

Pakistan and FAO

Achievements and success stories

FAO Representation in Pakistan
May 2011



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Introduction

Within one month of gaining its independence, Pakistan joined FAO on 7 September 1947, the first UN body it joined, clearly signalling the high priority assigned to developing its agriculture sector. The first agreement between FAO and the government was for technical assistance in agricultural policy and planning in June 1951. FAO support to the government was coordinated through UNDP until the accreditation of an FAO Representative to Pakistan in 1978.

Agriculture is a mainstay of the Pakistan economy, although it has been declining as a percentage of gross domestic product (GDP) as the country's industrial and service sectors have grown. Agriculture accounted for 21 percent of GDP in 2010, compared to 36 percent in 1980. The sector provided livelihoods for 45 percent of the population in 2010, down from 53 percent three decades earlier.

Pakistan's food security rests upon its wheat production. The country produced 24 million tonnes of wheat in 2010, compared with 11.6 million tonnes a year in the early 1980s. Wheat has helped feed a population that has grown to 174 million people from 85 million in 1980. Rice production has more than doubled over the same period, rising to 7 million tonnes from 3.3 million tonnes, and is now a major export crop earning US\$2.2 billion in foreign exchange. Cotton has become a major industrial feedstock, with production increasing to 12 million bales in 2010, up from 4.5 million bales in the early 1980s. Livestock production has also substantially increased to a value of US\$758.604 million from US\$51.51 million in 1980. Livestock exports totalled US\$37.46 million in 2010, compared to US\$1.170 million three decades ago.

FAO has been at the government's side throughout this process of development, implementing 573 projects worth US\$314 million that have provided support to policy development, capacity building and pilot and key demonstration projects. Pakistan is a pilot country for the One UN system and FAO has been at the forefront of developing the approach that ensures the highest priority is given to the agriculture sector in line with the government's priorities.

1. Analytical summary

1.1 Wheat

Wheat is a major success story for Pakistan that has moved from being a net importer in 1980 to having a sustained presence on export markets during the last decade. Wheat accounts for two-thirds of national cereal production, and is the most important contributor to overall food security, providing 60 percent of the carbohydrate and protein requirement for an average Pakistani. Bread baked from wheat truly is the staff of life in Pakistan.

Wheat contributes 14.4 percent to the value of agriculture produce and 3.1 percent to GDP, and is cultivated over 8.7 million hectares, 86 percent of which is irrigated. Pakistan now produces over 22 million tonnes of wheat annually, making Pakistan the eighth largest producer in the world. Increasing yields have led to production effectively doubling while cultivated land has expanded by only one third.

This success has been achieved by an integrated programme of support, commencing with the selection and introduction of rust resistant wheat varieties adapted to the country's numerous agro-ecological zones. Success was enhanced through a programme of development and extension of best wheat production practices that focused on use of quality seed of high yielding varieties, timely crop sowing, balanced use of fertilizers, selective herbicides use and more efficient use of scarce water resources. Pakistan also pursued a policy environment conducive to expansion of wheat production. Most notable in this was the price support policy where wheat is now the only agricultural commodity for which government sets the floor purchase price, called the Guaranteed Minimum Price. This has been instrumental in establishing a stable investment climate that allows farmers to plan with some surety for returns and adopt higher input cost strategies to increase productivity. FAO's support to the government was seminal to implementing these changes. Its technical cooperation programmes (TCP) have had significant input on the supporting policy, development of agronomic production practices, improved post-harvest management and other areas. The *Special Programme on Food Security* and its follow on

crop maximization programmes were central to the government strategy to extend these messages to smaller and resource-poor farmers.

However, much remains to be done that can be done, for example the yield gap is substantial between leading farmers getting 6.0 tonnes per hectare, and the average farmer getting 2.6 tonnes. Increased adoption of proven agronomic improvements would go a long way to reducing this gap. These improvements include provision of quality seed through the private and public sector, timely sowing and availability of inputs, adoption of a more balanced fertilization, modification of irrigation regimes to more closely match actual crop water requirements and stage of development. Opportunities to increase productivity exist through system improvements such as increased development of conservation agriculture approaches, use of green manuring, development of rice-wheat cropping systems, reduction in soil tillage and use of selective herbicides for weed control offer opportunities to increase productivity.

Pakistan faces some challenges, most notably the breakdown in resistance to some key diseases which will require further investment in development of new crop varieties, as well as varieties adapted to abiotic stress associated with climate change events. The supply of high-quality certified seed is a key ingredient to sustained productivity increases and much remains to be done to put in place a reliable public and private seed and input supply system. Water availability is becoming a major issue in the major wheat growing regions and while engineering improvements can reduce transmission losses, much remains to be done on improving water use efficiency from the agronomic standpoint in the crop field.

Pakistan has set itself the ambitious target of an annual increase of 4 percent in wheat production to meet the needs of its growing population while still enabling an increasing presence on the export markets.

1.2 Livestock

Livestock production is central to the agriculture sector, contributing 53 percent to agricultural sector productivity and 11.4 percent to GDP. Livestock production has

increased substantially over the 30 years from 1980 to 2010, from a value of US\$51.51 million to US\$758.604 million in 2010 with exports increasing from US\$11.707 million to 37.462 million. The national herd (excluding poultry) has doubled over the period from 77 million to 154 million, with milk production increasing from 16 million tonnes in 1990 to 36 million tonnes in 2010. Annual beef production has doubled from 0.8 million tonnes to 1.6 million tonnes, while poultry meat has quadrupled to 0.7 million tonnes.



The massive expansion in livestock and livestock products has been supported by a system-wide integrated approach adopted by the government, firstly through development of policies aimed at supporting scientific approaches to improving existing livestock husbandry. FAO was central to this process and, in particular, contributed to the strengthening of various institutions at university level and through development of government R&D institutions such as the Animal Sciences Institute at NARC Islamabad.

Productivity at the farm level increased through a combined programme of disease control and improved feeding. Central to this was the development of feed resources, and promotion of the use of balanced feed. Low-cost feed formulation strategies were adopted for locally available fodders (combined with introduction of more productive varieties). Twenty private sector feed mills are now producing over 150 000 tonnes of concentrate per annum. This has enabled the promotion

of feedlot fattening for small and large ruminant for milk and meat production. The FAO project on feed resources contributed essential technical support.

A dairy processing industry was established with initial technical support from FAO and subsequently taken up on a large scale by multinational partners. The key constraint was the lack of pasteurization, UHT plants and equipment. From the 1980s this changed, with increasing capacity coming on line to the stage where Pakistan is now the fourth largest milk producer worldwide, with 24 private sector processing plants with daily capacity of 632 tonnes.

Intensive poultry farming has also taken off, supported by a progressive government policy environment that makes large-scale investment attractive. Pakistan has more than 400 commercial hatcheries with an annual capacity of 1.5 billion chicks. There are more than 150 feed mills producing 9 million tonnes of poultry ration each year.

FAO assisted Pakistan in its effective control of transboundary animal diseases, with Pakistan eliminating Rinderpest. The government has set up central reference laboratories for poultry and animal diseases. In terms of poultry disease, Pakistan was particularly successful in controlling highly pathogenic avian influenza Type H5N1. With FAO assistance Pakistan set up a reference laboratory and countrywide monitoring programme. It detected the first outbreaks in 2006, in time to instigate a culling and containment programme. Pakistan has been free of H5N1 since 2008.

The success of policy reviews on the meat trade, and the involvement of private enterprise, has been an outstanding success and has been instrumental in growing the export of meat from practically zero in 1980 (what export did take place was largely of skins and hides) to *US\$37.46 million* in 2010. This was essentially a private sector-led activity encouraged by a supportive government policy environment to the stage where there are now 14 export accredited abattoirs and meat packing facilities supplying high-priced markets in the Gulf States and Arabian Peninsula.

1.3 Rice

Rice is a major success story in the development of agricultural productivity in Pakistan with increases both in the area cultivated and in yields. In 1980 nearly 2 million hectares were cultivated, producing an average yield of 1.7 tonnes per hectare. By 2010 this had increased to nearly 3 million hectares, while average yields increased to over 2.3 tonnes per hectare.

In Pakistan, rice is an important food and cash crop, the second largest staple food crop after wheat, and is the second major exportable commodity after cotton. Rice was planted on an area of over 2.7 million hectares (11 percent of the total cropped area), with total production of 6.7 million tonnes during 2009-2010. It accounts for 17 percent of the total cereals produced annually. It also accounts for 6.7 percent of value added in agriculture and 1.6 percent of GDP. Pakistan ranks fifth



in the world for rice exports. Every year around one-third of the total rice produce is exported earning US\$2.2 billion.

These substantial increases were supported by the introduction of farmer-friendly government policies, institutional reforms, development of high-yielding and fertilizer-responsive varieties and better production technologies. The emphasis changed over the three decades: earlier years focused on state support to subsidize inputs and guarantee prices. Gradually these subsidies have been removed and now the market freely sets the prices with the government assisting in timely access to market information for all actors. State investment in production research, and interaction with international research bodies such as IRRI, was critically important in developing new high-yield and fertilizer-responsive varieties, particularly of the superior Basmati lines. For example, a 20 percent increase was obtained when switching to a new high-yield Basmati variety BAS385 in 1985 and again in 1996 with the switch to Super Basmati. In all, some 23 new rice varieties have been approved for general circulation in the country. FAO was engaged with government for each of these stages, from policy advice in the development of the agricultural strategy, through specific project support on technological innovations in rice transplanting, to adoption of reduced tillage practices and in improving post-harvest handling.

Further productivity increases have been obtained by adoption of integrated plant production, protection and nutrition measures to more finely attune cultural practices to variety and site specific factors. In particular the focus was on Integrated Pest Management practices to reduce the use of harmful pesticides (and costs), more balanced nutrition addressing macro and micronutrients, plant population density and transplanting methods. Each contributes to improved production and margins for small farmers. A continuing programme is underway in public and private institutions for assessing innovations for rice production, development of rice-wheat production systems, use of green manures, and increased appropriate mechanization.

In addition, the value of production also increased through development of high-value strains such as the

world famous Basmati rice and its successful penetration of lucrative export markets. For example, the value of rice exports in 1980 at US\$385 million was negligible, but increased as a serious contributor to export earnings by 2010 bringing in US\$2.2 billion. This was the result of high-yield Basmati rice varieties such as BAS385 and the emergence of the private sector in 1988, and strong expansion of the sector starting in 1992. The Rice Exporter Association of Pakistan was formed in 2000, with over 550 members by 2010.

1.4 Cotton

Cotton is a major success story for Pakistan with production tripling between 1980 and 2010 from 4.2 million bales each year to 12.7 million bales, while the area planted increased from 2.1 million hectares to just over 3 million. Per hectare productivity has increased from



339 kg to over 700 kg. Cotton makes a valuable contribution to Pakistan's agricultural economy, accounting for 8.6 percent of agricultural product and 1.8 percent of GDP. Further downstream value addition as an industrial feed stock to the ginneries and textile mills adds substantially to this economic contribution. The expansion of cotton production in the agricultural sector has been duplicated in the industrial processing sector, with 303 ginneries in 1980 growing to over 1 200 in 2010, while textile mills have expanded from 158 to 500, with yarn production increasing from 375 million kgs per year to over two billion kgs.

Pakistan has not only increased its cotton productivity, but has also substantially increased the quality of the product, switching from the short-staple length that predominated production in 1980 to long-staple length cotton by 2010, with staple lengths in excess of 1 1/8th inches.



This productivity gain was a result of integrated support from government and the private sector, with strong government support to the textile mills and ginning sector through industrial policy and subsidies on manufacturing, development of the Cotton Standards Institute and setting in place standards for the industry that promoted the move to longer staple length and reduction in contamination. FAO was at the forefront in assisting the government in developing and implementing these policies, and provided key consulting and technical assistance to capacity building of the Cotton Standards Institute.

Improvements in the field of productivity for cotton were a result of an integrated approach that combined varietal improvement that supported a wheat-cotton cropping system. This allowed a greater area to come into production without affecting the food staple of the country, introduction of improved agronomic practices such as raised bed culture, development, demonstration and adoption of an Integrated Pest Management strategy that reduced chemical usage while promoting increased productivity. Varietal improvement also contributed substantially to the increase in yields, though considerable differences remain between individual farmers and regions in per hectare yields. The advent of

BT-gene-enabled cotton was a major step forward in non pesticide control of boll worm, which had been a major pest, though Pakistan still has much to do in terms of its regulatory framework, particularly in terms of protection of intellectual property rights to allow it to tap into further gene modifications. Nonetheless an active programme is ongoing in the country to develop resistance characteristics for Pakistan-specific issues.

One significant issue is the indigenous Cotton Leaf Curl Virus, which is particularly injurious to the main cotton producing districts of the Punjab and an ongoing programme is underway to address this problem. However, as this virus is confined to India and Pakistan little external assistance is available for development of resistant varieties. The effects are severe, with yield differentials between affected districts in Punjab and unaffected parts of Sindh as much as 500 kg per hectare.

FAO has provided key technical assistance and support to the government programme for cotton development from the policy level through development of the Farmer's Field Schools approach to production and particularly IPM for reduced pesticide use. Training of key researchers and their exposure to advanced breeding technologies now being put to use to develop indigenous varieties adapted to the biotic and abiotic stresses of the Pakistan environment came out of several FAO-supported capacity-building projects during this period.

2. Selected successful FAO programmes

2.1 Wheat development

FAO has contributed significantly to strengthening the Agriculture Ministry's capacity. Since the 1980s, FAO has supported nearly 200 staff from the ministry and its affiliated institutions to pursue postgraduate and doctorate studies in various agricultural fields, thereby building the nation's capacity for research, training and extension services. The capacity of the ministry has also been enhanced through provision of support in developing a Project Development Unit within the ministry capable of transforming plans and budgets into strategically focussed well-formulated and feasible projects. This capacity-building assistance enhanced the

ministry's institutional capacity for timely planning, implementing and strengthening high-priority agricultural development projects aimed at pro-poor and resource-constrained farmers, and for effectively utilizing allocated sectoral budgets where and when possible.



The central importance of wheat production came out very clearly from the recommendations of the Agricultural Development Commission in the early 1980s headed by an ex FAO staff member, Sartaj Aziz. The dependence of Pakistan on imported wheat to provide basic food security was of concern to the government and it requested FAO technical assistance in a number of areas.

The commission recommended options for enhancing productivity, introduction of new practices, improved post-harvest handling to reduce losses, and improved regulatory framework on marketing to free up supplies and encourage greater availability of key inputs.

In particular, the *Assistance and strengthening the wheat productivity enhancement programme* laid out priority areas for action that were addressed by a number of FAO technical assistance projects.

The functioning of the agricultural research support system was addressed by the technical assistance programme for the Pakistan Agricultural Research Council

(PARC) which supported international expertise to help PARC develop its programme and build its capacity, not only for wheat but for all economically important crops. This project was seminal in setting up the research programme on enhancing farm-level productivity research. This was allied to the *Training programme in agricultural research* that supported government officials in getting degrees in MS and Ph.D.'s in several disciplines including wheat production and genetics from various overseas institutions. On returning to Pakistan, these scientists took up lead roles in the development of applied agricultural research and teaching. They were responsible for the development of locally adapted high-yield varieties of wheat. The capacity building of the research system and has allowed Pakistan to interact with international research bodies of the Consultative Group on International Agricultural Research (CGIAR) network and access new germplasm to help it address emerging biotic and abiotic stresses.

Enhancing soil fertility is a key strategy to increase farm productivity and FAO supported several interventions for establishing and assisting the National Fertilizer Development Centre, a multidisciplinary organization set up under the Planning and Development Commission and that played a catalytic role in the efforts to implement the directions contained in the Five-Year Plans for development. NFDC was involved in analysing the performance of the agricultural sector and in setting area and crop production targets based on input availability and population growth. New horizons in plant nutrition management were identified and studies on environmental issues initiated. NFDC is now a well established institution considered a centre of excellence for fertilizer-related issues both at the national and international levels. NFDC has made key contributions in setting up the country's Management Information System for fertilizer demand and availability, undertaken studies with the Asian Development Bank to promote privatization and deregulation of fertilizer marketing, has developed data on crop response for modelling and economic assessment, and promoted the use of balanced crop fertilization. The implementation of these recommendations was facilitated by three FAO projects: *Balanced fertilization through phosphorous promotion at farm level*, *Plant nutrition strategies* and *Fertilizer policies for sustainable agricultural development*.

Farmer access to high quality true-to-type seed of high germination and vigour was recognized by the government as being a key ingredient to sustainably increasing productivity. FAO assisted the government in preparation of a *Seed sector development programme* in 1996 in which a detailed survey was carried out of federal and provincial research institutions, public and private seed organizations, seed growers, seed dealers and farmers. Profiles were prepared for projects with funding requirements. Recommendations were made in the areas of research, certification, restructuring of public seed institutions, re-establishment of proper institutional linkages and coordination arrangements and monitoring of the industry to prevent abuse. The recommendations also covered facilitation actions aimed at enhancing the role of the private seed sector and privatizations/commercialization of public sector seed agencies that have shown good signs of viability when removed from the public sector. This was followed up in 2008 with development of a *National commercial seed production programme* that recognized the emerging importance of the private sector in seed supply and set the regulatory framework and modifications necessary to bring Pakistan in line with international best practice on protection of plant breeders' rights and the general protection of intellectual property.

One main focus of the FAO's *Special Programme for Food Security* was the improvement of farm productivity for small resource-poor farmers. The programme utilized a community development model and Farmers Field Schools approach. Initially small intervention under a TCP project, it grew into a major government-funded national programme – the *Crop maximization project* – to bring these improved practices to larger numbers of poor farmers. This has subsequently been expanded by the government so that yields are increased through ensuring access to high quality inputs and increased mechanization, and better production practices are adopted through the FSS approach.

2.2 Livestock development

The FAO policy-level assistance provided to the Ministry of Food Agriculture and Livestock (MINFAL) under the rubric of wheat also helped in the development of the livestock sector. In addition, through the *National livestock*

Assistance to Pakistan on wheat development	Budget US\$	Implementation period
TCP/PAK/4455: Assistance in strengthening the wheat productivity enhancement programme	258 494	Jan 1995 – Jun 1996
UTF/PAK/072/PAK: Technical assistance programme to PARC	1 804 240	Jan 1984 – Aug 1991
UTF/PAK/073: Training in agriculture research	8 590 715	Jun 1983 – Dec 2009
UTF/PAK/069: National Fertilizer Development Centre	2 964 334	Jan 1981 – Dec 1996
GCP/PAK/075/NET: National Fertilizer Development Centre, Phase II	2 394 515	1991 – 1996
GCP/PAK/075/NET: National Fertilizer Development Centre, Phase III	2 157 240	1982 – 1990
Plant nutrition strategies and fertilizer policies for sustainable agricultural development	80 757	Jun 1996 – Dec 2002
TCP/PAK/4557: Preparation of a seeds sector development programme	120 096	May 1995 – Jul 1996
UTF/PAK/105/PAK: Preparation of strategies for the National Commercial Seed Production Programme (NCSPP)	133 197	Feb 2008 – Jun 2011

policy and action plan, FAO provided assistance to the ministry in updating *Pakistan's Livestock sector policy framework* in line with the changes brought about by WTO agreements.

FAO has been closely involved with the development of the livestock sector in the country through numerous TCP and technical assistance projects. These include the *Institutional strengthening of the livestock development centre Bahadurnagar* that was central to the programme of livestock research and development for over 30 years; the Coordination of the national livestock and dairy development programme, and the *National poultry development programme*. The technical basis for improved feed resources was established under two initiatives that underpin the large expansion in the private-sector supply of balanced compound feed to the livestock industry.

FAO supported the ministry in developing and scaling up the country's dairy sector through the establishment of the *National dairy development board*. Funded by the government, this project analyzed the dairy sector and produced a series of recommendations that assisted the promotion of successful dairy enterprises. The same project also developed food safety standards for milk and other dairy products that allowed private sector actors entry into the milk supply chain and ensured that domestic and international consumers could have confidence in the quality of dairy products in line with agreed WTO specifications. This was further developed under the *Smallholder dairy development project* in Punjab.

The FAO project *Meat production and processing project* helped the government establish national standards for abattoirs and meat-packing facilities. This facilitated the development of the substantial meat export industry. The government was further assisted by strengthening its capacity in WTO negotiations that proved seminal to ensuring penetration of Pakistan meat products into the world market. This was achieved under a unilateral trust fund project where the government itself funded the project from its own resources – *Capacity enhancement assistance* – for the Ministry of Food Agriculture and Livestock in WTO related policy and strategy development and project formulation.

Transboundary animal diseases were and are a major concern to the livestock sector. FAO had several projects to strengthen the national capacity to diagnose, detect and treat major threats to the industry. With FAO support, a vaccine production centre was set up in Karachi as well as the Central Veterinary Diagnostic Laboratory in Sindh, and increased vaccine production capacities at Veterinary Research Institute, Lahore. The control of infectious diseases is central to Pakistan's strategy for trade of livestock and livestock products.

Rinderpest, foot-and-mouth disease (FMD) and peste des petites ruminants (PPR) are the three most critical diseases that afflict livestock in Pakistan. These lead to poor health and low productivity among cattle and small ruminants while eroding the incomes and food security of farmers. To address this problem in the context of

global pest-eradication programmes, FAO implemented the US\$1.6 million EU-funded project *Support for emergency prevention and control of main transboundary diseases in Pakistan* to assist the government in the establishment of a system of Rinderpest, FMD and PPR monitoring, surveillance, diagnosis and reporting, and in the development of appropriate disease control policies and Rinderpest emergency preparedness procedures. Pakistan has now been declared Rinderpest free by the OIE and is now focusing on a major control programme on FMD in collaboration with FAO and US Department of Agriculture.

Pakistan has also had major success in the control of highly pathogenic avian influenza (HPAI H5N1). Pakistan suffered an outbreak of HPAI Type H7N3 in 2004 that originated in Karachi and spread northwards causing losses to the industry estimated at US\$50 million. In response FAO supported a TCP project, *Emergency assistance for the control of Avian Influenza*, that helped set up the first avian influenza surveillance, diagnostic and

rapid response network in the country. The Central Reference Laboratory and eight Peripheral Surveillance and Rapid Response Units were established under the auspices of the Ministry of Food Agriculture and Livestock.

The advent of the even more virulent H5N1 strain of HPAI in neighbouring regions and countries required continued response beyond the design period of the project and so USAID made additional funds available to support further development of Pakistan's surveillance and detection systems. The project supported the efforts of government agencies responsible for diagnosis, surveillance, and culling of AI-affected flocks by continuing support to the Central Reference Laboratory.

This enabled implementation of a routine HPAI surveillance programme beginning in January 2006 that was in place just in time to detect the first H5N1 outbreak in Northwest Frontier Provinces region. The rapid diagnosis possible through this project enabled the

Assistance to Pakistan in livestock development	Budget US\$	Implementation period
TCP/PAK/3001: Livestock Action Plan – Phase II of TCP/PAK/0168	67 919	Jan 2004 – Jun 2005
PAK/73/023: Livestock development centre, Bahadurnagar	2 457 071	1979-1982
PAK/74/018: Coordination National Programme on livestock and dairy development	1 809 103	1983-1986
PAK/74/067: Coordination National Poultry Programme	3 612 906	1983-1986
PAK/80/019: Livestock feed and nutrition	2 227 809	Jan 1982 – Jan 1991
PAK/88/050: Feed resources development in Balochistan	1 937 913	Nov 1990 – Oct 1995
TCP/PAK/3004/PAK: Assistance in up-scaling dairy development in Pakistan	220 183	Aug 2005 – Mar 2007
PAK/88/072: Small holder dairy development, Punjab	1 747 378	Jun 1991 – Dec 1994
TCP/PAK/2308: Meat production and processing	95 000	Sep 1983 – Dec 1984
UTF/PAK/097/PAK: Capacity enhancement assistance to MINFAL in WTO related policy and strategy development and project formulation	676 784	Jul 2005 – Jun 2010
PAK/80/023: Vaccine production centre, Karachi.	152 202	Prior to 1980
NECP/PAK/501: Increasing vaccine production at VRI Lahore	849 575	Prior to 1980
GCP/PAK/088/EC: Support for emergency prevention and control of main transboundary animal diseases in Pakistan (Rinderpest, FMD and PPR)	1 859 675	Jul 2001 – Jun 2005
TCP/PAK/3002: Emergency assistance for the control of avian influenza	398 144	Feb 2004 – Dec 2005
GCP/PAK/095/USA : Food security/poverty alleviation in arid agriculture: Balochistan – Pilot project phase	6 335 239	Oct 2004 – Dec 2008

government to respond quickly and limit the extent of the outbreak through imposition of quarantines and controlled culling of infected flocks.

The project was also very effective in rapidly identifying subsequent outbreaks and limiting their impact on the industry as a whole. Altogether 22 outbreaks, mainly in the breeding stocks of poultry, were diagnosed and effectively controlled. The rapid response activities, which included prompt culling and decontamination, resulted in effective containment of H5N1 virus in Pakistan by July 2006.

2.3 Rice development

The FAO policy-level assistance to MINFAL and its institutions such as PARC under the rubric of 'wheat' also strongly assisted the development of rice production. In addition, rice productivity benefited from FAO technical assistance to the National Fertilizer Development Centre and the building of national-level seed certification and production systems.



The strengthening of national research institution capacity led to the development of locally adapted high-yield varieties. These had a major impact. Work on the high-quality aromatic long-grain Basmati rice types saw the shorter-duration, high-yield, fertilizer responsive BAS385 gradually replace the low yielding BAS370. Eventually, that was also replaced by Super Basmati rice. The shorter duration rice crops have allowed wider adoption of rice-wheat cropping systems that have facilitated double cropping of the same land.

Specific inputs on rice provided by FAO were under the *Rice productivity Phase-I* and *Phase-II* projects which introduced improved practices for improved rice varieties to ensure farmers obtained optimum returns. This worked through the introduction of improved seed bed techniques for raising transplants. Machinery suitable for mechanization of the transplanting operation was tested and evaluated. More balanced fertilizer use was promoted, not only in terms of macro nutrients but also addressing specific micronutrient imbalances, most notably zinc, which could be easily applied in the nursery rather than broadcast in the standing crop.

The development of sustained export markets was supported by the wider adoption of high quality Basmati cultivars, and also by FAO technical assistance to the *Improvement in paddy threshing and cleaning* project and the *Survey on farm level storage losses* that addressed quality aspects of what has become a major export earner for the country.

The extension of these integrated production practices to small-scale producers was a major success of the FAO *Special Programme for Food Security*. It demonstrated how using appropriate community mobilization techniques, these resource-poor farmers could benefit from higher-yielding and higher-input systems and also from the higher returns from supplying the growing private-sector export markets. The expansion of the SPFS into the two-phase *Crop maximization programmes* has increased the number of beneficiaries immensely. The production of improved rice varieties using integrated fertilizer and plant protection strategies is now widespread even among the smaller and more marginal farmers.

2.4 Cotton development

Another crop that benefitted under FAO's wheat assistance was cotton. The Central Institute on Cotton Research was established in the 1970s by the Pakistan Central Cotton Committee at Multan to conduct fundamental and applied research with a multidisciplinary approach to solve cotton production problems.

Assistance to Pakistan on rice development	Budget US\$	Implementation period
TCP/PAK/6704: Cotton and rice productivity	75 000	Sep 1977 – Aug 1978
TCP/PAK/6801: Cotton and rice productivity	49 000	Feb 1978 – May 1978
PFL/PAK/001: Paddy threshing and cleaning	384 518	1982 – 1986

In the 1980s, the government requested FAO technical assistance under a US\$4 million *Central Cotton Research Institute* project to strengthen the cotton research programme. The programme enhanced the capability of the institute and outreach programmes, as well as organizing training programmes for extension workers and farmers. A general pool of local germplasm was collected and a collection of new varieties was undertaken from all over the world and used in the development of high-yield and improved fibre-length cotton. Overseas training was provided to develop a multidisciplinary team across agronomy, entomology, pathology, physiology plant breeding and genetics.



This improved research capability, along with FAO technical assistance projects to improve cotton production in the field under the government *Cotton maximization* programme led to significant yield and production increases. This in turn fostered the development of the textile industry, adding value downstream to this prime agricultural product.

FAO was central to the development of higher-quality textile production through technical assistance to the Cotton Standards Institute under a continuing

programme of support totalling US\$7 million from UNDP. This assistance helped Pakistan develop the institute, build the capacity of its staff, set up standards for cotton classing and grading, set in place industry wide standards that facilitated quality improvements. Growers became aware there was a price reward for higher quality product. The development of standard grades was a major force in moving cotton production towards varieties with longer fibre length and has assisted in moving Pakistan's production higher up the quality profile.

Increased production of cotton, however, brought with it increased usage of pesticides. Unfortunately the short-term benefits of indiscriminate pesticide use were soon outweighed by larger problems such as the disturbance of the agro-ecosystem, development of resistance by the pests, emergence of new pest species, human and animal health issues, as well as environmental degradation and contamination of water supplies. In some areas farmers were forced to juggle among 14 types of insecticide, and the phytotoxic effects of this cocktail soon led to a decline in productivity.

In response to government requests, FAO implemented technical assistance on IPM strategies under its *Regional project on Integrated Pest Management*. The ADB also lent assistance to this project. This support promoted participatory IPM technology development, scaled up successful IPM approaches, and conducted special training of female farm workers in health issues associated with pesticide use and misuse. The project enabled 'Master Trainers' to provide IPM training to 5 000 farmers in Sindh, Balochistan and Punjab provinces through Farmer Field Schools (FFS) and supported extension workers' activities.

Training capacity for a self-sustaining IPM programme was established and agricultural extension services commenced. The government subsequently launched a *National Integrated Pest Management project* for five years beginning in 2004. The Punjab government also has

initiated a community IPM project programme. In Sindh, using a World Bank loan for farm water management practices, the government plans to undertake a project

to establish IPM farmer field schools at the water distributor level.

Assistance to Pakistan on cotton development	Budget USD	Implementation period
PAK/73/026: Central Cotton Research Institute	4 310 704	1982-1986
PAK/80/024: Cotton classing and grading	785 650	1982-1987
PAK/83/003: Strengthening of Central Cotton Committee Institutes	2 306 422	Jan 1985 – Oct 1991
PAK/86/003: Cotton Standard Institute	4 600 086	Jan 1987 – Jun 1996
GCP/RAS/164/EC: Integrated Pest Management for Cotton in Asia [Bangladesh, China, India, Pakistan, Philippines, Viet Nam]	12 622 542	Oct 1999 – Oct 2004
UTF/PAK/081/PAK: T.A. for cotton disease research	210 134	Feb 1994 – Feb 1998
UTF/PAK/080/PAK/E: Cotton Standards Institute	224 571	Dec 1993 – Mar 1998
UTF/PAK/089/PAK: Technical assistance in developing Integrated Pest Management (IPM) in Pakistan	410 000	Jan 2002 – Dec 2004

Success stories

1. Contribution of EU Food Facility interventions in local food security and community development

Booty Wala is village of 200 households where the European Union Food Facility (EUFF) project supported 70 poor and vulnerable families through the distribution of agriculture inputs and the rehabilitation of an irrigation channel to contribute to the overall food security of the village. Apart from seed and fertilizer distribution, agriculture machinery provision is one of the key interventions of the project.

For the proper maintenance and utilization of machinery, a total of one hundred machinery pool groups/farmer associations (MPG/FA) have been established throughout the project area. These groups are formed at union councils and have representatives from three sub-groups, for example vegetable growers groups, cereal growers groups and water user groups. Machinery pool groups are not only responsible for the overall supervision of machinery, but also play a key role in establishing Farmer Field Schools and women's open schools.

One of the MPG, the Food Facility Association was formed in April 2009 in Booty Wala. The group had a total of twenty five members. It has received agricultural machinery and is bringing innovation by adding value to machinery. The MPG is registered with the Social Welfare Department and has been strengthened through various trainings. The MPG started vegetable production under the Kitchen Gardening Support programme of the EUFF but with a different approach. The group donated approximately 0.4 hectare of land for a tenure of one year for 16 landless families to produce vegetables for sale and consumption. The MPG provided financial support for the development of these plots, while FAO provided seed and technical support through the establishment of a Farmer Field School.

On the plot each family grew different types of vegetables. The total cost of production for three months



was \$409.74 while profit was approximately US\$1 053.62. These farmers hired a local farmer to guard the plot. The harvested vegetables are replaced by another seasonal vegetable crop, or the same variety of vegetable is replanted. There are families who earn \$2.34 per day from their plots. There are so many important aspects of this intervention: all farmers are receiving fresh vegetables at cheaper rates, an entrepreneurial culture is developing, and farmers are learning by doing and exchanging their experiences as they work together on the same plot. Now the farmers are planning to invest their profits to rent this land again for the upcoming season. They are becoming more independent.

2. A tiny step towards food security

The role of women in agriculture is inevitable. Without their participation it would be more difficult to combat rising food prices and address their negative impacts on vulnerable households. One component of the EU-funded Food Facility project in Pakistan (EUFF) is capacity building of farmers through Farmer Field Schools (FFS) and Women's Open Schools (WOS).



In Sindh 37 FFS and WOS have been established. The objectives are capacity building, empowerment, confidence development, and improved decision-making. A participant of WOS Ms Mirzadi, 50, from village Allam Chhachhar district Jamshoro, keenly participated in the weekly activities of WOS. She has been involved in agriculture from childhood, particularly harvesting, Interculturing and picking cotton and vegetables. She had no other option for her survival.

She was getting very low income from agriculture and was unable to adequately feed her family. The whole family depends on her. The sharp increases in food prices during 2008 made many food items beyond her means. The EU Food Facility project created a ray of hope for her family to meet their food needs. Various inputs were provided by this project to help her increase her production and productivity.

When Miss Shahnaz (facilitator for the National Rural Support Programme (NRSP) and implementing partner of the EUFF project) conducted an introductory meeting with the women for establishing a WOS in their village, Ms Mirzadi enrolled. She attended weekly sessions, observed all the activities deeply and asked questions about the sowing dates of various vegetables, sowing methods, seed rate, and various management practices of kitchen gardening. The WOS group and facilitator answered all her questions and gave practical demonstrations on the school plot.

Within a few days, she started preparing land near her home to cultivate vegetables. She purchased seeds of turnip, tomato, chillies, coriander, spinach, peas and okar. She was very happy to establish the kitchen gardening plot, while other women were laughing at her and growing vegetables is a job for men. Ms Mirzadi ignored all these remarks. After 60 days, her efforts bore fruit as her garden became a lush green oasis and started to produce a harvestable bounty. All were surprised and praised her tireless work.



Now, she has started consuming her vegetables and to provides some to others. In this way, this small portion of land is a vital source of livelihood for her family. Now their daily earning is about US\$2.34 to 2.93 Ms Mirzadi said "I never experienced to grow vegetables. Now this small garden is a source of nourishment for my family. We eat fresh and pesticide-free vegetables every day. So, we are spending less on food and also earning money from selling vegetables. We can support our relatives who have no money to buy vegetables. All this is bliss for us. We as a family are thankful to FAO and NRSP for supporting us by giving us the means to support ourselves. These types of interventions are a ray of hope for oppressed farmers."

3. US assistance to agricultural development in Balochistan Border Areas GCP/PAK/113/ USA – Eid Livestock Mandis: A marketing event for capacity building and economic improvement of livestock farmers in Balochistan

The USAID-funded *Balochistan agricultural livelihoods* project is executed on the ground by the FAO. One of the project's objectives is increasing incomes for poor rural households in this remote part of Pakistan.



Livestock form a major part of the farming system, and the annual sacrifice associated with Eid-ul-Azha offers a great opportunity for these farmers to get a good market for their animals.

However, for most farmers in this remote area, taking their animals to the major livestock centres is difficult, as they have to be away from their homes and flocks for several days, and incur transportation charges and costs for caring for their animals until they are sold. This can lead to exploitation of these poor people by traders offering very low prices, knowing the poor farmer has to dispose of the animals quickly to defray costs and return to his village.

FAO, utilizing its long experience in agricultural marketing systems, has brought the market to the farmer, organizing specific markets for livestock in the remote districts called 'Eid Mandis'. The key strategy was to notify a large



number of buyers well in advance, and arrange the market over a limited period (two days) in each district close to Eid, but with enough time for the traders to transport their purchases to the population centres well in time for sacrifice.

The project works closely with the Executive District Officer of the Livestock and Dairy Development Department of the government of Balochistan and district government officials to organize the market place, with adequate supplies of feed, fodder and water for the animals. The also conduct training events on livestock husbandry during the market days for participating farmers. Once the project is sure that many buyers will be present, as competition among buyers is important to ensure that the farmers receive the best price, the events are advertised through the project's community organizations where farmers are encouraged to bring their animals for sale. Farmers from neighbouring



communities are also encouraged to participate, and the events are widely advertised through announcements in local mosques after Friday prayers, press and media outlets, and at various animal markets throughout Balochistan so that the bigger buyers are aware that thousands of animals will be available for purchase.

In 2009, over 34 000 animals were brought for sale in the markets of three districts of Balochistan: Killa-Saifullah, Loralai and Mastung. Sales totalled US\$1.6 million across the three districts. Farmers' own accounts indicate that they made about an extra US\$11.71 per animal, but more importantly they saved the costs of transportation, and because the market was so near, were able to bring many more animals for sale. The Secretary of Balochistan's Livestock and Dairy Development Department, accompanied by his Director-General participated in the events, which were extensively covered by various television channels and other media. The event included



provision of market linkages to livestock farmers and traders, animal health coverage, and other support. The Secretary praised these initiatives and directed the department to develop a project proposal for the permanent establishment of a livestock marketing centre in Mastung.

Women play an important role in the care of livestock, looking after animals within the confines of the family compound. Their ability to participate in marketing activities is constrained by the local cultural norms that prevent them engaging in such public activities. However, many do sell their animals at these 'Eid mandis' through their male relatives. They also report substantial improvements in cash returns through sale of larger numbers of animals at higher prices. To motivate women to participate in these marketing events, the female community development and marketing facilitators (CDMFs) of the project provided necessary guidance and support to the women beforehand.



The Eid mandis also created numerous opportunities for small service providers such as kebab sellers, Tea Hawkers, cobblers, barbers, low-cost clothing traders and others. A all were able to set up stalls and generate business. For example, one Tea Hawker was very pleased that his turnover had increased to US\$4.68 per day from his normal turnover of US\$1.17-1.75.

These Eid mandis provide a major boost to the local economy through a substantial injection of cash. The farmers benefit from the higher prices and easier disposal



of larger numbers of animals than would otherwise be possible. The traders benefit through access to large numbers of healthy animals in time to transport to their major market outlets, and the consumers benefit by having access to increased numbers of good quality animals with which to celebrate the Eid festivities.

4. IPM programme for cotton in Asia

FAO Pakistan was offered a unique opportunity to strengthen the concept of its participatory Farmer Field Schools (FFS) approach through the *FAO-EU IPM programme for cotton in Asia*. Integrated Pest Management (IPM), which changes pest management practices to reduce if not eliminate the use of harmful pesticides, has been a beacon of light for farmers in the last decade and continues to be a source of livelihood improvement. The start was slow but steady, and the pace of adoption increased as more farmers became aware. IPM, which officially means Integrated Pest Management, now also stands for Increased Profit Margin.

The FAO-EU programme had perhaps its greatest impact in Pakistan. The country did not have previous experience with IPM field schools, and yet, as of 2004, the two main cotton producing provinces, Sindh and Punjab, embraced IPM FFS as the dominant interface between government and farmers. Sindh province also included FFS expertise in the job description of its agricultural officers, and Punjab launched a major programme expansion initiative to conduct 3 500 year-long FFS in cotton-wheat management.

The programme helped establish a strong National IPM Programme that not only became the joint implementing unit for the EU and ADB funded projects, but also addressed pesticide policy issues with ministerial decision-makers. Despite a powerful pesticide industry, the country embarked upon its own five-year national IPM project.

IPM has become a name for anything that appears to benefit the farmers. In Sindh, a group of female Cotton IPM Facilitators gained the strength and confidence to set up the first WADO (Women's Agriculture Development Organization) and evolve that small WADO into an organization with links across rural Sindh. They have run and successfully completed various projects in areas such as livestock management, embroidery and kitchen gardening. Whatever the activity may be, the concepts of IPM are at the core of it, which is why the slogan has, after so many years been unchanged: "Three claps and at the top of one's voice Integrated Pest Management IPM".

The IPM message has continued to spread to new fields and areas, resulting in organized farmers' networks that are closely integrated and linked up with the National IPM Programme. Success stories such as that of WADO can be witnessed across the country. Other examples include the Kissan Welfare Association (KWA), Kissan Foundation (KF), Society of Facilitators and Trainers (SOFT). Each works with government, international organizations including UN agencies. The majority of yesterday's IPM Facilitators are today's district officers for agriculture, continuing their quest to improve the lives of farmers.

5. Avian Influenza disease control strategy and contribution of various national and international funding agencies (2005-2010)

The first outbreak of Avian Influenza in Pakistan occurred in 1995, when Highly Pathogenic Avian Influenza (HPAI) serotype H7N3 was reported in breeding stocks of commercial poultry. This resulted in heavy mortality and severe drop in egg production in the affected flocks. The disease was later controlled by strategic vaccination and selected culling. Later in 1999, a new serotype of low pathogenic H9N2 was introduced and is still prevalent throughout the country.



The AI virus type H7N3 emerged again in November 2003 in the southern city of Karachi, mainly affecting commercial layers. The disease subsequently spread to the northern region, primarily affecting breeding stocks and resulting in heavy economic losses of nearly US\$500 million. The disease was eventually controlled by culling and vaccination strategies by the end of 2005.

The next outbreak of HPAI, caused by serotype H5N1 (bird flu), occurred in commercial poultry between February and July 2006. The disease re-appeared in 2007 and 2008 in commercial and backyard poultry. During November 2007, Pakistan suffered its first three human fatalities from H5N1. This led to an aggressive campaign to improve chicken-production systems, along with increasing awareness among the public and farmers for containment and elimination of this virus. Since July 2008, no new cases of H5N1 have been recorded in Pakistan.

However, with the introduction of H1N1 (swine flu) in Pakistan since 2009, and the continuous circulation of H9N2 serotypes in poultry and wild birds, the possibility of re-emergence of re-introduction of new variants of avian influenza viruses remains very high. Therefore, the need for continuing surveillance and the evolution of better control strategies remain priorities for food safety, food security and public health.

Support provided by various agencies

FAO has been supporting Pakistan since 2005 in setting up an efficient surveillance network and reliable diagnostic labs for avian influenza. A TCP amounting to

US\$0.3 million was launched in 2005-2006 by FAO upon government request. This was further supported through Food Security/Poverty Alleviation in Arid Agriculture in Balochistan project with a budget of US\$0.3 million between 2006 and 2007. This was followed by additional technical and material assistance through the regional project of FAO on avian influenza, namely the *Central Asian Regional Network (CARN)* between 2006 and 2008.

Since 2008, a cross-border *Avian Influenza surveillance project* is run jointly in Pakistan and Afghanistan near border areas for strengthening AI surveillance and improving poultry trade procedures between the two countries.

In addition, a number of collaborative research and field projects have been implemented through various international organizations during this period. This includes two grants from the EU Commission, one through Padova Lab of Italy during 2005-2008, and another during 2008-2011 through VLA World Reference Lab of the United Kingdom.

During 2005-2010, some technical and financial assistance was provided by the WHO Lab on Influenza in Tennessee, USA, and another collaboration is still being conducted with the assistance of the OIE-Japan Trust Fund project (2008-2012).

Furthermore, China's government provided a grant of US\$0.05 million for strengthening AI diagnosis during 2005-2007. In addition to this, the government of Pakistan funded two major projects to the tune of US\$20 million to expand AI surveillance and rapid response activities throughout the country, along with setting aside funds for compensating the affected poultry farmers during outbreaks of H5N1 as well as construction of new BSL-3 facility.

All the above contributed to the following:

1. Development of the first National Surveillance and Epidemiological Network of AI through the National Reference Lab for Poultry Diseases (NRLPD), Islamabad.
2. Capacity building of NRLPD and provincial periphery labs for undertaking AI diagnosis. However, BSL-3

construction could not be initiated because of lack of funds.

3. A number of staff trainings were sponsored for early detection, molecular diagnosis, disease reporting and rapid response to the affected areas, both within the country and abroad.
4. The above mentioned collaborative projects have helped to improve diagnostic and surveillance activities at peripheral surveillance units for early detection and reporting of HPAI. It has now been possible to reduce significantly the response time by District Rapid Response units to carry out prompt culling, disinfection and prompt compensation to the farmers.
5. Extending training for diagnosticians from member countries of SAARC and Afghanistan at NRLPD Pakistan, resulting in improve med regional coordination.
6. Recognition of NRLPD as a regional reference lab for avian influenza under FAO within SAARC countries with effect from January 2011.

With the initiation of future animal health improvement strategies under the One World One Health agenda of the UN, it is time to use the experience obtained conducting avian influenza control activities to develop better surveillance, diagnostic and control strategies for other major Zoonotic diseases in this region. In this regard, any work related to disease diagnosis, pathogen characterization and vaccine evaluation can only be undertaken at highly bio-secure service labs. For this purpose, initially small-scale BSL-2-plus labs at provincial levels along with setting up of a BSL-3 facility at the national level are pre-requisites to undertaking any activity against existing Zoonotic diseases. This should be included in any future work plan developed in the area of human and animal health improvement.

6. Special Programme for Food Security (SPFS)

Historical background : A TCP project in support of the SPFS was approved in June 1998 with a budget of US\$390 000 for the water control component. It was operational from June 1998 to May 2000. The project was extended under a second phase to March 2002. In the

pilot phase of the project, SPFS activities were carried out in five villages (two in Punjab, two in NWFP and one in Sindh) targeting 628 families.



The success of the pilot phase SPFS, which increased wheat yields by 40 percent for 165 farmers on 840 acres and increased paddy yields by 27 percent for 114 farmers on 554 acres, encouraged the government of Pakistan to allocate US\$8.47 million for the expansion of the project to 109 villages in 20 union councils of 15 districts through a national programme called the *Crop Maximization programme* (CMP I). The project benefitted 1 400 families from July 2001 to June 2006. Additionally, a TCP project entitled *Participatory training for strengthening provincial capacities in agricultural extension, rural community organizations and village-based business support services* was implemented from April 2002 to March 2004. The Canadian government provided US\$31 250 in 2002 to supplement technical training of field workers in support of the *National programme for food security for small farmers*.

USAID provided US\$5.97 million to Balochistan under a project entitled *Food security and poverty alleviation in arid agriculture*. The project operated from 2005 to 2008 and achieved substantial success, with average household incomes for the 33 000 direct beneficiaries estimated to have increased by 32.6 percent. Financial analysis of the project indicated that the value of the project at completion was US\$16 127 000 with an IRR of 21 percent and a simple benefit cost ratio of two. If the benefit streams are extended to 2013, the value of the project will increase to US\$23 097 000, the IRR increases

to 33 percent and the simple benefit cost ratio increases to 2.8.

As a result, USAID funded an expanded project *United States assistance to agriculture in the Balochistan Border Areas* with US\$8.9 million to run to 2012.

Recent developments: Upscaling the SPFS – Crop maximization programme Phase II (CMP II). Productivity enhancement of small farmers in 1012 Villages

The President of Pakistan, while visiting FAO Headquarters in Rome in September 2004, agreed to a suggestion by the FAO Director-General to further scale up the Food security programme to 13 000 villages in a phased programme over the next 15 years.

Therefore, MINFAL prepared a five-year project including 1 012 villages in the four provinces, Azad Jamu and Kashmir (AJK) and Federal Administered Tribal Area (FATA) as the first phase for implementation from July 2007. It will be further scaled up by including 3 000 villages every two years, achieving the target of 13 000 villages by 2015-2016. This programme, funded from the government's regular budget amounts to US\$100 million.



A TCP project entitled *Input supply to vulnerable populations under the Initiative on Soaring Food Prices (ISFP)* with a budget of US\$500 000 was implemented from 3 July 2008 to 2 July 2009.

IFAD has implemented the preliminary studies for a US\$13 million programme in support to CMP II. The

programme was submitted to IFAD's Board and is awaiting approval.

A project entitled *EC Food Facility Combating rising food prices in Pakistan – Addressing the negative impact of rising food prices on food insecure and vulnerable households in Pakistan* with a budget of US\$70 000 was approved on 30 March 2009 for implementation over the period 1 April 2009 to 31 July 2011.

7. US assistance to agriculture in Balochistan Border Areas JUMA KHAN, a village activist, looks forward to a better future

The United States Agency for International Development (USAID) Assistance to agriculture in the Balochistan Border Areas (ABBA) project that is being implemented by the FAO makes the local community active partners in the development process, thereby achieving sustainability and success.

As Juma Khan, a local activist and community facilitator in Sheikh Umar Karez declares: "the project has created a strong belief in the villagers that they are the ones who can bring about the change in their own lives." In this USAID-funded programme, the FAO has helped farmers in this region create a better organized community development process through which improved agricultural practises have been introduced.



Figure 1. Sheikh Umar Karez village water storage before improvement.

The village of Sheikh Umar Karez lies in an especially sensitive area only 50 kilometres from Afghanistan. The geo-political situation places Sheikh Umar Karez in constant threat of destabilizing and hostile elements. These were further compounded by challenges from the environment and the climate. The remote village suffered from an acute shortage of water: farmers were only making marginal returns in agriculture and livestock and the land was becoming increasingly barren. In 2007, when the project approached the village, these innumerable difficulties made it hard for villagers to believe in a viable future. Juma Khan reluctantly assumed the role of one of the community leaders, a decision which he recalls as “a turning point in my life.”



Figure 2. Sheikh Umar Karez village water storage after improvement undertaken by the Community Organization who contributed 50 percent of the costs. Water flow also increased due to cleaning and extension of the Karez system.

With the help and guidance of the project community development team, the villagers managed to rally together and from a community organization. They identified their strengths and weaknesses and set manageable targets. Problem solving, the discussion of priorities, mediation and conflict resolution were all part of the training, which created a sense of co-operative endeavour. Once community resolutions were in place, the programme could help the community make strategic investments to improve its agricultural productivity.

The programme pledges to share the cost of these improvements equally. This way, farmers can retain a sense of ownership and pride about the consequent successes in a spirit of true partnership.

As Juma Khan testifies, “we have been provided work on our doorstep and it has created a strong belief in our ability to bring change. We have learnt to work as a team and contribute to the progress of our village.”

Pointing towards the growing tensions along the border areas Juma Khan considers it extremely important that the villagers keep themselves engaged in constructive work and enrol their children in schools or engage them in agriculture-related activities so that they do not become part of some unwanted activity.

Juma is of the opinion that apart from support the villagers received from this project, they have grown in terms of self-esteem and are now confident enough to speak about their issues, which is a beacon of hope for the future of Sheikh Umar Karez village.

Juma Khan has become an icon for other villagers and believes that the villagers have regained confidence and realized the importance of speaking for themselves at the right time and place rather than waiting for support from the government. The villagers of Sheikh Umar Karez are not passive recipients of charity, but have been empowered by the project to be proactive members of the development process. Their grassroots involvement has renewed the locals’ sense of self-esteem, their ability to speak and formulate their needs, and find solutions to problems.

The once depressed villagers can look forward to a rosier future thanks to USAID. The locals of this remote village can assert a truly global sentiment that unites all of us, irrespective of location, religion or economic stature. In Juma Khan’s words: “We are now determined to make the world a better place for our children.”

List of selected projects

Title	Symbol	EOD	NTE	Budget (\$)
Animal Health Emergency Assistance	TCP/PAK/6601	1977	1977	33 880
Cotton and Rice Productivity Mission	TCP/PAK/6704	1977	1978	75 000
Cotton and Rice Productivity Consultants	TCP/PAK/6801	1978	1978	49 000
Feasibility Study for Fiber Glass Reinforced Plastic Fishing Boat Building	TCP/PAK/8802	1978	1978	22 000
Wheat Seed Supply	TCP/PAK/8803	1978	1978	250 000
Desert Locust Control	TCP/PAK/8804	1978	1979	200 000
Assistance to the Pakistan Agricultural Storage and Services Corporation	TCP/PAK/8905	1979	1979	26 000
Rapid Development of Oil-Seed Crops	TCP/PAK/0001	1980	1982	194 500
Sericulture Mission	TCP/PAK/0002	1980	1980	7 500
National Fertilizer Development Centre	UTF/PAK/069/PAK	1981	1996	2 964 339
Coordinated Programme Livestock and Nutrition	TCP/PAK/0103	1981	1981	46 000
Consultancy on Food Quality Control	TCP/PAK/0104	1981	1981	35 000
Assistance to Rangeland and Livestock Development Survey Inbaluchistan	TCP/PAK/0107	1982	1983	250 000
Assistance to the Agricultural Prices Commission	TCP/PAK/0106	1982	1983	85 500
Integrated Rural Development Gilgit	PAK/80/009/ /01/12	1982	1991	1 694 465
Pakistan - Marine Fisheries Development	PAK/77/033/ /01/12	1982	1989	2 581 114
Livestock Feed Resources and Nutrition	PAK/80/019/ /01/12	1982	1991	2 025 281
Monitoring and Evaluation of Integrated Rural Development	GCP/PAK/070/CPR	1982	1999	264 450
Agricultural Development/Drug Abuse Control in Buner	PAK/81/001/ /38/31	1982	1994	812 045
Assistance to Livestock Production and Research Institute Bahadur Nagar	TCP/PAK/2203	1983	1983	175 257
Assistance to Rangeland and Livestock Development Survey Inbaluchistan (Phase II)	TCP/PAK/2305	1983	1983	37 425
Training in Agricultural Research	UTF/PAK/073/PAK	1983	2009	8 590 715
Meat Production and Processing	TCP/PAK/2308	1983	1984	67 412
Dairy Development Adviser	TCP/PAK/2306	1984	1985	103 712
Updating of the Livestock Sector Survey	TCP/PAK/2307	1984	1984	47 927
Formulation of the National Agricultural Research Plan	TCP/PAK/2309	1984	1985	189 873
Technical Assistance Programme for Parc	UTF/PAK/072/PAK /B	1984	1991	1 804 240
Watershed Management Research Peshawar	PAK/78/036/ /01/12	1984	1990	1 774 512
Fruit Development in Balochistan (Phase II)	PAK/83/004/ /01/12	1984	1993	2 673 934
Sericulture Development Peshawar	PAK/83/017/ /01/12	1984	1990	814 236
Strengthening Agricultural Planning in the Department of Agriculture NWFP (WF)	TCP/PAK/4402	1984	1984	102 942
National Training Courses in Nutrition Education and Supplementary Feeding Management (WF)	TCP/PAK/4401	1984	1985	119 851

Title	Symbol	EOD	NTE	Budget (\$)
Biological Control of Cotton Pests	TCP/PAK/4404	1984	1985	76 137
Assistance to Agricultural Prices Commission (Phase II)	TCP/PAK/4403	1984	1986	152 619
Assistance to the Special Development Plan Unit, Peshawar	PAK/84/112/ /38/31	1985	1994	236 043
Strengthening of Central Cotton Committee Institutes	PAK/83/003/ /01/12	1985	1991	2 096 747
Production of Seed Potatoes in Northern Areas	TCP/PAK/4508	1986	1987	149 201
National Fertilizer Development Centre (Phase III)	GCPF/PAK/075/NET	1986	1997	4 713 403
Cotton Classing and Grading	TCP/PAK/6652	1986	1987	181 000
Fish Marketing Development	TCP/PAK/6655	1987	1988	150 098
Demonstration and Training in the Use of Water Lifting Devices	TCP/PAK/6656	1987	1989	68 300
Fisheries Development in Reservoirs	TCP/PAK/6657	1987	1988	206 169
Agriculture Identification Task Force	PAK/84/019/ /01/12	1987	1994	403 134
Establishment of Veterinary Laboratory for Sindh	PAK/84/008/ /01/12	1987	1996	1 819 022
Cotton Standard Institute	PAK/86/003/ /01/12	1987	1996	4 183 228
Production of Seed and Planting Material in the North	PAK/86/001/ /01/12	1987	2000	2 939 710
Silk Seed Production Peshawar	PAK/86/002/ /01/12	1987	1993	594 533
Assistance in Seed Registration	TCP/PAK/6759	1987	1989	171 000
Support to Marine Fisheries Training Centre	TCP/PAK/6761	1988	1988	122 000
Improvement of Date Palm Cultivation and Date Processing (Phase II)	TCP/PAK/6762	1988	1988	145 000
Forestry Master Plan	PAK/88/018/ /38/45	1988	1992	206 682
Survey of Farm Level Storage Losses in Major Food Grains	PFL/PAK/002/PFL	1988	1992	378 160
Watershed Management Research Peshawar (Phase II)	PAK/86/012/ /01/12	1988	1994	638 053
Balanced Fertilization through Phosphate Promotion at Farm Level	MTF/PAK/001/IMP	1988	1995	50 765
Improvement of Cattle Through Artificial Insemination (Ajk)	PAK/88/026/ /01/12	1988	1994	183 439
Fish Marketing Development	PAK/88/033/ /01/12	1988	1995	767 965
Development of an Early Warning and Crops Forecasting System	GCPS/PAK/071/JPN	1988	1993	439 256
Management Information Systems	PAK/88/037/ /01/12	1988	1993	1 031 746
Fisheries Training Centre	PAK/88/013/ /01/12	1988	1997	2 244 822
Training in Agricultural Planning, Monitoring and Evaluation	TCP/PAK/8851	1988	1990	142 000
Livestock and Poultry Improvement in North	PAK/86/027/ /01/12	1988	2000	1 812 944
Strengthening of Management Academy (Esma), Garhi Dopatta, Ajk	PAK/87/008/ /01/12	1989	1997	1 887 613
Watershed Management Azad Jammu Kashmir	PAK/87/009/ /01/12	1989	1999	4 030 091
Preparation of Neelum Valley Community Development Project in Azad Jammu and Kashmir	TCP/PAK/8954	1989	1989	200 000
Assistance in Seed Registration (Phase II)	TCP/PAK/8955	1989	1989	91 000

Title	Symbol	EOD	NTE	Budget (\$)
Involvement of Rural Poor in Development through Self-Help Groups	GCP/PAK/076/NET	1989	1997	318 328
In-Service Agricultural Training in Punjab	PAK/88/012/ /01/12	1990	1992	480 703
Improvement of Hides, Skins and Animal By-Products	PAK/90/005/ /01/12	1990	1992	344 889
Quality Control of Fish	PAK/88/034/ /01/12	1990	1995	178 005
Agricultural Project Planning Monitoring and Evaluation, Sindh	GCP/PAK/077/SWI	1990	1996	408 973
Pesticide Registration and Control	TCP/PAK/0051	1990	1992	265 000
Agricultural Programme Review Formulation Mission	TCP/PAK/9053	1990	1990	118 000
Sheep and Wool Production	PAK/88/032/ /01/12	1990	1997	1 606 849
Cold Water Fish Culture Azad Kashmir	PAK/88/048/ /01/12	1990	1991	419 827
Feed Resources Development Project of Balochistan	PAK/88/050/ /01/12	1990	1995	1 777 424
TA to IFAD Loan for Smallholder Dairy Development	PAK/88/072/ /01/12	1991	1994	1 588 524
Technology Transfer of Fruit in Balochistan	PAK/89/014/ /01/12	1991	1997	3 820 053
Field Programme Development Mission	TCP/PAK/0154	1991	1992	172 000
Integrated Range Livestock Development Project	PAK/88/071/ /01/12	1991	1995	2 980 278
Agro-Business Development	TCP/PAK/0156	1992	1993	150 000
Tea Development	TCP/PAK/0157	1992	1993	186 000
Development of Outreach and Extension Experience	PAK/92/02T/ /08/12	1992	1993	130 898
Strengthening Agricultural Planning in Balochistan	PAK/90/012/ /01/12	1992	1994	740 841
Integrated Agricultural Production and Resource Management	PAK/92/T01/ /08/12	1992	1993	228 162
Training in Food and Agricultural Policy Analysis	TCP/PAK/2251	1992	1994	164 000
Emergency Provision of Wheat Seed for Flood Affected Areas	TCP/PAK/2253	1992	1993	250 000
Emergency Provision of Livestock Medicines for Flood Affected Farmers	TCP/PAK/2254	1992	1993	250 000
Assistance in Planning Milk Supply to Karachi	TCP/PAK/2252	1993	1994	79 922
Food and Nutrition Training for Improving Small Farmer's Household Food Security	TCP/PAK/2255	1993	1994	167 035
Neelum and Jhelum Valleys Community Development Project	PAK/92/005/ /09/12	1993	1996	91 843
Neelum and Jhelum Valleys Community Development Project	PAK/92/005/ /01/31	1993	1997	2 946 266
Management of Key Cotton Pests in the Punjab	TCP/PAK/2357	1993	1995	136 817
Desert Locust Emergency Assistance	TCP/PAK/2358	1993	1994	100 000
Livestock Development Project, Pakistan (Training Component)	UTF/PAK/078/PAK/E	1993	2001	261 722
Watershed Planning and Management	PAK/88/051/ /01/12	1993	1994	1 948 212
Involvement of the Rural Poor in Development Through Self-Help Groups in Rural Punjab (Phase II)	GCP/PAK/079/NET	1993	1997	749 625
Cotton Standards Institute	UTF/PAK/080/PAK/E	1993	1998	224 570
Action Plan to Reform Agricultural Education	PAK/94/01T/ /08/12	1994	1995	100 000

Title	Symbol	EOD	NTE	Budget (\$)
Preparatory Assistance for National Rinderpest Eradication Project	TCP/PAK/3451	1994	1994	112 685
T.A. for Cotton Disease Research	UTF/PAK/081/PAK/E	1994	1998	213 403
Improved Fodder Production	TCP/PAK/4452	1994	1996	147 000
Livestock Development Project (Training) – Nwfp Pakistan	UTF/PAK/084/PAK/E	1994	1999	200 000
Emergency Assistance for Rinderpest Control	TCP/PAK/4453	1994	1996	279 668
Mithawan Watershed Management	GCP/PAK/083/JPN	1994	2000	1 250 000
Provision of Seed Potato and Vegetable Seeds	TCP/PAK/3456	1994	1995	102 000
Implications of the Uruguay Round of Multilateral Trade Negotiations for the Agricultural Policies of Pakistan	TCP/PAK/3454	1995	1995	49 500
Assistance in Strengthening the Wheat Productivity Enhancement Programme	TCP/PAK/4455	1995	1996	301 000
Chitral Area Development Project	UTF/PAK/086/PAK/J	1995	1997	204 675
Preparation of a Seeds Sector Development Programme	TCP/PAK/4557	1995	1996	138 000
Sericulture Development (Ajk)	PAK/94/003/ /01/12	1995	2000	358 050
Fisheries Development in Ajk	PAK/94/005/ /01/12	1995	1997	340 263
Feasibility Study on Establishing Freshwater Prawn Hatchery	TCP/PAK/4559	1995	1996	42 000
Support on a Feasibility Study on Crop Insurance	TCP/PAK/4558	1995	1996	87 000
Northern Areas Participatory Agriculture Development	PAK/96/007/ /01/12	1996	1997	365 801
Plant Nutrition Strategies and Fertilizer Policies for Sustainable Agricultural Development	MTF/PAK/003/FIA	1996	2002	80 757
Balanced Fertilization through Phosphate Promotion at Farm Level	MTF/PAK/002/IMP	1997	2006	134 034
Horticultural Crop Statistics and Information System	TCP/PAK/6711	1997	1999	190 000
Strengthening Agricultural Market Information Service	TCP/PAK/6712	1998	1999	299 000
Area Development, Ajk	PAK/96/005/ /09/12	1998	2003	156 205
SPFS: Improved Irrigation Technologies, Farm Inputs and Extension Services	TCP/PAK/8821	1998	2000	390 000
Food Security in Pakistan	PAK/98/004/ /08/12	1999	2000	150 000
Area Development Programme Ajk	PAK/96/005/ /07/31	1999	2001	115 500
Emergency Supply of Basic Agricultural Inputs in Sindh Province	TCP/PAK/8922	1999	2000	400 000
Emergency Supply of Basic Agricultural Inputs in Sindh Province	TCP/PAK/7922	1999	2000	393 000
Epidemiological Analysis of Rinderpest and Development of an Eradication Strategy	TCP/PAK/8923	1999	2001	308 000
Fruit and Vegetable Marketing Improvement in Northern Areas	TCP/PAK/8924	2000	2001	256 000
Policy and Strategy for Rational Use of Pesticides	PAK/99/002/ /08/12	2000	2001	157 018
Area Development Programme Balochistan	PAK/96/006/ /09/12	2000	2003	112 224
SPFS Improved Irrigation Technologies, Farm Inputs and Extension Services (recoded from TCP/PAK/0065)	TCP/PAK/9065	2000	2002	89 214

Title	Symbol	EOD	NTE	Budget (\$)
Emergency Provision of Essential Livestock Feed and Animal Health Inputs to Drought Affected Farmers (recoded from TCP/PAK/0066)	TCP/PAK/9066	2000	2001	191 581
Support for Emergency Prevention and Control of Main Transboundary Animal Diseases in Pakistan (Rinderpest, FMD and PPR)	GCP/PAK/088/EC	2001	2005	1 859 674
Strengthening of Fish Handling, Processing and Quality Assurance	TCP/PAK/0167	2001	2003	258 000
Emergency Assistance to Cover the Drought Effects and Impact of Recent Refugee Influx	TCP/PAK/0170	2001	2003	400 000
Technical Assistance in Developing Integrated Pest Management (IPM) in Pakistan	UTF/PAK/089/PAK	2002	2004	410 000
Livestock Action Plan	TCP/PAK/0168	2002	2003	113 844
Participatory Training for Strengthening Provincial Capacities in Agricultural Extension, Rural Community Organization, and Village-level Business Support Services	TCP/PAK/2801	2002	2003	96 013
Project Preparation Facility – Pakistan	UTF/PAK/092/PAK	2002	2004	328 106
Pesticide Risk Reduction for Women in Pakistan	GCP/PAK/091/AGF	2002	2003	70 500
Strengthening Project Development Capacity of the Ministry of Food, Agriculture and Livestock (MINFAL)	TCP/PAK/2902	2003	2005	160 450
Emergency Assistance to Areas Affected by Drought and Refugee Influx in Balochistan	TCP/PAK/2903	2003	2004	375 215
Strengthening of fish handling, processing and quality assurance – Phase II of TCP/PAK/0167	TCP/PAK/2904	2003	2005	103 885
Strengthening the Extension Capacities for Community Demand-driven Planning for Natural Resources Management in the Azad Jammu & Kashmir Region (recoded from TCP/PAK/2905)	TCP/PAK/2905	2004	2005	231 191
Participatory Training for Strengthening Provincial Capacities in Agricultural Extension, Rural Community Organization, and Village-level Business Support Services (Recoded from TCP/PAK/2801)	TCP/PAK/2901	2004	2004	195 987
Livestock Action Plan – Phase II of TCP/PAK/0168	TCP/PAK/3001	2004	2005	120 064
Emergency assistance for the control of avian influenza	TCP/PAK/3002	2004	2005	387 370
Food Security/Poverty Alleviation in Arid Agriculture: Balochistan - Pilot Project Phase	GCP/PAK/095/USA	2004	2008	6 335 239
Project preparation and capacity building in support of the Water Sector Improvement Programme in Sindh Province	TCP/PAK/3003	2004	2006	360 202
Support to fisheries sector policy and strategy formulation	TCP/PAK/3005	2005	2007	307 000
Assistance in up-scaling dairy development in Pakistan	TCP/PAK/3004	2005	2007	331 032
Community LADDERS (Learning and Action for Demand Driven Extension and Rural Services)	UTF/PAK/096/PAK	2005	2011	3 154 575

Title	Symbol	EOD	NTE	Budget (\$)
Capacity Enhancement Assistance to MINFAL in WTO Related Policy & Strategy Development & Project Formulation	UTF/PAK/097/PAK	2005	2010	676 784
Emergency assistance to support the rehabilitation of the agricultural sector and poor household livelihoods in earthquake-affected areas	TCP/PAK/3007	2005	2007	399 999
FAO/MINFAL Cooperation in Programme Development	UTF/PAK/099/PAK	2006	2010	209 959
Strengthening project development and evaluation capacity of the Ministry of Food, Agriculture and Livestock (MINFAL) – Phase II of TCP/PAK/2902	TCP/PAK/3006	2006	2006	135 001
Pakistan: Saving Livelihoods to Save Lives	OSRO/PAK/603/CAN	2006	2007	2 179 163
Saving livelihoods to save lives – Emergency assistance for the restoration of food security and protection of rural livelihoods amongst earthquakes-affected farmers, women and other vulnerable groups in Pakistan	OSRO/PAK/605/UK	2006	2006	1 131 492
‘Saving livelihoods to save lives’ – Emergency assistance for the restoration of food security and protection of rural livelihoods amongst earthquakes-affected farmers, women and other vulnerable groups in Pakistan	OSRO/PAK/602/EC	2006	2007	2 369 601
Strengthening extension capacities for community demand-driven planning for natural resources management in the Azad Jammu and Kashmir Region – Phase II of TCP/PAK/2905	TCP/PAK/3101	2006	2007	142 000
Emergency assistance to support the rehabilitation of the agricultural sector and poor household livelihoods in earthquake-affected areas	OSRO/PAK/606/USA	2006	2007	500 000
Saving livelihoods to save lives “Emergency assistance for the restoration of food security and protection of rural livelihoods amongst Earthquakes-affected farmers, women and other vulnerable groups in Pakistan”	OSRO/PAK/604/BEL	2006	2007	1 255 678
Community-based livelihoods recovery programme for earthquake-affected areas of Azad Jammu and Kashmir	PAK/06/001/ /01/34	2006	2009	3 312 258
Technical Assistance to the SUPARCO Project on Monitoring of Crops through Satellite Technology	UTF/PAK/101/PAK	2007	2014	1 545 216
TCP Facility	TCP/PAK/3102	2007	2008	208 720
Project to assist ERRA and its partners in restoring livelihoods in the earthquake affected areas of Pakistan – (SIDA component n.A4100228)	OSRO/PAK/701/SWE	2007	2011	6 634 064
Immediate Support to Poor and Vulnerable Households in 2005 Earthquake	OSRO/PAK/702/ASB	2007	2008	4 904 999
Feasibility study for Improvement of Agricultural and Livestock Markets	UTF/PAK/103/PAK	2007	2009	156 347
Support for the Restoration of Crop Production and Food Availability	OSRO/PAK/703/CHA	2007	2007	417 300

Title	Symbol	EOD	NTE	Budget (\$)
Emergency assistance to support the rehabilitation of the agricultural, livestock and fisheries sectors in cyclone affected areas of Balochistan and to rebuild the livelihoods of poor rural households	TCP/PAK/3103	2007	2008	490 953
Support for Agricultural Crops and Livestock Protection and Restoration in response to the floods in Balochistan, Pakistan, 2007	OSRO/PAK/705/UK	2007	2008	495 150
Support for Crop and Food Availability and Livestock Protection and Restoration	OSRO/PAK/704/UK	2007	2008	990 301
Feasibility Study for the Development of Fisheries in Pakistan	UTF/PAK/102/PAK	2008	2010	139 802
Sindh Water Sector Improvement Phase-I Project (WSIP)	UTF/PAK/106/PAK	2008	2012	1 700 000
Preparation of Strategies for the National Commercial Seed Production Programme (NCSPP)	UTF/PAK/105/PAK	2008	2011	133 197
Emergency assistance to crop production and livestock protection and strengthening to rapidly restore agricultural based livelihoods in flood-affected areas of Balochistan and Sindh	OSRO/PAK/801/CHA	2008	2008	1 500 000
Support to the Fisheries Resources Appraisal in Pakistan	UTF/PAK/108/PAK	2008	2013	5 835 548
Training on agricultural census methodology and time series analysis	TCP/PAK/3104	2008	2008	99 000
Research and Development Cotton Programme	UTF/PAK/109/PAK	2008	2009	96 896
TCP Facility	TCP/PAK/3201	2008	2009	237 683
Input supply to vulnerable populations under ISFP	TCP/PAK/3202	2008	2009	500 000
Emergency food and livelihoods assistance for flood-affected persons in Peshawar district of North-West Frontier Province (NWFP)	OSRO/PAK/803/CHA	2008	2008	399 994
Emergency food and agriculture production support for food insecure groups affected by unprecedented surge in food prices.	OSRO/PAK/802/CHA	2008	2008	1 200 406
Emergency crop production, livestock and poultry support to populations affected by flash floods in Punjab Provinces – (SIDA component n.7400347001)	OSRO/PAK/804/SWE	2008	2009	244 400
Agriculture and Livestock intervention for affected population of Balochistan EQ.	OSRO/PAK/805/CHA	2008	2009	101 436
United States Assistance to Agricultural Development in Balochistan Border Areas (USABBA)	GCP/PAK/113/USA	2009	2011	8 900 000
Increased Competitiveness of Agriculture	UNJP/PAK/118/EDF	2009	2010	300 000
Community-based integrated soil and water conservation in earthquake affected Balakot Tehsil of NWFP Pakistan	UNJP/PAK/117/EDF	2009	2010	214 000
Combating rising food prices in Pakistan: Addressing the negative impact of rising food prices on food insecure and vulnerable households in Pakistan	GCP/PAK/115/EC	2009	2011	33 812 131

Title	Symbol	EOD	NTE	Budget (\$)
Towards Gender Parity in Pakistan	UNJP/PAK/116/SPA	2009	2011	877 000
Immediate support to restore food security and agriculture-based livelihoods of affected food-insecure and vulnerable rural families in North-West Frontier Province (NWFP), Pakistan	OSRO/PAK/901/SPA	2009	2010	1 394 700
Emergency Assistance to Support the Recovery of Agriculture-Based Livelihoods Systems of Conflict Affected Farm Families in North-West Frontier Province	TCP/PAK/3203	2009	2011	485 000
Assistance to Livestock Productivity in District Pishin, Balochistan	UNJP/PAK/120/EDF	2010	2011	500 000
Mainstreaming livelihood oriented DRM into public sector organizations and communities through piloting, research and capacity building interventions under the One UN Framework	UNJP/PAK/121/EDF	2010	2011	200 000
Support to restore food security and agriculture-based livelihoods of the food insecure and vulnerable crisis affected rural households in select areas of North-West Frontier Province (NWFP) and Federally administered Tribal Areas (FATA) of Pakistan.	OSRO/PAK/002/EC	2010	2011	3 052 501
Rapid Restoration of agriculture-based livelihoods in affected areas of Khyber Pakhtunkhwa (formerly North West Frontier Province), Pakistan	OSRO/PAK/001/BEL	2010	2011	1 233 046
Refugees Affected and Hosting Areas (RAHA) Rehabilitation and Development Programme under the One UN Framework (RAHA-RDP).	PAK/10/001/ /01/34	2010	2011	3 833 810
Refugee Affected and Hosting Areas Programme in Pakistan (RAHA Programme)	OSRO/PAK/020/UNJ	2010	2011	3 795 472
Emergency assistance for immediate food security through provision of critical livestock and agricultural inputs in the flood affected areas of Khyber Pakhtunkhwa, Pakistan. – 10-FAO-034	OSRO/PAK/007/CHA	2010	2010	400 073
Emergency assistance to support flood affected vulnerable farmers in Khyber Pakhtunkhwa Province, Pakistan	OSRO/PAK/006/BEL	2010	2010	196 880
Emergency assistance for immediate protection of livelihoods and food security through provision of critical livestock and agricultural inputs in the flood affected areas of Punjab, Balochistan and Sindh Provinces of Pakistan – 10-FAO-037	OSRO/PAK/008/CHA	2010	2011	1 394 650
Emergency assistance for immediate protection of livelihoods and food security through provision of critical livestock inputs in the flood affected areas of Khyber Pakhtunkhwa	OSRO/PAK/009/EC	2010	2011	2 541 296
Emergency livelihood assistance to support flood-affected vulnerable farmers in Punjab, Pakistan	OSRO/PAK/011/USA	2010	2011	25 000 000

Title	Symbol	EOD	NTE	Budget (\$)
Emergency assistance to support flood-affected vulnerable farmers in Pakistan	OSRO/PAK/010/USA	2010	2011	21 000 000
Emergency livelihood assistance to support flood-affected vulnerable farmers in Balochistan – Grant No. AID-OFDA-G-10-00159-02	OSRO/PAK/014/USA	2010	2011	16 000 000
Support to Increase Sustainable Livestock Production	GCP/PAK/123/USA	2010	2015	7 140 500
Emergency livelihood assistance to support flood-affected vulnerable farmers in Punjab, Balochistan and Sindh Provinces of Pakistan	OSRO/PAK/012/UK	2010	2011	11 060 000
Pakistan Floods Emergency Response Plan 2010	OSRO/PAK/013/CAN	2010	2011	5 848 523
Post-Flood Assistance for the Recovery of Production & Livelihoods of Smallholder Farmers in Pakistan – (Grant No. I-R-1236-FAO)	OSRO/PAK/015/IFA	2010	2011	500 000
Emergency livelihood assistance to support flood-affected vulnerable farmers in Sindh Province of Pakistan	OSRO/PAK/016/AUL	2010	2011	3 346 856
Cluster-based coordination of immediate and early recovery agricultural assistance in Pakistan	OSRO/PAK/019/SWE	2010	2012	758 931
Early recovery of agriculture based livelihoods and food security of vulnerable households in Sindh	OSRO/PAK/018/SWE	2010	2011	2 694 438
Capacity Building of Women in Kitchen Gardening	UNJP/PAK/122/UNJ	2011	2011	30 000

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