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SUPPORT

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PROGRAMME IMPLEMENTATION

ANNUAL REPORT OF THE ADMINISTRATOR FOR 1986

COUNTRY PROJECT RESULTS: BY REGION

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1. In most industrialized nations, the pace of growth slackened during 1986. Developing countries felt the effects in the form of weakened demand for their main export commodities and restricted inflows of capital from both aid and investment. This slow-down came at a time when many developing countries were adopting new, often stringent, measures for revitalizing their economies.
2. As demand softened, commodity prices sagged - food by 8.1 per cent, non-food agricultural products by 10 per cent, metals and minerals by 5 per cent and fuel by 2.5 per cent.
3. With trade terms and revenues down, by the end of 1986 more than 60 developing countries - one out of two - were behind schedule in servicing their debt obligations. At the same time, developing countries as a group found themselves channelling a larger percentage of their national savings into debt payments than into domestic investments.
4. While these trends further curbed the pace of recovery, there were also some healthier developments on the global economic scene. The interest rate fever broke and debt-servicing loads eased. In many countries, lower than predicted inflation brought unexpected relief. And significant drops in the price of oil helped lighten fuel import bills, which have weighed heavily on cash-strapped treasuries throughout the developing world. Oil-exporting countries, however, faced special difficulties as a result. Perhaps most important of all, the uncertain outlook for overall aid increases prompted many developing countries to reassess their own strengths and to adopt new strategies for mobilizing, managing and stretching all resources available for their development.

A. Africa

5. As 1986 began, drought and hunger were relaxing their grip on the African continent. During the year, every country in eastern and southern Africa reaped increased agricultural harvests, three raising output by over 12 per cent, five by more than 5 per cent, and three (Kenya, Malawi and Zimbabwe) producing exportable food surpluses. Twelve countries achieved positive real growth in their gross domestic product (GDP), and seven attained a better record than in 1985. However, high population growth rubbed some of the lustre from these accomplishments with only four countries able to translate their gains into higher per capita incomes.
6. West African countries, too, showed improvements. Food was more abundant, with production of cereal grains by the Sahelian countries rising by 50 per cent. Following four years of decline, real GDP increased again though by only a marginal 0.8 per cent. Yet in this subregion also, economic production was outstripped by human reproduction and per capita incomes declined. Apart from returning rains, a hopeful sign across the continent was the adoption by Governments of far-reaching economic and social policy reforms. These have opened prospects for more

sustainable growth and for repairing economies damaged by external shocks and prolonged cutbacks in investment.

7. Providing evidence of this changed policy outlook, Governments committed themselves to realizable priorities in a historic pact with the international community: the United Nations Programme of Action for African Economic Recovery and Development 1986-1990 (General Assembly resolution S-13/2, annex). Among other pledges, they agreed to strengthen public planning, administration and fiscal management; promote agriculture and agro-industries; stimulate private sector initiatives; give more active support to human resources development; facilitate the participation of women in development programmes; and deal with environmental threats on a wider front. The United Nations Development Programme (UNDP) was assigned a key monitoring role in the follow-up to the new action plan, particularly in respect of Indicative Planning Figure (IPF) programming. As even a selective sampling of UNDP-assisted projects shows, the Programme is already a strong partner in these activities.

Maps and compass

8. Guinea-Bissau is a small country, short of resources, the extent of whose difficulties can be seen in the fact that its external debt is virtually the size of its GDP. With rains failing almost totally in four of the last nine years, imports by necessity provided for 50 per cent of food consumption and large budget deficits left national development totally dependent on foreign aid. Attracting and effectively using such assistance required a planning system based on qualified professionals and capable institutions.

9. A project assisted by UNDP and the Department of Technical Co-operation for Development (DTCD) of the United Nations Secretariat began by helping the Government to draw up a four-year stabilization and development plan and train the specialists needed for its implementation. This was followed by a UNDP/government-organized round table conference that brought fresh capital inflows totalling over \$162 million and which subsequently enlisted the support of local and international non-governmental organizations. Project activities have also initiated the centralized co-ordination of aid from external sources and its absorption into the new integrated national plan. In 1986, the project organized a sectoral consultation on health and scheduled further consultations on agriculture, water and human resources development for 1987 to co-ordinate government efforts in these priority fields with the concerns of potential aid donors.

10. For over a decade, the economy of Zaire has floundered in the absence of a coherent planning framework. Between 1975 and 1983, the country's GDP fell on average by 1.8 per cent a year and attempts to install a functional economic management system met with little success. With help from UNDP and DTCD, the Government has now put together a five-year plan which will steer the country to 1990.

11. The \$4.2 million project responsible for this achievement has trained nearly 800 national professionals to prepare, analyse and evaluate development strategies. It has taught them how to monitor, manage and review the execution of

these strategies, and it has equipped them with the basic statistical and financial tools and skills required to maintain national accounts, forecast economic trends and track macro-economic indicators. Thus fortified, national authorities were able to design a new five-year plan, establish an investment budget and undertake the monitoring of Zaire's adjustment programme. The project leaves behind a self-sustaining process of analysis, forecasting, decision-making and budget harmonization housed within the country's economic administration.

12. In Uganda, following the pacification of the country early in the year, UNDP assisted the Government in setting-up a task force for the formulation of an emergency-rehabilitation-cum-development programme as a follow-up step to the Government's Emergency/Rehabilitation Programme for immediate needs. For example, the Uganda Development Bank and, in fact, the country's entire banking system, were skeletal structures, stripped virtually bare by years of civil war and financial mismanagement. Realizing that the rapid revival of agriculture and industry demanded adequate and reliable credit and loan facilities for prospective entrepreneurs, the Government requested UNDP and the World Bank to restore the ailing institution's health.

13. At project start-up in 1983, the slender portfolio of the Uganda Development Bank comprised a smattering of small commercial activities valued at only \$5.6 million, most of them in default. By the end of 1986, the Bank had underwritten nearly 200 enterprises distributed throughout the country and across the sectoral spectrum. Funds invested had multiplied 20 times over, topping the \$100 million mark and balanced almost evenly between agricultural and industrial subprojects. Most were designed to earn foreign exchange or eliminate the need for imports, thus helping to stabilize the country's economy as well as benefit the entrepreneurs involved. Initial loan collection statistics show payback rates which are remarkable for a period of economic convalescence and which testify to the commercial viability of the subprojects financed. External auditors give high marks to the Bank's substantial earnings, liquidity and 1.5 to 1 debt-equity ratio. This rating will empower the Bank as a mobilizer of fresh funds to further Uganda's growth.

14. In 1981, the Zimbabwe Conference on Reconstruction and Development (ZIMCORD) tabled commitments by a large number of donors with an impressive total of \$1.2 billion in development assistance. Over the following two years, however, it became evident that a gap had developed between expectations and actual disbursement rates. This worried both donors and the Government since it jeopardized the fulfilment of plans in which both had invested heavily. Equally worrisome was the fact that the co-ordinating body, the Ministry of Finance and Economic Planning for Development, lacked the means for monitoring the progress of externally-assisted activities. No one, in short, could know precisely how much aid was coming in or how well it was being used. To remedy this untenable situation, the Government sought help from UNDP.

15. Immediately put in hand was a major study of commitments and disbursements from the ZIMCORD pledges, and the relevant decision-making practices employed by in-country donor agencies and by the Government. From this, there emerged the first clear picture of aid inflows and usage, together with recommendations for

overseeing and improving both. The Government's entire external assistance data base was examined, verified and organized into standard computer formats. The Ministry was equipped with a computerized aid-management information system. Low disbursement areas and bottle-necks are now immediately identified for remedial action, and summary reports are routinely generated to back up day-to-day decisions. External aid flow rates can be accurately forecast as guides for planning and budgeting. The project also avails itself of Technical Co-operation among Developing Countries (TCDC). Senior Zimbabwean officials have toured Egypt, India, Malaysia and Indonesia for exchanges of experience and expertise. Higher disbursements in the last two years signal that the project is having a clear impact on the management and absorption of aid.

People power

16. It is often acknowledged that people are the most important development resource but familiarity with this truth may have blunted its edge. Yet only with skilled, knowledgeable and experienced human power can planning and capital exert their full productive potentials. The majority of Ethiopia's 42 million people have yet to be equipped to play their part in lifting the country out of its status as one of the least developed nations.

17. In its effort to mobilize the country's human resources for the gigantic task of reconstruction, the Government, in collaboration with UNDP and the International Labour Organisation (ILO), has moved to strengthen the National Productivity Centre which was established to provide multilevel, multisectoral managerial and professional training. Between 1984 and the end of 1986, under the project's aegis, 13,645 nationals took the Centre's short- and long-term courses - 11,134 studying productivity improvement and 2,521 management. Overall, 3,371 were trained for industry, 6,814 for agriculture, 292 for electrical trades, 81 for transport, 31 for construction, 103 for health and the remainder for a variety of other fields. In addition, 152 received specialized instruction for service with the Ethiopian Management Institute inaugurated by the Government in early 1985. A Consultancy Services Unit, established within the Institute to help enterprises analyse and solve production problems, is also publishing a series of manuals, guidelines and sectoral studies.

18. The economic potential of Africa's rural communities is now being appreciated more widely by national planners and aid givers alike. In Malawi, for instance, precedence was formerly given to developing high- and intermediate-level skills to meet urban industrial requirements - resulting in a dearth of trained, village-level entrepreneurs who, in fact, were urgently needed to stimulate the rural economy. As part of its new policy, the Government decided to enlist UNDP/ILO expertise in establishing vocational, entrepreneurial and managerial facilities which have now evolved into the Malawi Entrepreneurs Development Institute.

19. With students selected through a rigorous search and screening programme, the Malawi Entrepreneurs Development Institute offers 4 to 10-month courses of five hours technical and two hours business training daily, plus an hour of one-to-one consultation. While learning, students are encouraged to take money-making and

experience-garnering jobs in the private sector after passing tests to determine whether they can make saleable products or perform high-quality commercial services. To graduate, they must prove they can keep their own books and make the tools of their chosen trade themselves. Though still small in number, alumni of the Institute are making a measurable mark, providing key goods and services at affordable prices at the village level. Follow-up studies show that graduate entrepreneurs are earning twice as much as other rural tradesmen. They are punctually repaying start-up financing furnished by the Institute through a grant from the United Nations Capital Development Fund (UNCDF).

20. Equatorial Guinea's bid to tap its human resources more fully includes special measures to associate women as participants in, and beneficiaries of, development. A newly established Department for the Promotion of Women has called on UNDP and the ILO for administrative and technical support. The initial workplan was shaped at the country's first national seminar for women entrepreneurs, many of whom are now enrolled in the project. Their knowledge of local conditions and their enthusiasm are helping to make a success of activities at village, district and provincial levels. These female agents of change have energetically and expertly taken matters in hand. They have initiated a host of promotional activities, including consciousness-raising sessions, to encourage the formation of women's associations and co-operatives. These, in turn, have led to a series of workshops which have generated employment and income opportunities, produced a variety of household goods and given rural women their first niche in the mainstream economy.

More than rainfall

21. Africa's agricultural output and nutritional levels have long been hostages to a hostile climate, but a climate in which drought has been only one of many unfavourable elements. The African environment has been short not only of rain, but of the economic, social, political, infrastructural and technical factors that fit together to make up balanced resource management.

22. Project North Togo, concluded in 1986, was a UNDP/Food and Agriculture Organization of the United Nations (FAO)/government partnership committed to this complex task. Operating in the country's poorest, most densely populated region, the project aimed to integrate and develop farming, stock-raising, physical infrastructure, education, medical and social services, co-operatives, extension training, credit facilities and transport. Thousands of farm families have opted to participate in project activities working side-by-side with multidisciplinary teams drawn from government ministries, United Nations agencies and non-governmental organizations. This comprehensive approach accounts for the wide-ranging results achieved.

23. Ground planted for pasturage has expanded a hundredfold and the population of sheep and goats has gone from 0 to 18,000 head. Twelve hundred hectares are now under upgraded cultivation. Over 10 times the number of draft animals previously employed are now in use, and 280 tons of fertilizer have been utilized where formerly none was available. Corn yields are up from 700 kilograms per hectare to 1,700 and ground-nuts from 500 to 1,200. Seed production has soared from 2,880 kilograms to 120,000. Over 550 kilometres of roads have been built along

with 30 grain mills and 43 storage facilities, and nearly 200 wells and bore-holes dug. Forty thousand fruit trees have been planted and, where once co-operatives claimed a mere 45 farmer members, the figure now stands at 2,500. Three medical and social service centres have been opened, newly established women's organizations are spreading literacy and healthy nutritional practices, and a jump of 30 per cent in average incomes provides only one index of a very real transformation. Accomplishments such as these in a once famine-stricken land are helping development planners to see new possibilities within their reach.

New wealth from old ways

24. The strengthening of the rural economic base of Burkina Faso has been given top priority in government planning, with national self-sufficiency in food the end goal. To bring that objective nearer realization, UNDP and FAO have been engaged in a very large-scale rural development project backed by loans of \$24.1 million from the International Fund for Agricultural Development (IFAD) and the Caisse centrale de coopération économique (CCCE). Operating in the country's eastern provinces, the project did not seek to modify radically the existing cultivation systems, but to improve available extension services, win farmer acceptance of more productive practices, improve land and water resource management and make greater use of low-lying areas through small irrigation works.

25. Excellent field-level co-operation among all participants has yielded results that considerably surpass the targets set for the project's extension component, which had originally foreseen provision of services to some 8,000 farmers. Instead, by April 1986 the count reached 9,000 and, by the end of August, 12,927 in 373 villages. Of these, some 2,600 have thus far adopted modern farming techniques in whole or in part and now use animal rather than human traction. Those so doing have raised cereal output on their holdings by 510 kilograms per hectare. Evaluation meetings between farmers and experts have pin-pointed the constraints that still perpetuate less productive practices, and also the need for more rural credit and commercialization.

26. In its efforts to feed its people, improve their health and protect them against encroaching desertification, the land-locked Niger looks to better water management as a key tool. A major objective is to ensure that every village with 250 inhabitants has access to at least one modern waterhole by the end of the International Drinking Water Supply and Sanitation Decade. Initial priority was given by the Government to the region of Zinder where, at the start of a UNDP/DTCDC-assisted project in 1984, there was only one such facility for every 440 of the area's inhabitants.

27. By the end of 1986, 609 bore-holes had been drilled and equipped with handpumps. Over 2,000 trees had been planted at these sites. Lavatories had been provided to 28 schools and a core group of pump repair technicians trained. Campaigns of sanitary education and basic health maintenance are being organized. A notable feature of the project is that every village involved is required to make a financial contribution, as well as to furnish and to transport building materials.

Sight restored

28. A tiny blackfly, responsible for transmitting the crippling plague of river blindness, is the quarry in an all-out campaign by seven West African countries, 19 donor nations and UNDP, the World Health Organization (WHO), FAO and the World Bank to contain the spread of this scourge. Afflicting over one million people and robbing one in 10 of sight, the disease had driven vast numbers out of the fertile Volta River Basin to poor highland soils already worked to the point of exhaustion. By 1986, however, spraying with environmentally harmless larvacides had cleared over 800,000 square kilometres of the blackfly invader. So successfully has the transmission chain been broken that three million children - born since the spraying began and who would otherwise have been certain victims - are disease-free. Meanwhile, annual per person bite rates have been reduced from an average of 575 a day to less than 10 a year. Refugees from the once-infested areas are beginning to reclaim the lands they abandoned in fear. Research by the project-trained, 90 per cent African staff is advancing on the eventual goals of immunization and cure. As a result of the programme's success, activities are being extended into four additional countries to guard against reinfestation of the cleared areas.

A tale of many cities

29. Once known as the world's least urbanized area, Africa is experiencing the same massive drift to the cities that has pockmarked other developing regions with unplanned, unprovided for and almost unlivable slums. For example, although nearly 95 per cent of the population of Burundi is still rural, the nation's capital, Bujumbura, is inexorably growing by more than 5 per cent annually as population pressures drive peasants off tiny, badly eroded family farms. With the low-cost housing market increasingly unable to keep pace, the Government called on UNDP, the United Nations Centre for Human Settlements (Habitat), UNCDF and Switzerland for assistance.

30. The first of two projects with a combined cost of \$2.6 million focused on Musaga, a 100-hectare settlement that had mushroomed spontaneously as a collection of shacks without infrastructure or services for its 8,000 people. In six years of project activities, Musaga has transformed itself from an unsightly, unhealthy morass of human misery into an exemplary town quarter. It now boasts a piped water supply system with 11 fountains, adequate sewerage, a 3.15-kilometre internal road network electrically lit along its main artery, a community centre, a primary school and a modern health care facility financed through a bilateral input from the Netherlands. To assure continuity for such improvements, experimental, low-cost home-building techniques were inaugurated to make housing available to low-income families, a construction co-operative was organized and a revolving fund was set up for purchase of building materials that has achieved up a better than 90 per cent repayment rate. The project's second phase, now well under way, will expand infrastructure over an additional 35 hectares, build 810 houses and 80 artisanal or commercial shops, provide other necessities and amenities and create a team of trained national agents to conceive and manage future urbanization programmes.

31. Applying similar principles on a larger scale, Zimbabwe, again with assistance from UNDP and the United Nations Centre for Human Settlements (Habitat), has drawn up a national housing policy that embodies major innovations, including a pioneering savings and loan system to make housing available to low-income groups. Innovative also are the establishment of guided, self-help co-operatives and building brigades through which new homeowners receive on-the-job training in bricklaying, plumbing, carpentry and other building trades. Nearly 1,500 units have been completed, with the United States Agency for International Development (USAID) furnishing \$3.5 million in housing investments.

32. This only foreshadows contemplated long-range achievements. Using the project as a take-off point and continuing to draw on its technical expertise, the Government is breaking ground for a massive construction programme to which USAID has committed an additional \$100 million and the World Bank \$43 million. Benefits are foreseeable far beyond Zimbabwe's borders. High-level delegations from Malawi, Uganda, Somalia, Lesotho and Swaziland have made study tours of the project with a view to replication in their countries.

B. Asia and the Pacific

33. After a period of impressive recovery, economic growth for the countries of East Asia and the Pacific slowed considerably during 1986. This reflected not only declines in world-wide commodity prices, but lessened demand for manufactured goods on whose export countries such as Malaysia, the Philippines, the Republic of Korea, Singapore and Thailand have come to depend for much of their development-fostering revenue.

34. Nations of South Asia fared somewhat better, many of them showing annual GDP growth rates in the neighborhood of 4 per cent. Agricultural activities, particularly food production, remained vigorous as evidenced by the fact that Bangladesh, once affected by chronic food deficits, could look forward to becoming self-sufficient in grains by 1990.

35. Governments continued to focus on the expansion and diversification of exports, technology transfer and adaptation, the modernization of industry, agriculture and social services, vocational training, job creation and the protection of rural and urban environments. These, in turn, assumed priority for UNDP assistance.

Trade winds

36. To counter the negative impact of depressed prices for mainstay commodities whose export has provided much of Indonesia's development finance, the Government and UNDP have engaged in a number of projects since 1982 to upgrade, diversify and market Indonesian products abroad and strengthen the ministries and industries involved. The most recent of these has been oriented towards small- and medium-scale industries.

37. In the last 18 months, the project has provided 60 such industries with technical advice on product improvement and sales negotiations with importers as well as information on selected markets a year and a half in advance of selling seasons. It has staged a national trade fair which stimulated \$8 million worth of purchases. To service the leather industry, it has installed data bases and computer communications lines for handling export customer inquiries and providing manufacturers with feedback from the market-place.

38. Project activities have included pinpointing new products such as market-ready home furnishings with strong sales potential abroad, and assisting designers and manufacturers of fashion apparel - mainly women and young entrepreneurs - to garner orders worth over half a million United States dollars. The project has also developed audio-visual training materials that have been used to introduce 3,000 employees in woodworking enterprises to new ideas in product design and adaptation.

39. In Pakistan, a major export commodity was slipping on world markets, costing the country millions of dollars in export revenues annually. Owing to problems of handling and quality control, cotton - Pakistan's main cash crop and source of nearly half all export earnings - was suffering a price loss of up to 20 per cent. UNDP/FAO assistance was sought for a project to upgrade the facilities and efficiency of prime ginneries and establish strict standards for classing and grading seed cotton and lint. The project has successfully attacked these challenges on a broad front. Guidelines have been set up for differentiating superior from inferior qualities, and cotton growers and plant managers have been trained in picking, grading and processing, quality testing equipment operation and cotton and lint classification. New pricing systems have provided quality improvement incentives for farmers and ginneries. During the 1985-1986 growing season, 350,000 bales were sold at full market value - a promising start for a steadily expanding operation.

40. Along similar lines, Sri Lanka is using UNDP/FAO assistance in cultivating highly marketable strains of cacao, coffee, spices, cashews, citronella and papaya. Consecutive projects imported foundation stocks of these commodities from Africa and other Asian countries, collected germ plasm materials and conducted breeding trials. Superior local germ plasms, adapted to Sri Lankan climate and soils, were employed in hybridization programmes. Plantations were rehabilitated and mixed cropping introduced on marginal tea, rubber and coconut land. Interdisciplinary crop research was phased in, national research team leaders received postgraduate training abroad, and new laboratory facilities were made available for their work. The yield has been impressive, with export earnings increasing substantially.

Making pluses from minuses

41. China, with help from UNDP, is turning an environmental liability into an asset. As a side-effect of their normal operation, the country's coal-burning power stations churn out 40 million tons of fly ash yearly - upsetting the ecological balance, damaging human health and taking vast stretches of farmland out of the national inventory. A two-phase, United Nations Industrial Development Organization (UNIDO)-executed project researched techniques for producing various

grades of fly ash, identified possible industrial uses, developed new fly-ash-based commercial substances and set up consultancy services on making wealth out of this waste. Ways were discovered to improve the durability and flexibility of fly-ash admixed concrete and annual production has quadrupled in the last two years. Over 100 kinds of fly ash have been evaluated physically and chemically for their potential applications. Four years after project start-up, 10 million square meters of housing had been constructed with lime-fly ash blocks. In fast-growing Shanghai, one quarter of all new homes have been built with the material, more than doubling its use. This experience is now being shared with the rest of China. Fly-ash technical seminars have attracted thousands of national and international participants. The Philippines, Thailand, Pakistan, India, Nepal, Brazil and Chile are among the countries expressing interest in following China's lead.

Reaching the people

42. For the last six years, Thailand has been engaged in a massive effort, absorbing 20 per cent of annual national expenditures, to extend and upgrade rural development. But the programme needed structural strengthening in several areas, a more flexible budget process, decentralization of authority, spadework with grass-roots beneficiaries to involve them in project design, sharper criteria for project allocation and a stronger commitment by officials at many levels. To revitalize this programme, the Government sought UNDP/DTCD assistance in streamlining management systems, improving techniques for skills training, and enrolling the nation's media as communicators and motivators on behalf of the programme's objectives and approaches. Project recommendations in all these fields are now being implemented by the Government in 72 provinces, where 50,000 officials are administering rural development activities in 63,000 villages. Computerization is being introduced at provincial levels, and a supportive campaign by radio, television, press, posters and newsletters has been launched under a Media Master Plan drawn up by the project. The significance of this management drive is underlined by its close association with a \$50 million World Bank investment in civil engineering, agriculture, livestock and fisheries in the poorest rural areas.

43. In the Lao People's Democratic Republic, plans to lift the rural 85 per cent of its population of 3.6 million above bare subsistence levels have been hampered by shortages of qualified agricultural technicians and agro-industry personnel, as well as of vocational training facilities and teacher trainers. Under a five-year project inaugurated in 1983, UNDP and the ILO have enabled the Government to establish a National Training Centre in Vientiane which will be given extended outreach by five provincial facilities. The complex will equip 1,000 instructors for 21 vocational schools to give courses in agro-machinery, auto, electro- and general mechanics, carpentry, masonry and welding, clerical skills and accountancy. With additional UNDP assistance, workshops have been built and furnished with \$120,000 worth of training equipment.

Husbanding nature

44. Though now self-sufficient in grain, India must mine all possible lodes of food production for a population growing by 15 million annually. Successive five-year plans have highlighted fresh water fish culture not only as a prime store

of protein, but as a rich source of rural employment, income and new agricultural opportunities. UNDP and FAO joined this effort in 1979 with a project to support interdisciplinary research in fish farming and demonstration techniques at the Central Inland Fisheries Research Institute. Since then, the Institute's capabilities have been deepened and broadened by the establishment of 31 laboratories endowed with modern equipment and computer facilities. A fish hatchery with rain water storage, air-conditioning and variable daylight simulators, and a 382-pond fish farm have been constructed.

45. The project has offered nationals sophisticated training. Indian personnel have taken advanced studies abroad in fish genetics, physiology, nutrition, feed technology, pond microbiology, weed control and utilization, health monitoring, virological disease prevention and fish culture economics. Detailed research reports on many of these topics have generated valuable reference materials. As a TCDC input, 100 senior aquaculturists from 21 developing countries participated in five specialized courses. Through an outreach operation known as "Lab to Land" and through agricultural science centres, improved fish-farming methods are being spawned in areas of favourable potential.

46. The 3 million carabaos in the Philippines play a multi-purpose role in the island nation's economy - as draft animals, protein providers and farm income producers. Over 98 per cent are owned by small landholders and, on Luzon alone, they are a major economic asset for three quarters of the rural population. However, a lack of elite breeding bulls has downgraded the size and quality of herds over recent years. Thus UNDP and FAO assistance was sought to reinforce the research and training activities of the Government's carabao development programme with the aim of creating strains that would furnish more meat, milk and muscle power.

47. To allow improvement of the gene pool with maximum economy and minimum risk of rinderpest infection, 23,500 doses of frozen semen were imported from India and Pakistan and distributed to 4,300 farmers. This project component generated 787 first-generation offspring, 623 of superior quality against a target of 300. At age two, these crossbreeds are twice as heavy as native stock and are giving 2 to 2.5 times as much milk daily. Through new artificial breeding techniques, average conception rates have roughly tripled. The project has also developed feeding systems using locally available crop residues and other poor quality roughage suitable and affordable for smallholder operations. A multi-nutritional molasses feeding supplement also emerged from experiments by project-created laboratories. Based on the achievements, the Government has decided to inaugurate action programmes for carabao improvement in selected provinces, and a six-year national carabao upgrading scheme.

48. Applied genetics is also proving a valuable tool for the economic build-up of Burma through a UNDP/FAO-assisted project that is helping the country develop new and better raw materials for agro-industry, including cotton, jute and sugarcane. The Government set production targets for all three commodities in its just-ended fourth four-year plan, and the project has bred and tested different varieties, and established pilot extension and demonstration sites. Significant progress has been

made in cotton, with high-quality germ plasm demonstrating improved yields in the 1,950 to 3,200 kilogram per hectare range for one key strain and from 420 to 900 kilograms per hectare for another. These also display higher ginning output and fibre quality. A cotton pest management programme has not only raised yields by up to 80 per cent, but greatly lowered the need for chemical spraying with marked environmental and health benefits. In an allied extension demonstration effort, 3,334 farmers cultivating 8,448 acres reaped 48 per cent richer harvests.

49. Several new varieties of jute with promising export potentials were introduced. Average yields in demonstration areas were nearly double those in surrounding locations. Experiments in varietal improvement of sugarcane gave similarly rewarding results. Basic seed production programmes have been set up for the new strains and facilities made available for monitoring the volume and quality of production.

Protecting the resource base

50. Nowhere is the dependence of development progress on environmental protection more evident than in Nepal. This mountain-turreted land - where two thirds of the population relies for life and livelihood on rapidly deteriorating soil, vegetation and timber resources - is facing an intertwined economic and ecological crisis. Now UNDP, the Government and FAO, joined by eight donor nations, are striving to break a vicious cycle - in which rapid population and livestock increases have led to forest depletion, which has led to soil erosion, which has led to shortages of fodder and firewood, causing a fall-back on animal wastes for fuel, thus short-changing the soil of fertilizer and sending the spiral spinning even faster.

51. By 1986, UNDP/FAO activities had taken the first steps to arrest this disaster and eventually reverse the downrush. Results include integrated watershed development strategies, supported by detailed annual work plans, which have been introduced to communities and field workers through workshops, technical seminars and in-service training courses. A quarter million seedlings have been distributed for planting on land set aside for fuelwood and fodder cultivation. Dams, irrigation canals, trails and terraces have been constructed or renovated and improved crop varieties introduced. The retrieval of the country's watersheds is expected to result in substantially higher incomes and living standards in poverty-ridden hill areas. By safeguarding the water flows that drive hydroelectric power plants, this intervention will equally benefit valley populations.

C. Latin America and the Caribbean

52. In 1986, the dominant economic and social issues in the Latin American and Caribbean region showed little change from the patterns of the previous year. Here, too, growth was constrained by the unfavourable global climate. The average gross national product (GNP) rose by 3.4 per cent, but this picture was skewed upwards by Brazil and Peru which showed rates exceeding 8 per cent and Argentina, Chile, Colombia and Uruguay, each of which topped the 5 per cent mark. Per capita GDP once again slipped into the minus column. External debt, by contrast, leaped

30 per cent upwards exceeding \$390 billion. Efforts to reverse rural decline, alleviate poverty, manage adjustments, promote investment and maintain infrastructure vital to the region's economies claimed UNDP's continuing support.

Progress for the poorest

53. A UNDP-funded project in Haiti executed by FAO provides renewed evidence that poverty need not be a permanent trap. In 1983, an epidemic of swine fever eradicated the country's herds, destroying 1.2 million pigs that were a major source of protein for the rural poor and, like other livestock, their principal "reserve capital" as well. Determined to recover from this setback, the Government asked UNDP to fund a project with three converging objectives: (a) to revitalize and replenish agricultural extension services that were providing only one field worker per 3,000 farmers as opposed to the normative global ratio of 1 to 500; (b) to check a ravenous rate of erosion that was devouring 6,000 hectares of arable land a year in an area where productive soil was already at a premium, and to do this without costly, time-consuming construction; and (c) to develop alternate sources of pig-feed, since the American species imported to restore the decimated herds would initially eat only wheat concentrates that had to be imported at unsupportable costs.

54. Project results to date can fairly be called exceptional, so much so, in fact, that livestock are no longer the peasant's rock-bottom collateral but a resource base for local private sector revival. As just one example, Cap Haitien, which four years ago was an economic dead zone, now supports retail shops selling animal-feed, medicines and agricultural implements. In terms of specific objectives, extension services have been expanded and modernized to service adequately 4,000 small farms. They now include newly trained "para-veterinarians" and community leaders, and boast a small fleet of motorcycles which enables agents to multiply training and other services significantly. In consequence whereas, in 1985, 300 farmers raised 3,000 pigs, those figures are now 1,120 and 13,000, respectively - creating a surplus of 7,000 swine for sale to other parts of the country. And farmers bred 6,000 rabbits in 1986 as against only 700 two years ago, an important new source of high-protein nutrition.

55. On the conservation front, nurseries have been established to grow terrace-cultivated, soil-holding plants whose foliage, when harvested, becomes superior animal fodder. Where once farmers allowed their goats to roam freely and denude the hillsides of protective cover, stocks purchased with project-furnished credit are securely fenced in. Pig-feeding concentrates have been developed, using sugarcane and vegetable wastes, on which the new herds are flourishing. The project provided initial financing of \$5,000 for a revolving fund that allows farmers to obtain these concentrates - as well as veterinary medicines, small appliances and other livestock essentials - at a very low mark-up. With 15 sales points managed by the farmers themselves, stocks have already turned over eight times with substantial reinvestment profits from \$30,000 worth of business recorded in 1986. The project itself has profited notably from inputs provided by non-governmental organizations - two based in Haiti and the others from the Federal Republic of Germany and Canada.

56. Another rural recovery project - this time in Ecuador - is creating the basis for an economic renaissance across an area where floods had washed away much of the physical infrastructure and agricultural output capacity. Here UNDP teamed up with FAO and the Government to rehabilitate the affected zones and set them back on the road to growth. To this end, the project mobilized half a million dollars in additional resources from the Netherlands, the United States of America, the Office of the United Nations Disaster Relief Co-ordinator (UNDRO), the Ecumenical Church Loan Fund and the Freedom from Hunger Campaign to purchase such necessities as seeds, fertilizers, food, agricultural tools, pumps and fishing equipment.

57. These inputs have buttressed UNDP's own efforts. A programme to prevent forest soil erosion has furnished 600,000 plants and extensive advisory services. Small earth dams have made it possible to open new land for 1,200 families at 10 per cent of normal irrigation costs per hectare. An experimental farm, with an agrometeorological station and soil/water laboratory, has been created for research on irrigation techniques. Rural roads and bridges have been built and local fishermen equipped with solar dryers to preserve catches for marketing. No less importantly, farmers have been trained to administer a variety of related mini-projects.

58. Much of UNDP's work in the region during 1986 focused on expanding the volume, reducing the cost and raising the quality of agricultural and industrial production in order to make more goods and services available and affordable domestically and competitive on world markets. In Mexico, this concept of self-reliance was pursued through support to a national system for agrarian training aimed principally at supporting small farming and livestock raising. Working with 13 farmers' organizations covering over 500 rural communities, the project exceeded its planned objectives by training 7,000 technicians who are equipped with a variety of animal husbandry skills. The scope of training extended to officials from the Ministry of Agriculture, Mexico's Rural Bank and the National Agricultural Insurance Company. Subprojects took on a momentum of their own. In one, involving 52 communities and seven large communal farms, participants trained themselves not only in production but in marketing and the commercial export of surplus output. In another, women organized a cluster of employment and income-generating co-operatives.

To ease the burden

59. Latin American countries will continue to face hard choices when it comes to lightening the poverty that presses on many of their people so long as their national economies are weighed down by massive debt. But economic solutions to problems of this order are hard to carry out in isolation. That is why Latin American Governments are working jointly to deal with their indebtedness on a regional basis with the help of a project for public adjustment and stabilization involving the Economic Commission for Latin America and the Caribbean (ECLAC). Under this effort, one of UNDP's responses has been to sponsor research and analysis of debt-related development options for the 1980s - with particular emphasis on ways to manage adjustments so as to foster growth with social equity. A possibility receiving extensive examination is creating adjustment mechanisms that will expand both exports and import substitution while protecting popular living standards. Another initiative, this time at the country level, is already

being tried in Argentina. It involves co-operating with a government to provide national banking institutions with software enabling them to assess financial trends that affect the size of the country's debt and to analyse options for a response.

60. To strengthen subregional co-operation, UNDP is also providing technical assistance to the Caribbean Community (CARICOM), an organization of 13 Caribbean nations set up to achieve economic integration and pool the diverse, widely scattered and limited resources of these island economies. Amid the worsening economic condition of the Caribbean countries, CARICOM's secretariat has had difficulty in carrying out its mandates and the decisions of its Council of Ministers. Technical personnel and seminar workshops provided through UNDP/Office for Projects Execution (OPE) have turned this situation around, making it possible to strengthen member country activities in many key areas. Among these are the development and marketing of export commodities, increased capital availability through the revision of the rules of origin of the CARICOM community, the integration of women into the productive mainstream, cutting costs of therapeutic drug imports through joint procurement, and educating officials on ways to profit from the ongoing multilateral trade negotiations.

61. As some countries have found, direct capital investment can offer a viable alternative to borrowing. However, after blueprinting a \$182.6 million public investment programme, the Government of Belize found effective implementation thwarted by a lack of personnel and expertise in this demanding field. In co-operation with the World Bank and the International Monetary Fund (IMF), UNDP/OPE carried out a comprehensive analysis of the country's major industries, infrastructure and management systems. The findings made possible the mobilization of \$22 million to expand banana and citrus production, housing construction, shrimp mariculture and tourism. The project also provided assistance for negotiations with multinational corporations, helped to establish the Government's Office of Economic Management to oversee and co-ordinate all national development efforts, and created a basic model for introducing industrial investments and assessing their economic impact.

Unblocking the arteries

62. Paraguay is a land-locked country and the Paraguay River is a vital highway for its foreign trade, carrying 80 per cent of imports and 40 per cent of exports. But its effectiveness as a trade channel depends on the efficiency and handling capacity of port services. Here studies showed inadequacies in merchandise storage, port operations, use and maintenance of mechanical equipment and the security and hygiene of port sites. To remedy these shortcomings, UNDP and the ILO were requested to set up a centre to train staff of the National Authority for Navigation and Ports in improved harbour operations and efficiency. Now in mid-course, the project is substantially ahead of schedule. Physical facilities for the training centre are in place, as is its organizational and functional structure. Teaching and administrative posts have been filled with highly qualified personnel. Detailed job descriptions have been drawn up for port employees in maintenance, operations and security services, and appropriate training programmes devised. Activities are well under way with over 115 graduates

already working in such fields as handling hazardous cargoes, security supervision, administration and office management.

63. Peru faces another kind of bottle-neck in moving goods and people between the coast and the interior - a mountainous terrain which makes construction and maintenance of roads and railways difficult and costly. Thus, heavily reliant on air transport, the country approached UNDP and the International Civil Aviation Organization (ICAO) to formulate a National Air Navigation Master Plan, equip staff adequate for its implementation and day-to-day air operations, and modernize navigation and communications.

64. During the project's first phase, a fully equipped centre for training air traffic controllers and electronic technicians was established, 625 professionals were schooled there and 30 more given advanced courses abroad. Up-to-date radar equipment was installed at Lima airport, improving safety and on-time performance at reduced cost. The country's airlines were thus able to handle 800,000 additional passengers and 18,000 more flights annually. In Phase II, 63 new courses were built into the centre's curriculum to cover administrative, financial and general aviation support subjects. Under TCDC arrangements, complementary practical training is being offered at Brazil's Institute of Flight Protection, and other countries in the region are seeking admission to the centre for their air personnel.

Self-reliance and beyond

65. As a major instrument of its drive for self-reliance, Guyana established an Institute of Applied Science and Technology to develop the country's applied research capabilities. Its main task was to explore and exploit possibilities of developing products for commercialization at home and abroad, making use of the country's rich natural resource base. UNDP, with UNIDO and the United Nations Educational, Scientific and Cultural Organization (UNESCO) as executing agencies, was requested to support applied research in a number of priority fields. One was building the capacity to carry out investment-related feasibility assessments of mineral reserves. Another was to conduct tests on using ceramics for producing sanitary fixtures and insulators. A third was to investigate the potential for creating viable industries to process indigenous plants.

66. Results to date have been numerous and valuable. For example, Guyanese researchers have received advanced training abroad in mineral, food, ceramic and plant growth technologies, industrial electronics and mineralogy, heavy and electrical equipment fabrication and maintenance, kiln construction and industrial project evaluation. Research on the use of kaolin to produce chalk has prompted the establishment of a commercial plant, and investigations into laterite pigment as a paint base have led to commercial contracts. A joint stock company for making and marketing ceramic tableware is being funded with a loan from the Inter-American Development Bank (IDB). The reinforcement of the Institute has equipped it to take on wide-ranging and profitable contract research such as analysing veterinary blood serums and monitoring the performance of oil in industrial diesel engines.

D. Arab States

67. More than perhaps any other region, the 20 Arab States run the full spectrum from low to middle to high income. Their general development needs and their specific needs for UNDP assistance vary widely. The Gulf countries, though still the world's major oil exporters and capital surplus nations, continue to be faced with declining revenues and thus must work to diversify their economic, and particularly their industrial, base. This, in turn, requires them to push ahead with the infrastructure-building in which they invested so heavily during previous years. For this, they seek to rely increasingly on their own resources and on the technical assistance that can multiply their resource productivity.

68. The middle-income States, while affected by reduced capital inflows, generally possess large and well-trained resources of professional personnel. These Governments look to UNDP for aid in obtaining transfers of technology and know-how which they are capable of adapting and adjusting to the demands and opportunities presented by their relatively diversified economies, with emphasis on closing a growing food gap.

69. The region's five least developed countries (LDCs) still confront the after-effects of disastrous droughts. In common, then, with other parts of the world such as Africa, their need for UNDP aid focuses on rehabilitation, with stress on benefiting their very largely rural populations.

Making the most of the least

70. With only 6 per cent of Egypt's land rated excellent for agriculture, technology is the country's most important farming tool. There is practically no more grazing land available on which to pasture larger herds. With growing demand for meat protein, the Government plans to increase production in the country. The answer it is now pursuing is intensive high-nutrient feeding to produce a modern version of the traditional fatted calf.

71. UNDP/FAO research pinpointed the maximum use of agro-industrial by-products and homegrown feeds as the most productive and cost-effective solution. Four avenues of approach were identified:

- (a) Group feeding on large farms using a controlled diet regimen that doubled previous rates of animal growth at substantial savings in foodstuffs;
- (b) Use of ammonia to improve the nutrient quality of crop residues;
- (c) Development of a liquid supplement containing micronutrients dissolved in molasses;
- (d) Preparation of enriched gelled molasses blocks to serve as food additives.

72. The next step was to test farmer acceptance of these alternatives, along with their technical and financial aspects. Two distribution centres were established, furnishing 750 tons of liquid supplement to 700 farmers and 6,500 tons of treated

by-products to an additional 200. So encouraging were the results that a special unit was set up by the Government to explore ways for disseminating project findings nationwide. Recognizing important investment opportunities, the European Economic Community (EEC) has committed \$1.7 million for project expansion into six governorates.

73. To protect its limited productive land, Morocco received UNDP/FAO assistance to check encroachment and desertification threatening the cultivation of wheat, barley, vegetables, almonds and apricots as well as the all-important date palm. The project heavily emphasized techniques for the development of sand dune fixation. As a first accomplishment, urgently organized work crews succeeded in safeguarding palm trees, irrigation canals, access roads and rail lines at a key agricultural site. Subsequent research demonstrated the deleterious effects of overgrazing and deforestation, and also improved understanding of the role of wind patterns in sand encroachment. Anti-desertification techniques were worked out on a site-by-site basis and engineers and technical personnel trained in their application. Protective perimeters are now being built around human settlements, palm groves, irrigation works and grazing lands.

Broadening the development base

74. Of late, the development efforts of Saudi Arabia have been directed mainly at diversification to reduce the country's overwhelming dependence on crude oil. To realize maximum social as well as economic benefits from this process, the Government has been working with UNDP to prepare integrated practical plans based on well-defined and well-balanced goals for both rural and urban areas. The project aims to modernize Saudi Arabia's National Spatial Strategy by identifying priority geographic areas, developing industrial activities that avoid over-concentration in a few urban centres, and rapidly stimulating economic growth.

75. UNDP has helped formulate, monitor and supervise diversification activities in five major regions, as well as for projects involving the Al Uqayr Tourism Complex and the Jizan Planning and Engineering Studies. Alternative development strategies have been plotted and long-term master plans drawn up for growth in cities and countryside. Implementation has been blueprinted in five-year phases, including investment schemes and proposals for safeguarding the nation's physical and cultural heritage. Data bases have been prepared, urban and rural settlements mapped and personnel trained at home and abroad for the complex requirements of this far-ranging, forward-looking effort.

Out of the depths

76. The 3,330-kilometre coastline of Somalia, one of the longest in Africa, is a potential fisheries treasure trove. Realizing its promise is particularly urgent for this least developed country, whose meagre per capita GNP of \$240 has remained virtually static over the last two decades. But fisheries growth has been held back by lack of cash income to underwrite domestic demand, difficulties in identifying export markets and underdeveloped transport and communications systems. Fishing gear has been in short supply as have up-to-date techniques.

77. A UNDP/FAO-assisted project, with supplementary inputs from UNCDF, is making considerable headway against these constraints through an integrated approach involving procurement of boats and equipment, opening up of market outlets and credit facilities and training to enhance local skills. A Fishing and Training Community Centre has been established at Berbera, providing employment for 120 families. Thirty-three fishing vessels have been made available, 15 of them fully rehabilitated by the project. A credit service is in operation and a cold store and six retail outlets have been created by private entrepreneurs. Among the results are a more than doubling of fish catches to the 700-tonne annual mark, raising not only incomes but nutritional and health standards as well.
