

Hybrid Pea Developed for Semi-Arid Tropics

The hybrid pea's potential yield is 40 per cent higher than natural varieties. And it matures in roughly four months, nearly half the normal maturation period of natural varieties.

AFTER 18 years of hard work, Indian scientists have developed the world's first hybrid pigeon pea. They claim it is the first time that agricultural research has succeeded in breeding a hybrid of any of the 15 pulse crops.

"We have made a tremendous breakthrough. It is now for farmers to use it," says 40-year-old Kulbhushan Saxena who led the pigeon pea research at the International Crops Research for the Semi-Arid Tropics (ICRISAT), at Hyderabad, south India.

The hybrid pigeon pea matures in roughly four months. This is nearly half the normal maturation period of natural pigeon pea varieties (there are about 17 species of pigeon pea in India).

And its potential yield is 40 per cent higher than natural varieties. Thus the farmer gets a quicker and better yield.

It was as a young scientist when Mr Saxena first discovered a potential breeding line for pigeon pea. "Once we got this, we knew that success was at hand," he says.

But it took him and a team of 14 scientists nearly 18 years — and US \$100,000 in research funds — to develop the new variety which promises higher yields than the natural varieties grown by millions of

farmers in north and south India.

Pigeon pea is called "split red gram" in Indian supermarkets. It is the favourite ingredient of the south India soup called sambhar. But what is more important is that pigeon pea has a protein of as much as 21 per cent.

Pulses provide the major source of protein in the Indian subcontinent, as well as a major staple in several southeast Asian countries and Africa.

With 90 per cent of the world's pigeon pea harvest, India is the largest pigeon pea producer. Some scientists believe that pigeon pea originated in India, citing ancient Sanskrit texts which refer to the pigeon pea.

The development of a hybrid pigeon pea is considered a benchmark since it promises a fast-growing, high yield staple for countries in the semi-arid tropics with a combined population of 800 million.

"Twenty per cent of the world's farming community survives here in the semi-arid tropics," says YL Nene, ICRISAT Deputy Director-General. "It is only in recent times that research in pulse crops has received its due importance and this could be one reason why the scientific community has not bred a

pulse hybrid till this time."

Scientists here agree that adequate research is not devoted to pulses. Most of the time, research and development focuses on the main cereals, like rice and wheat.

In developing the hybrid pigeon pea, many obstacles had to be overcome. In the first five years of research, over 1,000 hybrid combinations were evaluated until a candidate hybrid — called ICPII-B — was chosen.

Then for over a decade, farm scientists spread over 100 hectares across India went to work, planting and monitoring the hybrid. Yield trials were made in various agro-climatic zones of the country.

Now the ICRISAT is ready to share the hybrid pigeon pea free of cost to seed companies. There are some 30 private seed companies which are eager to pick up the hybrid pigeon pea for commercial distribution to farmers.

The ICRISAT, which is funded by the UN Development Programme, has agreed to provide technical guidance. "When the hybrid is introduced to the seed companies and farmers, we will tell them that they have everything to gain," says Mr Saxena. "We are going to start this with a series of farm demonstra-

tions." The Indian Council of Agricultural Research has several projects assisted by the Food and Agriculture Organisation which could provide demonstration farms for hybrid pigeon peas. This is part of India's farm extension work.

India itself has often been running short of pulses. Imports of lentils from Europe and elsewhere are often inadequate. India has been depending on Spain for its lentils.

The first crop of the hybrid pigeon pea is likely to be harvested in 1993. The government's Central Varietal Release Committee, empowered to announce the release of a hybrid, delayed the pigeon pea's release by a year.

ICRISAT scientists at the Indian Council of Agricultural Research agree that the seed release committee needed extra data about the hybrid pigeon pea. But researchers are nevertheless confident that the hybrid is a sure winner.

"At first we may have to subsidise the cultivation of the new hybrid," says a senior scientist at the Indian Council of Agricultural Research. "But once the farmer realises that he can have bumper crops in just four months, the demand will rise and we will have won a battle." — Depthnews Asia

Faces of Poverty: Increasingly Female

PICTURES of poverty are unchanging in Asia, whether in the ricefields or in city intersections. Like Linda, in a remote Philippine farm, the farms owner had let her scavenge from the harvested plots, but few stalks of grain had been spared by the sickle.

There won't be enough for tomorrow's pot of rice, unless she ties to where the dried stalks are being machine-threshed, to catch with her winnowing basket the stray grains spewed with the hay.

In India, balancing bricks on one's head — about 15 a time — is tough even for one reared on carrying loads from firewood to water jars.

Hums and the other women do it better than the men though. And this got them the job at a construction project in New Delhi. This, plus probably the fact that they would put up no fuss if the contractor paid them a few rupees less.

The sight could be anywhere in Asia — a woman, head bowed, sitting on a grime-caked steps of a busy city intersection, viscous blood at her feet beside her alma can. Her coughing fit must have turned a few heads, but no one stopped to see how she was.

These faces of poverty continue to be a familiar sight in many countries, and the faces are female. Their survival is often numbered in days.

With the increasing use of gender-differentiated statistics, a picture has emerged — that poverty is becoming "feminised." The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) notes in its *Economic and Social Survey of*

Asia and the Pacific 1990 that already, 70 per cent of the world's poor are women.

Although women and men are both subject to the same economic and political forces — national and global — that determine how much money goes into one's pocket, the odds are stacked against women because of discrimination based on gender, noted ESCAP.

On average, the wages received by women are only two-thirds of those of men. If land, credit and other resources that affect agricultural produc-

tion, as numerous studies have documented, have been the women whose work has been made redundant by the machines.

Also contributing to women's poverty is the fact that an increasing number of them are becoming heads of households, often singly supporting the family, as men migrate for jobs. The ESCAP found such households to compose 20 per cent of all households in Thailand. In Bangladesh, 15 per cent of all rural households and 25 per cent of landless rural house-

holds are headed by women. A number of participants, however, rejected existing development schemes as the framework within which to work out solutions to poverty.

What should be stressed, they said, is a woman centred perspective, the fundamental point of which is "that economic life cannot be explained simply in terms of production, but must be understood in terms of the mutually dependent spheres of production and reproduction."

Reproduction means not only the bearing of children but also social reproduction including activities categorised as housework, child rearing, education, health care and other services geared to the reproduction of the next generation.

An ESCAP report for the meeting notes: "Women's stereotyped reproductive and productive roles have perpetuated their subordinate status throughout the ESCAP region. While women play a significant, and in some senses predominant, role in economic and social development, their aspirations remain unmet."

For gender equality to be achieved, says the report, the following must be ensured: that women receive equal treatment as the men before the law, that they get the same wages as men for the same kind of work, that they have equal access to education and training and that their interests are considered explicitly in all development policies, plans and programmes. — Depthnews Asia

The roots of women's poverty can be traced to as far back as the womb

activity are hard to come by, it is doubly so for women who must, in addition, deal with the social and cultural obstacles faced by their gender.

For example, the Food and Agriculture Organisation has noted that development interventions seeking to make things easier for poor farmers — by improving access to land, credit, training, extension and marketing facilities — do not reach women. Instead, the latter are targeted through "home economics" interventions that do not take into account their productive roles.

In industries, the same push given to male workers by technological progress pulls the women back. Why? Normally it is the women who perform manual work, who are not trained in the skills required to learn the higher technology. The first casualties

holds are headed by women.

The roots of women's poverty can be traced to as far back as the womb, when the mother does not get enough nourishment for herself and the growing life within her. In some parts of Asia, aborting a foetus if this is found to be a girl is still practised. Daughters suffer from nutrition biases that favour their brothers. And laws still exist that deprive them of their just inheritance.

An intensified sexual division of labour is one of the factors contributing to women's poverty, said a recent international seminar entitled *Beyond the Debt Crisis: Structural Transformations*.

One sign of this trend is "the increasing reliance on women as a cheap labour force and a move towards subcon-

Beijing Becomes Self-sufficient in Milk Supply

IT'S a long way from milk rationing to having China's largest dairy farm and largest dairy processing plant.

Milk used to be rationed here, with only the newborn and the elderly assured of getting regular supplies.

Now, China's capital is self-sufficient in milk, the supply doubled in the last decade.

In 1982, there were only 20 dairy farmers around Beijing, but now there are 5,000. And by 1990 there were 23,000 dairy collectives, up from only 4,000 in 1982.

This is no small feat, with the rationing system long gone, with milk and dairy products available any time of the day — thanks to farmers like Mi Zhong and a modest seed aid from the UN World Food Programme.

Mr Mi, 40, of Liangzhuang village, bought two cows in 1987 with a 5,000 yuan loan from the city's Dairy Project Office. He now has seven cows yielding three tons of milk a month.

The Mi family of four is considered well off by local standards. They have an annual income of US\$2,300.

But that is getting ahead of the story. Much of the increase in milk is attributed by city authorities to the World Food Programme which, in 1984-89, provided China with 45,000 tons of milk powder and 15,000 tons of dehydrated butter. The aid was gratis, with 30 per cent going to Beijing.

With the milk powder and butter, Beijing produced 180,000 tons of recombined milk — 20 per cent of the city's total supply. It earned the city government more than 90 million yuan (US\$17.3 million) as seed money.

The city then invested the money and 210 million yuan of its own in a dairy industry and a Dairy Project Office. One-third of the World Food Programme seed aid was given to individuals and collectives as interest-free loans. Feed was provided at preferential rates.

With government encouragement, dairy farming developed rapidly. Improvements were made in milk collection, distribution and marketing.

Huoying is one of the city's 210 dairy farmers belonging to a collective farm. It owns 240 cattle, the first group of cows bought with a loan of 400,000 yuan from the Dairy Project Office. The cows each yield 8,000 kilos of milk a year, the collective earning US\$29,000 in 1990.

State-run dairy farms have also prospered. They now keep 35,000 cows, 75 per cent more than in 1982. State-run dairy farms now have more than half the city's dairy cows.

A new dairy center caters to all dairy farms in the city.

Based in a northern suburb, the center is staffed by veterinarians and technicians.

The city purchased road tankers, vehicles and storage tanks for better distribution of milk and dairy products. It set up 13 milk collection and 48 distribution centers equipped with refrigeration.

More than US\$7.7 million has been invested for improving dairy processing — including two plants for recombined milk production, four storage warehouses and five new dairy factories. Another four factories have been expanded with equipment from Sweden, Finland, Denmark and France.

Construction of the sprawling Beijing Model Dairy Farm started in mid-1988 and recently completed. Covering six hectares, it is the most advanced dairy farm in China with computerised feeding and

milking systems.

The Beijing Model Dairy Farm uses two sets of heavy duty milking machines made in Sweden. In 1990 it imported 300 cows from Canada, including 190 cows for reproduction.

With support from the Dairy Project Office, Beijing also built China's largest dairy processing plant, the Huaguan Dairy Corporation. Investments amounted to US\$30 million, including US\$2 million from the World Food Programme, US\$270,000 from the European Community and a Dutch government loan of about US\$7 million.

The plant started trial run in September 1991. It has seven processing lines from pasteurised milk, yoghurt, butter, cheese, sterilised milk, ice cream and milk powder. — Depthnews Asia

FOR most parents in India a US-based groom for their daughter is a prize catch. Little do they realise that if the marriage does not work out, life becomes a nightmare for the girl. Isolated in a distant land, with an alien culture and complex laws, she can find the trauma shattering.

Meet Mala Kishore, who, like scores of Indian women from conservative families, tried hard to make her marriage work. After four years of indignities, she was divorced without her consent. She now finds herself simply labelled "deportable."

Cases such as Mala's are not isolated. Indian women who had settled for arranged marriages back home to Indian men in the States become deportable shortly after they arrive in the country if their husbands do not want to live with them for one reason or another.

Explains Shamita Das Gupta, co-founder of the New Jersey-based women's group Manavi: "US immigration laws add to the trauma of broken marriages. For the law grants only conditional residency status to spouses of Green Card holders for the first two years after entering America. Thus, the spouse with the Green Card, the husband, calls the shorts' and the woman be-

When Divorce Can Mean Deportation

comes a victim of the system."

Further, a spouse holding a conditional visa must file a joint petition for a permanent resident status, three months before the expiry of the conditional visa. Unscrupulous Indo-Americans serve divorce papers on their wives before the two-year period expires, making the wife technically deportable unless the divorce is contested.

Ms Vicki Jo Cohen, a New York-based lawyer who offers services to Manavi clients, points out: "If the alien spouse pulls the plug on the marriage for a good reason and the authorities recognise that, then the alien spouse could have permanent residency." But for women like Mala, raised to believe that a woman's place is a few paces behind her husband, walking out of a marriage is unthinkable.

"Indian men here take advantage of this fact," points out Uma Shah, president of the New York-based organisation, Asian Indian Women in America (AIWA).

Ms Shah cites the case of a young woman in Boston on a conditional visa. She "puts up with a lot of nonsense from her husband because she is worried about her immigration

status. To rock the boat at this point could mean divorce and possible deportation for her."

Unlike in India, however, divorced Indian women in the US do not have to bear the stigma of rejection. Some act on their own behalf to get the coveted Green Card which entitles them to take work.

One such is Ranjana Sen, 28, who decided to stay on in the US after being divorced by the New Jersey lawyer with whom she had an arranged marriage.

"I, too, arrived with a heartful of dreams but within days my life changed drastically. My mother-in-law lived with us. Instigated by her, my husband subjected me to all kinds of humiliations. This continued for months. I had no relatives or friends to turn to. I felt like a trapped animal. When the abuse became unbearable, I ran away and sought the help of Manavi."

Because Ranjana filed a complaint with the police before leaving her home, and her husband filed a petition only after she had herself asked the Immigration Office for a permanent visa, she got a Green Card without much fuss.

Unfortunately for Mala, her husband was the one who sought divorce. Thus, it will be extremely difficult for her to prove to authorities that she was as victim of abuse.

In many cases the husband sends his wife back to India and divorces her conveniently in her absence.

Sushila Iyer was married in Madras to a well qualified professional man based in the US. The marriage was fixed through the matrimonial columns after the matching of the horoscopes. Her father spent most of his savings on the wedding. Sushila joined her husband after two years.

Initially, the marriage seemed to work well but Sushila found a gradual change

in his attitude. Nervously, she suggested a holiday in India. Her husband quickly agreed but asked her to go alone. Sushila came to Madras only to find herself being served with divorce papers from a California country court. The divorce was sought on grounds of "irreconcilable differences."

Sushila chose to accept the divorce without even filing a reply. She felt that she could not go back and fight the case on her own.

In another case Shoba Kumar, a postgraduate, lived with her husband for two years in the US, working to support him while he completed his studies. However, he would often abuse her physically for not bringing a big enough dowry and insisted that her parents' house in Madras be put in his name.

When Shoba returned to Madras to discuss the problems with her parents, she was served with a similar summons. She, too, is afraid to go back. "How could I manage alone? Where would I stay?" she asks.

Indian wives who are unable to respond to a divorce case in the US can sometimes seek redress in Indian courts.

The test case in India is the 1975 judgment of the Supreme Court in "Satya versus Tej Singh." Satya and Tej Singh were married in India in 1955 and had two children. In 1959, Singh left for higher studies in the US. After his five-year study period, during which the wife and children remained in India, he obtained a decree of divorce from a court in Nevada. He took advantage of the rule in that state of a six-week-based domicile, and sought the divorce on grounds that he was separated from his wife for three years, with no possibility of reconciliation.

Satya was not prepared to give up. She filed for maintenance, disputing her husband's claim that by virtue of the divorce decree, he was not liable to maintain her.

The trial court in Indian awarded maintenance on the ground that Tej Singh was not settled in Nevada where the divorce decree was issued. The High Court thought otherwise. Holding that the condition of domicile had been fulfilled by the husband, it upheld the judgment of the Nevada Court.

Nevertheless, the Supreme Court, on appeal, reversed the judgment on the ground that Singh had cheated the Nevada Court. It granted maintenance to the aggrieved wife.

US courts can also provide for rehabilitative alimony, as a means for the wife to acquire the education and training necessary to become self-supporting. But since so many of the women are living in India at the time of divorce, alimony claims are rarely pressed. Thus a husband's declaration that there is hardly any common property and that the wife does not wish for maintenance goes unchallenged.

THE CHANGING FACE OF PARIS

IF Baron Haussmann today strolled through the streets of Paris, would he recognize his city? No doubt.

Yet, there have been countless changes since Napoleon III's famous city-planner prefect shaped the face of the capital last century, with drastic regulations and important building works. Tree-lined boulevards were cut through the city. Great works of engineering (ten bridges) and big public amenities were built (the stations, the central market and the Opera). Poor quarters were razed and replaced by respectable stone buildings. The Bois de Boulogne and Bois de Vincennes woods were landscaped and Montsouris Park and Buttes-Chaumont Park were created. In short, at the turn of the century Paris already appeared as we know it today.

For the most part, at any rate, for, in less than a hundred years, the city has had to absorb very different successive additions.

It luckily escaped the urban projects which abounded between 1913 and 1960 most of which were shelved by the town-planners. The most famous projects include the plans drawn up by Le Corbusier between 1922 and 1937, which would have turned Paris into a city of sky-scrapers.

The "modern movement" swept over Europe in the thirties, imposing its dogmas: "Function creates form" and "Let us make a clean sweep of the past" meaning industrialized building on pillars, the roof-garden, open-plan, and

glass-covered facades. Paris was wisely to retain only a few "chosen fragments" of this trend such as Mallet-Stevens' villas, Pierre Charreau's house of glass, Doctor Blanche's house and Le Corbusier's Swiss pavilion at the Cite Universite students' halls of residence.

But, after the war, in the fifties and sixties, a very tasteless modernism "at the lowest cost" developed. Large numbers of housing units had to be built very quickly. Apart from a few superb public buildings (UNESCO, in 1955; the CNIT exhibition hall at La Defense, in 1957; and the Communist Party headquarters in 1969), banality ruled.

There were two sides to urban policy. On the one hand, the old came to life again, thanks to Andre Malraux, Minister of Culture. From 1962, his policy of protecting historical buildings and making it compulsory to clean facades revealed beauty hidden beneath the patina of time, for instance the private 18th century mansions in the Marais district. For the good fortune of its inhabitants and of tourists, Paris once again became the "City of Light."

On the other hand, pure and hard renovation destroyed the poor quarters in the 13th, 15th and 19th districts, resulting in out-of-scale towerblocks made of mediocre materials, grandiloquent metal and smoked glass office blocks, and flashy shopping centres, with neighbourhood links broken and the disappearance of charm and urban life.

In the seventies, young ar-

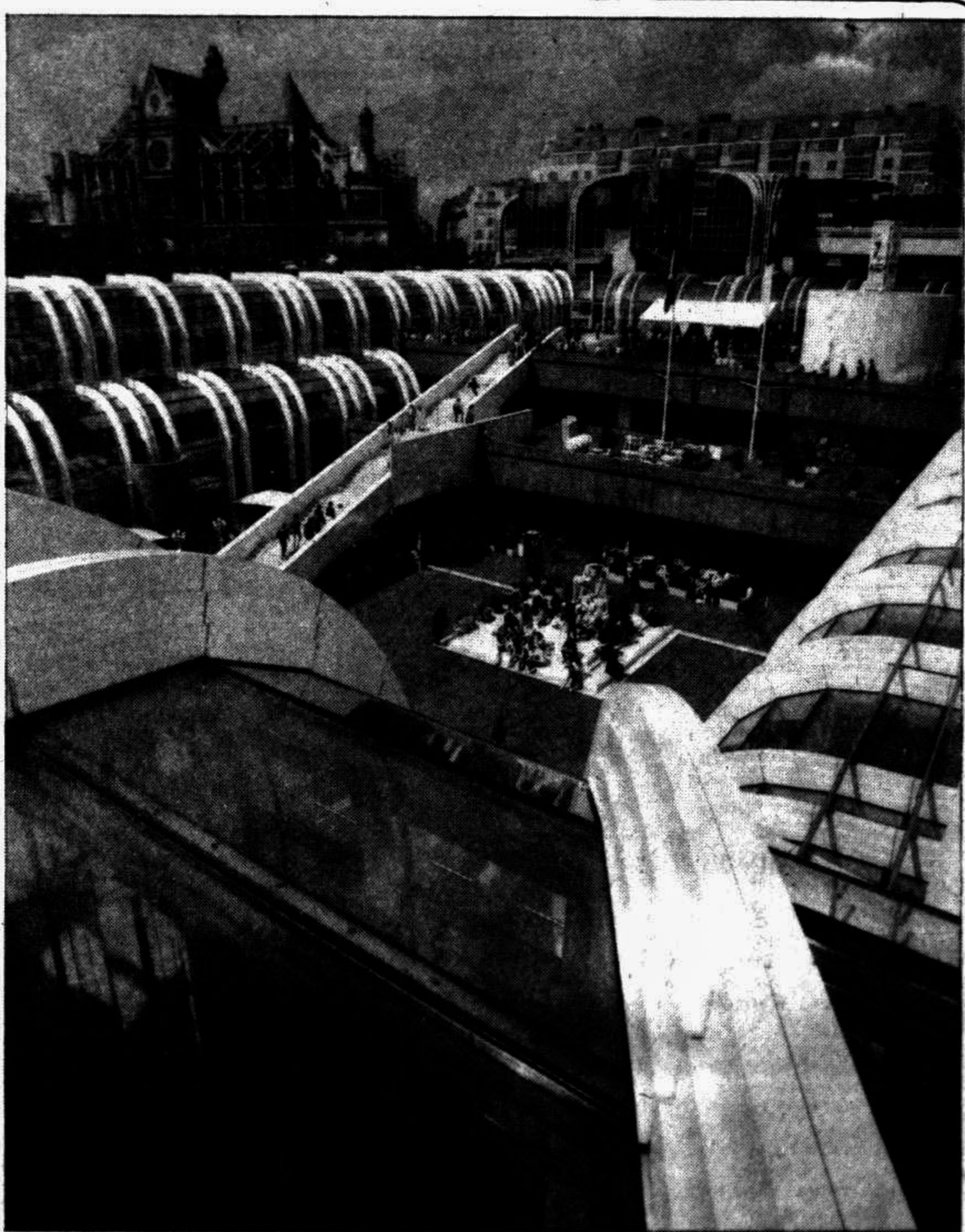
chitects and town-planners advocated a return to tradition with a refusal of big dimensions, a plurality of styles and more careful treatment of outside areas. There was also a tendency to give a new use to abandoned buildings, rather than systematically destroying them: Orsay station became the 19th century museum, warehouses were refurbished as council flats, and former slaughterhouses were turned into the City of Science and Industry.

In the eighties, the city is thus being patched up. There are also innovations. Bold feats of architecture put Paris in the international spotlight. Extravagant praise or bitter criticism is unleashed just like ten years earlier on the subject of the Pompidou Centre, or a century earlier, the Eiffel Tower.

This time, the works are Francois Mitterrand's big building projects: the astonishing glass pyramid erected in the very middle of the Louvre courtyard; the Arch at La Defense, a monumental urban jewel containing offices; the new Ministry of Finance, at Bercy, immense, sober and functional; the great ship of the Opera-Bastille; and La Villette Park, sprinkled with "follies".

A few years hence, new projects will have seen the light of day: other parks, a very large library and an international conference centre, with prospects for more fine polemics. But, for all that, these monuments make Paris today the leading light of world architecture.

—Claire Thierry



An interesting scene of Paris, once again the "City of Light."