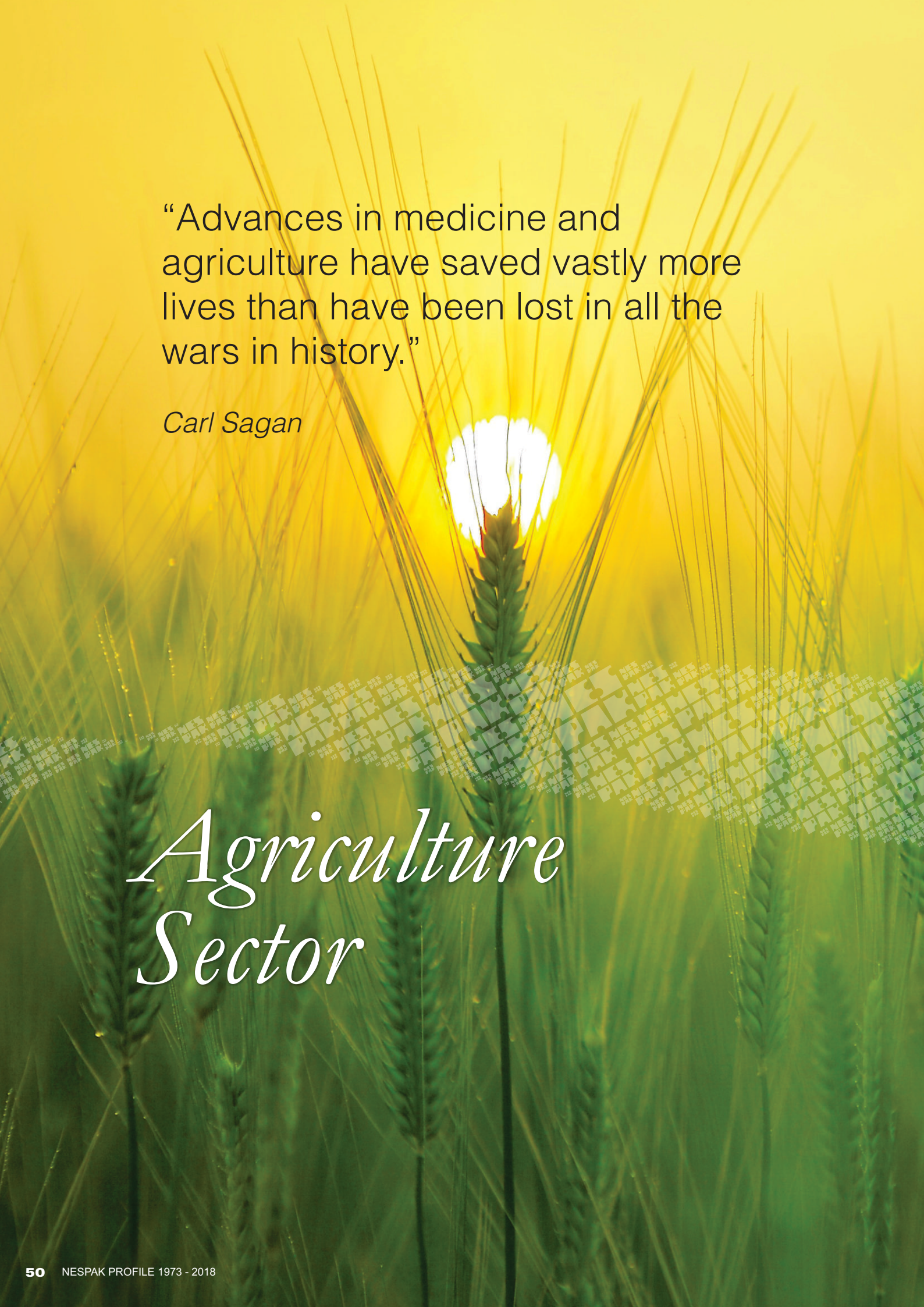

"Advances in medicine and agriculture have saved vastly more lives than have been lost in all the wars in history."

Carl Sagan

Agriculture Sector

Agriculture and economy go hand in hand in Pakistan as it is the mainstay of the country's economic base. Agriculture contributes about 24 percent of the country's Gross Domestic Product (GDP) and accounts for half of employed labour force (about 47 percent). Agriculture Sector is the largest source of foreign exchange earnings besides feeding 130 million population of Pakistan. NESPAK has its share in the development of Pakistan's agriculture by offering its state-of-the-art services on a large number of projects related to the agricultural engineering.

NESPAK provides complete spectrum of consultancy services for the projects regarding technical and economic feasibility, command area development of irrigation systems, feasibility of privatistion of agriculture activities, water budget, harvesting, processing, storage and marketing, third party monitoring, evaluation of constraints in agriculture development, agro-climatic studies for crop water requirements and studies of non-water inputs for optimum development. NESPAK also offers services for formulation of integrated development plans and guidelines for the implementation of projects, development plan for horticulture and floriculture, project benefits monitoring and evaluation, livestock and dairy development, fisheries and wildlife and forestry.

The Agriculture Sector at NESPAK is manned by the highly-qualified and experienced agriculture planning experts for conducting studies and formulating development plans regarding agronomy, forestry, horticulture and floriculture, soil management and water quality, agriculture economics, pest management, on-farm water management and sociology projects. Special studies related to the livestock development, fisheries and wildlife, sericulture, range/wet lands management and agriculture supporting services are also conducted by NESPAK in the Agriculture Sector.

The services in Agriculture Sector are being provided within Pakistan and abroad by an able and expert team of more than 65 professionals including agricultural engineers, agronomists, agri-economists, land development experts, soil and water quality scientists, sociologists, environmentalists, institutional development experts, economists and contract managers along with 69 support staff.

NESPAK has been providing consultancy services on various projects funded by the Punjab Government, the World Bank, the Asian Development Bank and the United States Agency for International Development. These jobs include the National Programme for Improvement of Watercourses, National Drainage Programme, Punjab Irrigated-Agriculture Productivity Improvement Project, Kachhi Canal Command Area Development, Gomal Zam Dam Command Area Development and Optimising Watercourse Connivance Efficiency through Enhancing Lining Length.

SCOPE OF SERVICES

Agronomy: Preparation of technical and economic feasibilities, command area development plans of new and old irrigation systems, water budgeting, agronomic development plans, feasibility of privatisation of agriculture activities, harvesting, processing, storage and marketing assessments, evaluation of existing status/constraints on agriculture development, agro-climatic studies for crop water requirements, studies of non-water inputs for optimum development, formulation of integrated development plans and guidelines for implementation and operation of projects, development plans for horticulture and floriculture, project benefits monitoring and evaluation.

Water Management and High Efficiency Irrigation Systems: Preparation of feasibility reports, plans, design, construction supervision, certification of claims, project completion reports and project implementation assistance to the On-Farm Water Management (OFWM) and High Efficiency Irrigation Systems (HEISs), formulation, registration and training of Water Users Associations and farmers organisations.

Social Development: Identification of physical, economic and sociological potentials and constraints impeding agriculture development and economic analysis, social appraisal, sensitivity and risk analysis and determination of cost recovery potential.

Institutional and Environmental Development: Advice on policy developments, business planning, management processes and organisational structures, human resource development, training and research, systematic task assignment within the government departments related to water and agricultural development projects, Initial Environmental Assessment (IEA), Environmental Impact Assessment (EIA), mitigation plans and post-project environmental studies.

Soil and Water Conservation: Feasibility studies, planning, designing and implementation of irrigation projects including distributaries/minors, canals, check/delay action dams, drip/sprinkler irrigation system, watershed management and rangeland management, improvement of watercourses and precision land levelling.

Natural Resources Management: Agricultural development studies and broad-based management and monitoring of land, water, forest, watershed, livestock, fisheries and biological resources through integrated programmes comprising planning, restoration and evaluation, privatisation of agriculture and establishment of agricultural education and research institutions.

On-Farm Water Management: Planning, feasibility studies, PC-I forms, project management and implementation support, model water users' associations, training, quality assurance, financial monitoring, certification of claims, as-built surveys, database management, precision land levelling, performance evaluation of project staff and water users' associations, project monitoring and evaluation, preparation of project completion reports and other allied activities related to on-farm water management and high efficiency irrigation projects including drip and sprinkler irrigation systems.

Natural Resources Development: Feasibility studies and benchmark surveys for natural resources assessment and its development including:-

Livestock and Dairy Development: Evaluation of constraints in livestock development through long and short-term solutions, regulatory affairs in livestock and poultry sector, studies on community-based production systems, feasibility studies for setting up of grandparent and parent flocks in poultry, training to farmers and women workers related on different aspects of livestock management and feasibility on vaccinology and disease-free areas/zones.

Aquaculture and Fisheries: Benchmark surveys of aquatic biodiversity, aquatic resources and wetlands, plans for sustainable development of aquatic resources, project monitoring and evaluation, water and soil quality management plans, wetland ecosystem and wastewater utilisation and short-term training programmes.

Wildlife Management Preparation of wildlife management plans for natural and man-made habitats of wildlife in hills, plains, deserts and riverian bela belts, wildlife distribution, wildlife sanctuary, wildlife reserve, national parks and biosphere, wildlife laws, conventions, agreements and regulations, human communities in wildlife areas, the zoo for wildlife, wildlife trade regulation institutional arrangement through government, non- governmental organisations, World Wildlife Forum, International Union for Conservation of Nature and honourary wardens.

Forestry: Preparation of forest management plans for natural forests as well as man-made plantation under the State forestry, social forestry and industrial forestry, forest nursery production, and forestry for poverty alleviation, forestry institutions, urban forestry, forestry training, e.t.c.

Rangeland Management: Preparation of plans for hill, desert, bela, rangelands and meadows, rehabilitation of rangelands by improving range condition, rehabilitation of range ecology, range vegetation improvement, range institutions, range human population , range livestock and training courses on the rangeland management.

EXPERIENCE

Natural Resources Management: More than 44 projects involving agricultural development studies and broad-based management and monitoring of land, water, forest, watershed, livestock, fisheries and biological resources through integrated programmes comprising planning, restoration and evaluation, privatisation of agriculture, and establishment of agricultural education and research institutions.

On-Farm Water Management: Improvement/renovation of more than 90,000 watercourses all over Pakistan based on cost sharing and participatory management approach and land levelling in an area of 105,000 hectares under three phases of On-Farm Water Management Programmes and the National Programme for Improvement of Watercourses.

Agricultural Development: More than 40 projects in the field of agricultural development since the inception of NESPAK in 1973.

National Programme for Improvement of Watercourses in Pakistan

A NESPAK-led joint venture completed design review and construction supervision services for the “National Programme for Improvement of Watercourses in Pakistan” awarded by the Government of Pakistan. As many as 36,405 watercourses/irrigation schemes were improved or rehabilitated in Punjab, Khyber Pakhtunkhwa, Islamabad Capital Territory and Gilgit-Baltistan in the Northern Areas at an estimated cost of Rs. 38 billion under this project of national importance. The scope of services also included survey and design checks, assessment of unit rates and verification of completed civil works and expenditure.

Punjab Irrigated-Agriculture Productivity Improvement Project

NESPAK is providing consultancy services for the Punjab Irrigated-Agriculture Productivity Improvement Project (PIAPIP). The scope of services includes detailed design and construction supervision for this project costing Rs. 36 billion. The scope of work comprises improvement of irrigation water productivity, production of more profitable crops through high efficiency irrigation systems, strengthening the private sector service delivery and capacity building of stakeholders. Major activities include the installation of drip and sprinkler irrigation systems on 48,562 hectares, provision of 9,000 Laser units to farmers/service providers, improvement of 5,500 watercourses in the canal command area and installation of 2,000 irrigation schemes.

Water Conservation and Productivity Enhancement through High Efficiency (Pressurised) Irrigation Systems Project

NESPAK has provided detailed design and construction supervision services for the Water Conservation and Productivity Enhancement through High Efficiency (Pressurised) Irrigation Systems Project costing Rs. 18 billion.

The project was awarded by the Ministry of Food and Agriculture and implemented throughout Pakistan including Federally Administered Tribal Areas, Federally Administered Northern Areas and Azad Jammu and Kashmir. The programme envisaged the installation of the drip/sprinkler irrigation systems on 117,955 hectares of land.

Gomal Zam Dam Command Area Development Project

NESPAK is carrying out consultancy services for the Gomal Zam Dam Command Area Development Project. The project costing Rs. 3 billion has been awarded by the Khyber Pakhtunkhwa Government. It covers gross area of 110,074 hectares in the Dera Ismail Khan and Tank districts. NESPAK services include detailed design, tender documentation and construction supervision of 393 watercourses, high efficiency irrigation systems (drip/sprinkler), demonstration plots, ponds and Laser land levelling of each intervention for this project.

Kachhi Canal Command Area Development, Phase-I Dera Bugti (Part-A)

NESPAK is providing consultancy services for technical assistance in command area development of 23,067 hectares of the Kachhi Canal (Phase-I). NESPAK scope of services for this project costing Rs. 2 billion includes detailed design and tender documentation for watercourses, land development/Laser land levelling and high efficiency irrigation systems (drip/sprinkler). Awarded by the Balochistan Agriculture and Cooperative Department, the project also comprises the construction of 120 earthen and lined watercourses, Laser land levelling on an area of 23,067 hectares.

Greater Thal Canal Command Area Development Project Phase-I

NESPAK has carried out survey and design checks, assessment of unit rates for construction materials, Bill of Quantities and cost estimates, quality assurance, construction supervision and verification of completed civil works for the Greater Thal Canal Command Area Development Project Phase-I.

The purpose of this Rs. 2 billion project was the construction/lining of new 725 watercourses in the Bhakkar, Khushab and Layyah districts in the Punjab Province.

On-Farm Water Management Project, Afghanistan

A NESPAK-led joint venture completed design, tender documentation and construction supervision for its first overseas World Bank-funded On-Farm Water Management Project.

The project costing Rs. 4 billion (US$ 43 million) was awarded by Afghanistan's Ministry of Agriculture, Irrigation and Livestock and implemented in Kabul, Nangarhar, Bamiyan, Herat and Mazar-e-Sharif. The project envisaged establishment/strengthening of 175 irrigation associations, improvement of infrastructures on 175 irrigation schemes and dissemination of improved water application techniques for these schemes.

Gambella Irrigation and Drainage System, Ethiopia

This was the maiden project acquired by NESPAK in the Federal Democratic Republic of Ethiopia. The breakthrough project involved the development of a commercial rice farm on 10,000 hectares of land in the private sector in the Gambella Region. The project comprised irrigation development, agricultural and market development and irrigation management. NESPAK scope of services includes detailed design, tender documentation and construction supervision. The project was awarded by the Saudi Star Agricultural Development PLC on the basis of good performance by NESPAK.

Euphrates East Drain Project, Iraq

NESPAK prepared feasibility study, project planning, detailed design and tender documents for the Euphrates East Drain Project awarded by Ministry of Agriculture and Irrigation, Iraq in 1982.

The US$ 363 million project was designed to remove saline drainage effluent from an irrigated area of over 400,000 hectares. Starting from near the Kifl Town, the Euphrates East Drain follows the alignment of the Shamiya East Drain, which was proposed to be remodelled for this purpose. The new construction of the Euphrates East Drain involved its extension over a length of 163.35 km before joining the Tigris-Euphrates main outfall drain for the ultimate disposal into the Arabian Gulf.