

# Immunization 1990 : Success and Beyond

LOOKING back it is clear that Bangladesh in the early 1980s, recognised: Tetanus and measles are the two most threatening diseases. We have to tackle child survival in order to enable the poor to develop.

But the issue was feasibility: "Do you know that delivering vaccines in Bangladesh is not easy? ... Its like buying an ice-cream cone in London and delivering it to Bhola." Many concluded it could not be done.

Then various programmes were conceived in the mid-1980s to help government with national EPI. Support included staff who assisted the government workers from union to district level in planning and implementation. In

all upazilas of the country social mobilization, training and EPI service delivery were developed. The Government and NGO workers added EPI to their routine jobs.

In February 1991 an internationally supervised WHO cluster evaluation survey was carried out on a sample basis to evaluate immunization coverage. Rajshahi Division reached the 80% coverage level for all antigens as can be seen in figure.

The EPI programme can rightly take credit for this remarkable accomplishment. We should not be too quick to congratulate ourselves because every year 4 million babies are born and they need the pro-

tection of immunisation. We need to promote EPI so that 80% coverage is achieved every year in every ward, every upazila and every district.

What are the benefits of EPI? ICDDR,B found a 40% reduction in childhood mortality among all children in Matlab with 80% coverage. This reduction of under-5 mortality substantiates that once protected, children do not die of other causes. Figure shows the improvement in survival.

### How was the EPI success achieved?

- use of existing FWAs and HA as vaccinators.
- involvement of DCs, UNOs and upazila Chairmen to encourage and monitor EPI.
- recruitment of many partners to mobilize parents and society for immunisation.
- steam sterilization to assure clean needles and syringes; an effective refrigeration cold chain; and
- provision of monthly vaccination sessions in villages at 8 sites per ward ... in all, over 108,000 outreach sites throughout the county.

What can we expect from EPI in the 1990s? When 80% or higher coverage is sustained then herd immunity protects the unvaccinated. Eradication of polio, measles and neonatal tetanus is possible. These are goals of the 1990s.

Vitamin A distribution can be given as a "squirr" to all infants 6 months and older through routine EPI services. A

new liquid Vitamin A dispenser has been developed and tested in Bangladesh.

Family planning services can be more effectively promoted and the means to contraception provided when child survival is assured. The combination of child survival and family planning will promote the final phase of the demographic transition when the number of children born equals the number of people who die, resulting in stabilization of the population.

### Each Government and NGO worker and each organization needs to:

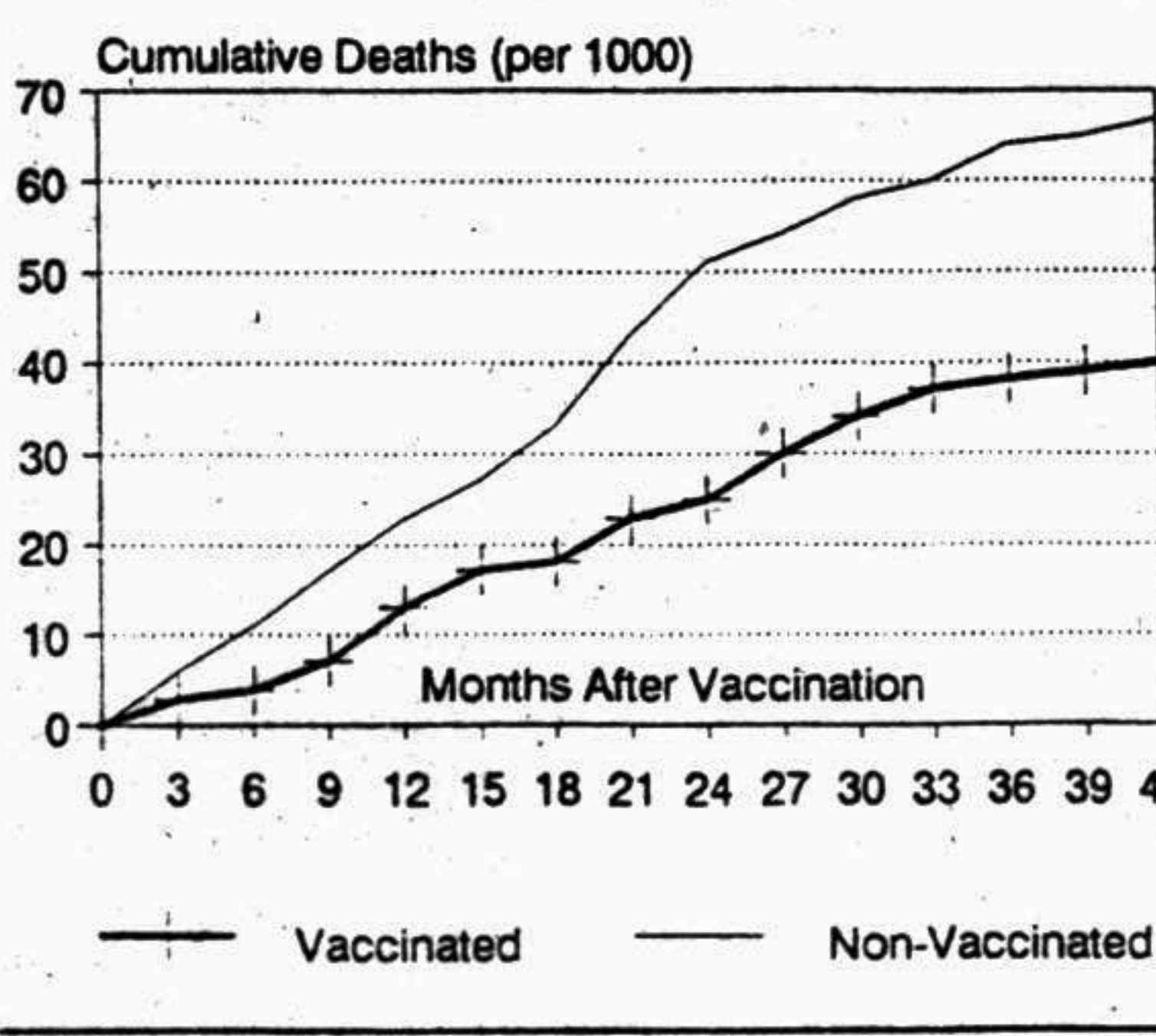
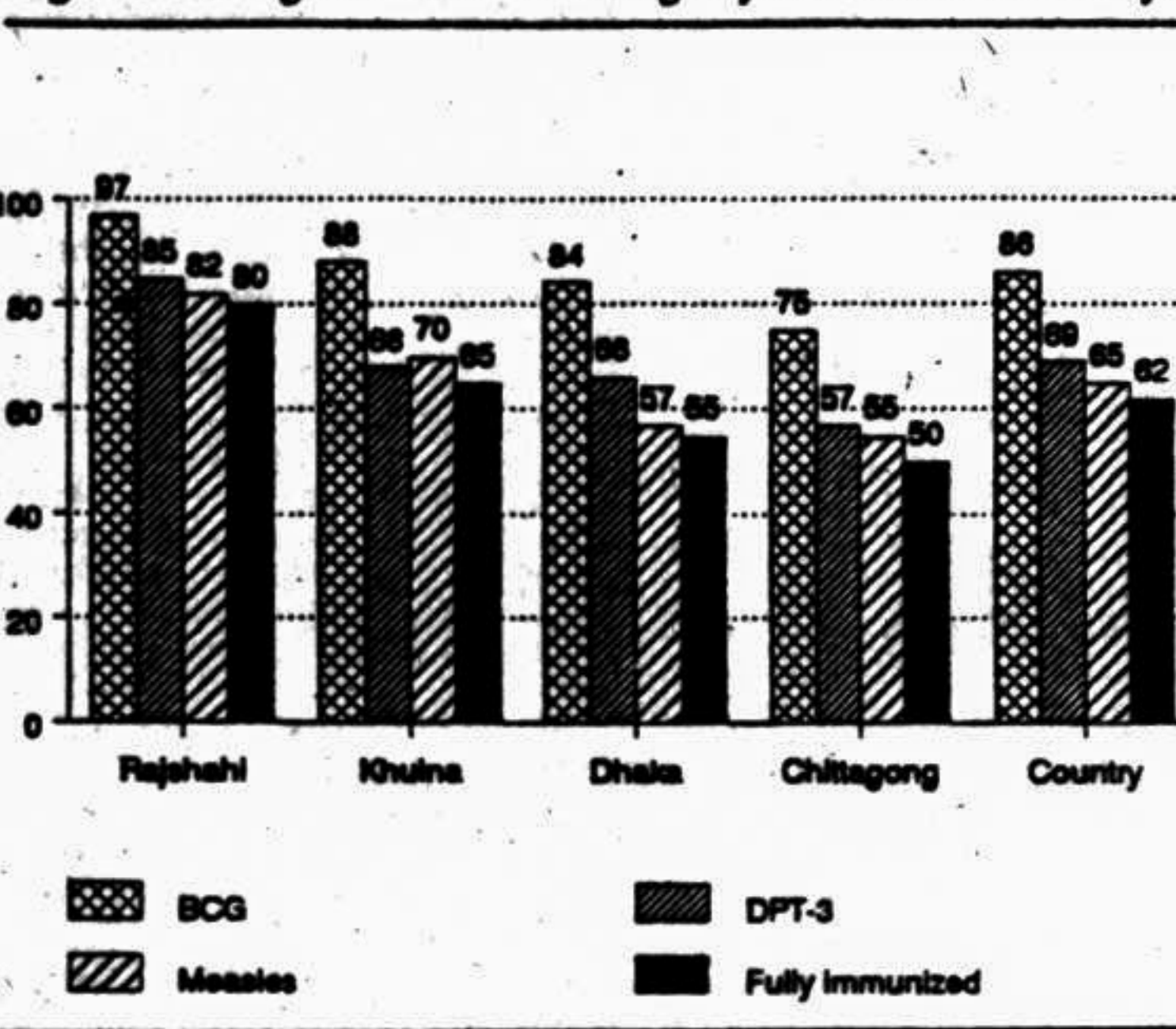
- Promote awareness of EPI. Every parent, every NGO worker, every communica-

tor, entertainer, artist, journalist and every government official and politician can inform the public that every newborn should attend four EPI sessions;

- Monitor EPI service delivery to make sure that 1 session is held each month at all 8 outreach sites in every ward throughout the country. Check to make sure the steam sterilizer is used, that the vaccines are carried in the cold box and that mothers have an EPI card; and

- Encourage HAs, FEAs, UHFPO Civil Surgeons and UNOs, DCs and upazila chairmen to provide regular EPI services.

Figure - Bangladesh EPI coverage by division and country.



WHEN Matthew Tetteh set off from Accra on his way to Takoradi, in the Western region of Ghana, one day in 1969, it had been pouring for days.

A few score miles from the capital, Matthew saw that the traffic had come to a standstill. He stopped to investigate, and found that a bridge across the road had been washed away by a river in flood.

Matthew had received training at the Takoradi Technical Institute, and as he surveyed the scene before him he marvelled at the force of the water. Engineers had made exact calculations before building the bridge across the river. They had also used materials in constructing the bridge which they believed would withstand any stresses that it endured, either from vehicle loads or rising waters. Yet there lay the bridge in ruins.

Even as the fallibility of modern engineering registered itself on Matthew's mind, his scientist's eye noticed something else. On one of the river banks stood an anthill still intact, undamaged by the eddying waters that rushed around and past it.

Matthew put his hand to his lips: "How?" he wondered. "You mean the termites that built this mound know something that human engineers don't?"

From that day in 1969, Matthew determined to unlock the secret of the termites and place it at the service of humanity. To realise his dream, he took a trip to the United States to learn soil analysis at the laboratories of Western Chemicals in Los Angeles and Teoc Laboratories in New Orleans.

Satisfied that he had cracked the chemical composition of the substances used by the termites to bind soil in such a way that no flood could dissolve the anthills they built, he left for Germany. There he set out to design a machine that could use ordinary laterite and chemicals to make bricks durable as the anthills that had stimulated his imagination.

To say that the struggle to design and build a working model of his idea was an uphill struggle for Tetteh is an understatement. First, he had to get German engineering companies to take him seriously.

## Termites Show the Way to a Housing Breakthrough

An enterprising Ghanaian, curious about the durability of anthills even in violent weather, embarked on a search to find the answer. His odyssey took years of study in the US and Germany. Now back in Ghana, with the answers, Matthew Tetteh is building houses with bricks made on-site in a portable machine of his own invention. And, as Gemini News Service reports, other African countries are now showing interest. by Cameron Duodu

The language difficulty apart, who had ever heard of an African designer of engines?

When he had made enough of an impression on some companies to obtain their co-operation in building and testing the machine, he had to engage in a certain amount of subterfuge to prevent them obtaining enough information about it to appropriate the design as their own.

He did not put much trust

in patents, for his intuition warned him that when the patents for an impecunious African are stolen by a big European company that could retain the best legal brains available, he would have a tough time fighting them in the courts.

Eventually he managed to construct a prototype machine which he took home to Ghana to try out. He built a partially-completed house with bricks

made by his "Unbrick Clu 2000" machine, and left it to the mercy of the elements to see how it would fare. It was okay, despite the cyclical bombardment of rain and sunshine.

Next, he sent samples of his bricks to the Ghana government's committee on the use of local building materials. On March 18, 1977, one of the happiest days of his life, Matthew received a letter from the chairman of the commit-

tee: it told him that his "stabilised soil brick has comparatively higher compressive strength, as compared to some of the stabilised land-crete blocks" in use in Ghana.

The committee added, however: "While congratulating you on the successful results of the tests on your Unbrick, we still suggest that we get a Standard Board approval for its use."

Matthew sent samples to the Ghana Standards Board. Unbrick passed the Board's tests with flying colours as well. On July 18, 1977, the Board wrote to Matthew: "The results show that the mean stress of the bricks is above average for sun-dried bricks."

Then came a wait of many years as Matthew battled to find the finance to develop his research and development results. Since then, Matthew has been contacted by several international bodies, including in 1985 the United Nations Industrial Development Organisation (UNIDO), to address gatherings of scientists on the way his Unbrick could revolutionise housing in poor countries.

The main advantages of it are:

1. The Unbrick machine can easily be transported to building sites, thus cutting out the waste that occurs when bricks are made on one site and transported to another.
2. It uses laterite obtained from the site itself.
3. Training in its use takes a few days and users do not need to be well-educated.

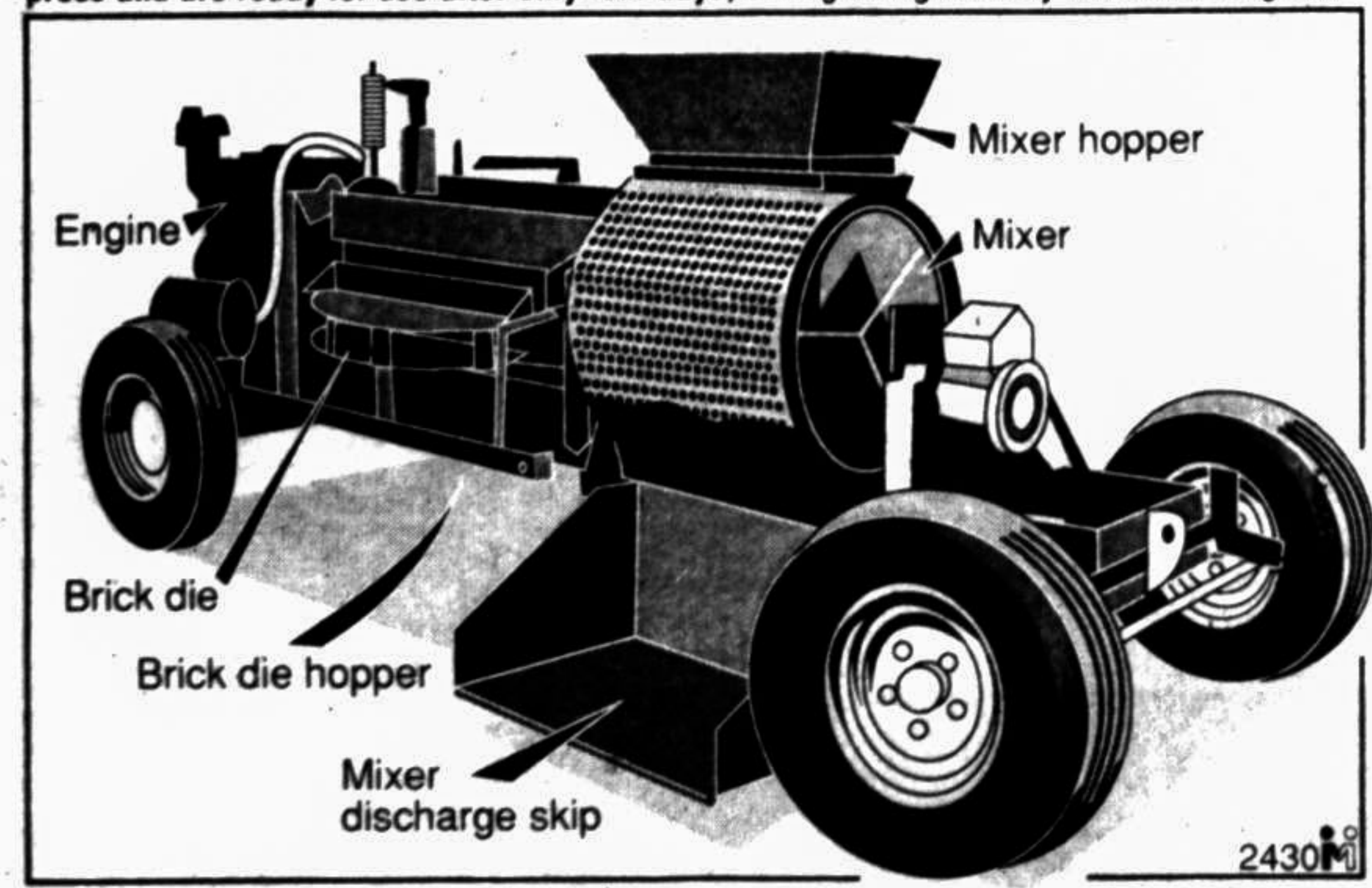
These qualities make it ideal for use in rural communities, where the need for good housing is paramount.

Good cheap housing in the rural areas will discourage the movement of people from the productive countryside to the overcrowded urban areas.

Twelve houses — two and three-bedroom semi-detached houses with all "mod cons" — built by Matthew Tetteh at the Dansoman Estate exhibition area, in Accra, have been occupied. More are being built.

### The portable brickmaker

The Unbrick Machine Clu 2000: A self-powered mobile machine which can produce between 500-700 waterproof bricks an hour. These are made of a mixture of laterite with small volumes of chemicals. The Unbricks can be stacked 12 high straight from the press and are ready for use after only four days, curing being done by the circulating air.



MAJURO: The garden project was neither high budget nor high profile.

But in little more than six years, it has become firmly established in seven Pacific countries, perhaps precisely because it is a small, family-oriented project.

The goal is to increase the availability of nutritious local produce. The essence of the project is self-help.

The Family Food Production and Nutrition Project (FFPNP) — initiated in the mid-1980s by the UN Children's Fund (UNICEF) — does not offer large amounts of funding, supplies or equipment.

"We're concerned with family food security," says Paul Sommers, UNICEF's coordinator in Fiji. "We have to make sure that families' food situation doesn't deteriorate further as we move into the 1990s."

"We're there to help them do gardening on their own, not to depend on the government

## Home Garden Scheme Promotes Nutrition

by Giff Johnson

to make a garden for them," says Marshall Islands coordinator Stephen Lepton. The garden project involves Fiji, the Marshall Islands, Solomon Islands, Kiribati, Tuvalu, Palau and the Federated States of Micronesia.

Getting leaders involved in gardening helped promote the idea of home gardens, says Teu Manuella, Tuvalu project coordinator. "We got influential people in each community to have demonstration gardens at their homes."

The Fiji project has followed a similar track. Coordinator Narendra Prasad says a large demonstration

garden at a private school in Suva, Fiji's capital, has proved a very effective advertising tool for the gardens. The school project involves 800 students.

Fiji's Peni Qionjwasa saw health centres as fertile ground for gardens, and started several next to clinics on the Fiji's western side. "When the nurses are counselling clinic patients about nutrition needs, they can point outside their window to the gardens to show them what to grow," Ms. Qionjwasa said.

At some of the health centres, staff and patients are involved in maintaining the gardens. "When the patients go

home, they have good ideas for starting gardens of their own," he said.

The coordination with public health nurses, non-governmental organisation development projects, and other social service agencies gives the project a natural link with health concerns. Says Fiji's Peni Qionjwasa: "The (project's) relationship with the health staff is very important. It cannot work on its own. It has to be combined with nutrition and health."

One reason FFPNP staff know that people are consuming the fruits and vegetables from their family gardens is

that the projects activities are not limited to the garden. "Food gardening has to be attached to nutrition and cooking demonstrations or it is useless," Ms. Qionjwasa says.

This is particularly important for the non-indigenous vegetables that project staff introduce to the islands.

Tuvalu project coordinator Teu Manuella said, however, that providing recipes and cooking demonstrations is just as important for the garden produce islanders are familiar with. She said that nutritious though it may be, a local diet on an atoll can become monotonous unless new recipes are offered to spice up the way the food is prepared.

The monotony, she contends, is one reason that people are turning more and more to imported foods.

—DEPTHNEWS



Family planning as a right: Many women, in the USSR and around the world, resort to abortion because they have few other means of limiting family size. Wider choice of contraceptive methods increases the number of users, and prevents reliance on abortion as a contraceptive.

## Malur Learns Tailoring and Family Planning

NEW DELHI: First it was Kerala, which achieved spectacular success in family planning integrated with literacy.

Now it is a cluster of villages in Malur, in the South Indian State of Karnataka, which is spurring achievement in rural development mixed with family planning.

The Malur family planning project involves women and youth. In the area of family planning, the focus is on integrating population activities with community development.

"We have all realised that there is a direct relation between planned parenthood and the healthy survival of children," says Ramamurthy, a village elder.

An immediate result is that maternal and child health awareness is much higher than before. A survey showed that most women know about immunisation schedules from pregnancy onwards. Pregnant women are aware of the need for regular health checks, adequate nutrition and health care.

Malur has some 400 trained nurses. They monitor mother and child health and ensure safe deliveries. The village has a government sub-centre for auxiliary nursing midwives.

Midwife services are provided at a low cost of 2 rupees (US \$0.16) for each delivery. Such a dedicated service costing so little is an impressive aspect of the family planning campaign.

Malur's health statistics also show its success. It has an infant mortality rate of 45 per 1,000, a birth rate of 25 per 1,000 and zero maternal mortality rate.

Malur is at the top in terms of community participation, absorption of government

schemes, income-generation projects and modern family planning techniques. Female utilisation of government development programmes far exceeds the specified quota of 30 per cent for women.

The general perception is that people in Malur district are more educated, and are aware of the need for better education and proper health care. They are also more politically conscious and active.

Most men and women in the cluster of villages in Malur

### The focus has shifted to integrating population activities with community development, by Prakash Chandra

have perfected a development strategy on various fronts. There is income generation, literacy, skills learning — all under the umbrella of family planning.

"We have learnt tailoring, bag-making. We work on sewing machines and earn money on the side," says Narayanamma, a mother of four children.

"The Family Planning Association has taught us that it is our families we can have a better life. Improve our earnings and bring up our children in a better way. Now we believe it. Earlier, we didn't."

Most of Malur's women have received farm tools and seeds. Many have learnt new ways of cooking. There has been a

widespread movement for literacy. Women's clubs have promoted schooling for girls and established children's homes and women's adult education centres.

"Women with small children who have to go to work on farms leave them at women's clubs," says Bayamma, a mother of five children. "Our children are healthier than we were at their age."

The women's clubs and income-generation schemes have catalysed women to think about themselves for the first time. Ideas flow on how to change their lives and raise their status.

Newfound identities in women have triggered off self-confidence and participation in debates. Opinion forming and decision-making — not only in socio-economic work but also in reproductive behaviour, fertility awareness and control — are encouraged.

"Ten years ago I was afraid of meeting city people," recalls Govindamma, a senior member of a village council. "Now I meet whoever they are, whether politicians, ministers or teachers. Now the women of Malur know what the world is outside the four walls of home."

The Malur rural project also involves youth clubs which are responsible for the distribution of contraceptives through community depots. These clubs have pledged not to accept dowry, to delay marriage and observe no-birth year to lower village birth rates.

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## 'Muscle Strain' Affects Nepal

N EPALI farmers are turning their backs on their ploughshares to join school dropouts and other eligibles in the technical training programmes being offered by government through various institutions.

The training effort is being undertaken in hopes of replacing Indian migrant workers who currently dominate job markets in Kathmandu valley and other industrial towns.

An international Labour Organisation survey recently found that Indian migrants held a quarter of all technically skilled jobs in Nepal's 18 townships between 1981 and 1987.

On the other hand, Nepalis

have sought work in Indian cities as security guards or cooks.

Former minister and scholar Dr. Harka Gurung describes the situation as "muscle strain."

The ILO with the United Nations Development Programme (UNDP) is now helping Nepal produce some 300 middle level technical graduates every year.

Such training is also offered at engineering campuses in Dharan, Pokhara, Kathmandu and Patan. The Ministry of Local Development and the Department of Labour run their own basic courses.

What has often been overlooked, however, is the inac-

cessibility of such training programmes to most needy Nepalis. Thus unemployment and underemployment rates have continued to rise.

A UN study in 1986 on Nepal's technical and vocational training made note of Nepal's immense labour force potential, with 42 per cent of the population aged up to 10 years. "One of Nepal's major resources that await mobilisation are human resources," said Prime Minister Krishna Prasad Bhattarai who came to power following the movement for democracy last April 1990.

Given skills, employment opportunities and financial support, Nepal's human resources could make a dramatic impact on the country's development, he said.

Basic vocational training assisted by UN agencies are in general mechanics, carpentry, masonry, cutting and stitching, weaving, house wiring and plumbing, among others.

—DEPTHNEWS ASIA