed in orange peel oil begins within an hour.

Drugs are available today to dissolve stones in the gall bladder, but these are synthesized from the bile of wild bears and are expensive. Moreover, these drugs are effective only in some 20 per cent of patients. The others have to go in for surgery.

The AIIMS doctors led by Dr. Rakesh Tandon have conducted a series of laboratory tests in which they immersed stones already removed from patients through surgery into orange peel oil. The dissolution of the stones is faster than any other solvent, says Dr. Tandon.

The AIIMS team started work on orange peel oil following reports that plant products called terpenes, more specifically a chemical called D-limonene, can dissolve gallstones. Orange peel oil is 90 per cent D-limonene, and its effect on dissolution is even better than pure D-limonene, says Tandon.

"We believe the other ten per cent of the oil contains surfactants, which increases the miscibility of the oil, making the solvent penetrate the stones faster and better," said Tandon. But, he said, it is still

KITS FOR EARLY DIAGNOSIS OF TYPHOID

Doctors at the All India Institute of Medical Sciences, New Delhi, have developed a simple and reliable detection technique for typhoid.

The system is based on monoclonal antibodies against Salmonella typhi, which will be used to detect antigens in the urine of typhoid patients by the enzyme linked immunosorbent assay (ELISA).

Current methods of diagnosis of typhoid, using blood samples of patients, are cumbersome and expensive and it takes a long time before the results are available.

The new detection system was developed by a team of researchers from the departments of microbiology, paediatrics and medicine at AIIMS. The effort was supported by research grants provided by the department of biotechnology.

AIIMS and a private pharmaceutical firm, Ranbaxy Laboratory Limited, have signed an agreement under the aegis of DBT for commercialisation of the kits.

The system developed at AIIMS is unique and is not available anywhere in the world, an AIIMS spokesman said. It is AIIMS's first immunodiagnostic technology available for licensing to the industry.

The kit, when available in the market, will make available for the first time an early and simple detection technique for typhoid.

— PTI

COMMUNITIES in Bangladesh and Mexico are cooperating with British government and voluntary organisations to test new and inexpensive ways of packaging medicines in developing countries.

In these areas, medication is often handed out loose, or merely folded in paper or the patient's clothing, and similar-looking medicines can easily be confused. Rain has even been known to dissolve some medicines before patients reach home, while others, unlabelled, have been wrongly administered and caused poisoning.

With support from Britain's Overseas Development Administration (ODA) and the London-based charity Appropriate Health Resources and Technologies Action Group (AHRTAG), two types of packaging machine have been de-

signed and tested in Bangladesh.

One granulates and then remoulds waste plastic into small containers and measuring spoons. The other stamps out shapes from waste paper and card that can be folded into boxes and envelopes.

Both types are simple to operate and maintain and use materials that are usually free. Operating them can also provide occupational therapy for long-term hospital patients.

Income Generation

Some of the machines were modified in Britain and sent to Ajoja, a highland village in western Mexico with a population of about 1500, for further trials. Most of the people testing the machines are disabled and in need of low-cost rehabilitative work.

They are always looking for rehabilitation and income-gen-

Lifeline Express Takes Health Care on the Railroad

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New Approach to AIDS Prevention in Eastern Europe

RELATED official recognition of "anti-social" practices such as prostitution, homosexuality and drug abuse in East Europe has brought about new approaches to AIDS previously viewed as a "capitalist" disease.

Before the political changes which swept the region in 1989, governments there tried to restrict the entry and spread of AIDS by compulsory HIV- antibody testing of all foreigners and nationals returning from the West. HIV-positive nationals were readmitted but strictly monitored by the state.

The more open political climate has led to an easing of travel restrictions and a relaxation of controls on sexual behaviour. The changes carry both opportunities and dangers for AIDS prevention efforts.

Health educators have been able to learn from the successes and failures of AIDS campaigns in western Europe because HIV arrived later in Central and Eastern Europe than in the rest of the continent.

Hungary and Czechoslovakia reported the first cases of AIDS and HIV infection in the region in the mid-1980s. Although only Albania still reports no cases of AIDS or HIV infection, the region still reports less than 3% of total European AIDS cases.

Educators are also fortunate that AIDS awareness was established before political changes diverted public atten-

tion from the epidemic.

Civil rights for people with HIV/AIDS which were denied in the past are now in place in most of the region. The principle of "informed consent" — being advised of the aims, risks and alternatives to any medical intervention — has been recognised.

Soviet law protects the rights of AIDS patients and people with HIV. It says that people with HIV/AIDS will be provided with free medicines and transport to and from treatment centres.

For the first time, AIDS service organisations (ASOs) and the gay (homosexual) movement are at the forefront of AIDS campaigns in the region.

Hungary's gay organisation, Homeros Lambda, for example, has been recognised and supported for its pioneering work on AIDS. In addition, Plus, a self-help federation has been set up by people with HIV and AIDS to overcome social isolation. It received so much press coverage that its slogan, "Give Life a Chance," has become a national catchphrase.

In Yugoslavia drug users are now targeted in national AIDS prevention campaigns. Methadone (heroin substitution) therapy is used at treatment centres, single-use needles are available at chemists, and condoms are sold in Belgrade newstands and supermarkets.

But discrimination and intolerance of people with

HIV/AIDS still exist. Earlier this year, a married couple in Riga in the Soviet Union committed suicide after being informed they were both HIV-positive. Friends and neighbours were quoted as saying that the couple would not have had much of a life, since people would have treated them like lepers.

Intolerance is compounded by the rapid pace of change in the region, which poses particular challenges for AIDS prevention. High rates of unemployment and widespread poverty mean risky behaviour such as prostitution and injected drug use are far more prevalent.

There is no doubt, however, that facing up to the problems can bring results. In Yugoslavia, rates of HIV-infection have dramatically decreased, contrary to trends in western Europe. The number of reported new cases of HIV infection declined from 529, when national figures were first collated in 1987, to just 150 last year.

Primatus Branko Poick, director of the Federal Institute for Public Health in Belgrade, believes that public education campaigns played a part in this surprising reversal:

"It could be that we actually managed to cover the high risk groups in the first few years of blood testing and identified the bulk of those infected. Or it could be that our anti-AIDS campaign worked well and that new cases are not occurring."

According to some of these para-psychologists, the near-death experiences fall into three types: autoscopic (an out-of-body experience); transcendental entry into a spiritual realm; and experiences that mix the two. Some protagonists of the study claim that there are compelling evidence that the people who had out-of-body experience had a unique perspective on the hectic activities attending their last moments.

According to this interpretation the following are among the traits that define the near-death experience:

- A sense of being dead: At first many people do not realize that the experience they are having has anything to do with being near death. They find themselves floating above their body and feeling confused.
- Peace and painless: During a near-death experience, all pain from an illness or accident vanishes. In its place, peace and painlessness prevail.
- Reluctance to return: Many find their unearthly surroundings so pleasant that they do not want to return.
- Out-of-body experience: Frequently people feel themselves rising up and viewing their own bodies below.
- The tunnel experience: This generally occurs after an out-of-body experience. For many, a portal or tunnel opens and they are propelled into darkness.
- Once people pass through

the tunnel, they usually meet beings of intense light, which permeates everything, and fills them with feelings of love.

The challengers of this interpretation claim that near-death experiences can better be explained by ordinary science. There are some fundamental problems with the notion that survivors have actually experienced death.

There is a basic confusion about the definition of death, which in recent years has been revised to mean complete brain death. According to the skeptics, what near-death experiences reflect is not death, but the dying process. What the people undergoing these experiences pass through is an altered state of consciousness presumably associated with the changes taking place in a dying brain.

There are also other physiological explanations for the near-death experience, according to critics. When the body is badly injured, the heart stops, the brain is deprived of oxygen. Its effects are well documented. At first there may be a sense of well-being, probably the result of the brain's endorpin response to extreme trauma. As more neurons are damaged by lack of oxygen, the brain's ability to make critical judgments becomes impaired and reality becomes vague or illogical and hallucinations occur.

Some have also suggested that the near-death experiences are similar to the hallucinatory experiences induced by drugs, which are directly related to states of excitement and arousal in the central nervous system and are accompanied by disorganisation in the brain's regulation of incoming stimuli. Just as psychedelic drugs can trigger such neuronal frenzy, so too can anaesthetics, fever, exhaustion, and probably the emotional and physiological process involved in dying.

Others have suggested that a kind of "depersonalization" process may be at work during an near-death experience. What this means is that the near death experience is actually a psychological reaction to the prospect of facing imminent death, a coping mechanism used to struggle with a distressing, traumatic situation.

However, because of the highly intriguing nature of the subject, further scientific enquiry and research into the matter are needed to satisfy our hunger for knowledge for the unknown.

Near-Death Experiences

by A.S.M Nurunnabi

LATELY in the Western world, a new study of human peculiarities has been initiated. It relates to the remarkable mental journeys of people who had come close to death but had not died. The study has its skeptics; yet it seems interesting to get acquainted with some of the ideas put forward by its supporters. To many these ideas may seem extraordinary and bizarre. However, since some scientific foundation is claimed for these ideas, we may attempt an outline of them to satisfy our intellectual curiosity. This upsurge of interest in so-called near-death experiences is no doubt a consequence of the fact that more than ever before, people can be "brought back from death's door". Medical science can now resuscitate patients who have suffered cardiac arrest, who have stopped breathing and who have little discernible brain activity — people, that is to say, who years ago would have died.

According to some of these para-psychologists, the near-death experiences fall into three types: autoscopic (an out-of-body experience); transcendental entry into a spiritual realm; and experiences that mix the two. Some protagonists of the study claim that there are compelling evidence that the people who had out-of-body experience had a unique perspective on the hectic activities attending their last moments.

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Inexpensive Ways of Packaging Medicines

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Income Generation

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erating activities," said Martin Long, AHRTAG's project development officer, who visited Mexico in 1990 to set up the tests and train local staff in the operation and maintenance of the machines.

Waste plastic for the tests was collected locally from a workshop manufacturing artificial limbs. The packaging machines had been converted to take Mexican voltage and Spanish instructions were supplied.

AHRTAG is assessing the response to the machines and the new packaging. It is also interested in the reactions of pharmacists and dispensers and in whether patients find it easier to follow prescriptions when medicines are properly packaged.

If the project is successful, the technology will be made available throughout the developing world. (LPS)